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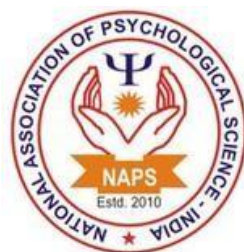
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Foreword

This special issue of the Indian Journal of Psychological Science presents a diverse collection of articles contributed by scholars from Namibia, other parts of Africa, and various regions across the globe. The contributions come from professionals, researchers, practitioners, R&D organizations, academic institutions, industry, and government departments worldwide.

All articles included in this issue were accepted and presented at the International Conference on Emerging Trends in Psychosocial Wellbeing (ETPW), organized by the Department of Psychology and Social Work, Faculty of Health Sciences and Veterinary Medicine, University of Namibia (UNAM). The conference was held from October 21–23, 2025, at UNAM, Windhoek, Namibia.

Each submission underwent a rigorous double-blind peer-review process. Papers were reviewed by at least two independent reviewers and members of the program committee, followed by further evaluation by an editorial member of the journal.

The Indian Journal of Psychological Science has increasingly attracted interest from scholars beyond India, which is reflected in the substantial number of international contributions featured in this special issue.

The Editor

| Sr No. | Title and Authors' Names | Page No |
|---------------|---|----------------|
| 1. | Exploring the Relationship Between Psychological Flexibility and Mindfulness of Working Parents in Windhoek, Namibia <i>Florentia Amuenje, Poonam Dhaka and Clifford Hlatywayo</i> | 1 |
| 2. | Kinship Care Experiences: A Qualitative Study of Aawambo Individuals raised by Grandparents in the Omusati Region, Namibia. <i>Henok, N. E and Gentz, S.</i> | 9 |
| 3. | Caregivers' Mental Health Readiness during Reintegration of Children from Residential Child Care Facilities in Selected Regions in Namibia <i>Dainess Ziba Amukwelele and Annelisa Murangi</i> | 21 |
| 4. | Assessing the factors that influence Satisfaction with Life and Personal Growth of the Nedbank Desert Dash 2023 cyclists in Namibia <i>Liedtke, A. and Pieters, W. R.</i> | 31 |
| 5. | Understanding Perinatal Depression and Its Psychosocial Determinants through the Experiences of Namibian Women in Windhoek Namibia <i>Saara Kerthu Hatupopi, Mariatha Yazbek and Annatjie van der Wath</i> | 42 |
| 6. | Statistical Significance of Ensemble versus Non-Ensemble Classifiers in Mental Health Disease Prediction <i>Biplab Kumar Rath, AVS Pavan Kumar, Neelamadhab Padhy, Pradeep Kumar Mahapatro, Dasaradha Arangi , Rasmita Panigrahi and Vamaravilli Ganesh</i> | 52 |
| 7. | Boosting-Based Machine Learning Models for Mental Health Disease Prediction: A Comparative Performance and Statistical Significance Analysis <i>Neelamadhab Padhy , Pradeep Kumar Mahapatro, Dasaradha Arangi , Rasmita Panigrahi, Asish Kumar Patnaik and Archana Patnaik</i> | 61 |
| 8. | Developing a Recruitment and Selection Psychometric Tool Across Industries in Namibia <i>P. Dhaka, A. Murangi and W. R Pieters</i> | 69 |
| 9. | The Mediating Effect of Narcissism Between Organisational Culture, and Job Performance in the Public Service of Botswana. A Case of Ministry for State President <i>Broniah Badubi and C K Hlatywayo</i> | 78 |
| 10. | Living with Migration: Experiences of Left-behind Children in Zimbabwe <i>Chenjerai Muwaniki, Constance Gunhidzirai and Leena Ndeyapo Shimpanda</i> | 84 |
| 11. | Perceived Spiritual Care Competence and Attitudes in Undergraduate Nursing Students: An Exploratory Factor Analysis <i>Nestor Tomas and Miltrud Nyaku</i> | 90 |
| 12. | Work to Family Conflict and Family to Work Conflict, Performance and Turnover Intention of Working Mothers in Selected Private Organisations in Windhoek, Namibia <i>Murangi A and Mckenzie M.</i> | 101 |
| 13. | Students' Attitudes and Behavioural Intentions toward Online Learning Systems Adoption in Higher Education <i>Ramdualri Upadhayay, Kavita Verma and D N Sharma</i> | 108 |

| | | |
|-----|--|-----|
| 14. | Relationship Between Gratitude and Stress Among University Students <i>Tabea Kühne and Poonam Dhaka</i> | 119 |
| 15. | Association of Childhood and Adolescent IQ, Cognitive Skills and Academic Performance on Suicidal Behaviour Later in Life: A Systematic Review <i>Samantha Farmer and Poonam Dhaka</i> | 127 |
| 16. | Understanding the Impact of Black Tax on Black Professionals' Mental Health in Kavango East, Namibia <i>Faustinus Shikukutu and Alexander Dikuwa</i> | 133 |
| 17. | Social media, Everyday Relationships, and Adult Well-Being in Windhoek, Namibia <i>Adrian Louw and Manfred Janik</i> | 140 |
| 18. | Students' Supervision in Namibia: The perspectives of Social Work practitioners <i>Lovisa K Nghipandulwa, Janet Ananias and Pius T Tanga</i> | 152 |
| 19. | Suicide Ideation and Depression in Students at a Selected Institution of Higher Learning in Windhoek, Namibia <i>Ashley S. Mwilima and Elizabeth N. Shino</i> | 159 |
| 20. | Exploring Factors Predisposing Patients to Parasuicide Among Patient Admitted at a Hospital Namibia <i>Petrus M. Haingura, Hilma N. J Katangolo and Filippine N. Nakakuwa</i> | 165 |
| 21. | Prevalence and Patterns of Alcohol Consumption and Tobacco Use Among Undergraduate Students at a Namibian University Campus <i>Sylvia K. Mahoto, Ndasilohenda Katangolo-Nakashwa and Eddy S. Likando</i> | 176 |
| 22. | An Investigation on the Relationship Between Mental Health, Psychological Empowerment and Workplace Agility: The Case of Namibian High School Teachers <i>A. Fernandes, C. K. Hlatywayo and J. Marshall</i> | 184 |
| 23. | Evaluating the Role of Psychological Ownership and Organisational Justice on Turnover Intention of Police Officers in Windhoek, Namibia <i>Maletzky, A. K., Haidula, L.O.N. and Pieters, W.R.</i> | 191 |
| 24. | Towards Empowerment and Flourishing of South African Indian Women: 165 Years After Crossing the Kala Pani (Dark Water) <i>Vedhna D, Lalla and Chrizanne V, Eeden</i> | 203 |
| 25. | Investigating the Impact of Work Stress on Flourishing of Employees During the COVID-19 Pandemic in Namibia <i>Jurgens S. and Pieters W. R.</i> | 212 |

Exploring the Relationship Between Psychological Flexibility and Mindfulness of Working Parents in Windhoek, Namibia

Florentia Amuenje, Poonam Dhaka, Clifford Hlatywayo*

ABSTRACT

Working parents often experience pressure from the dual commitment of work and parenting, especially during adolescence, a stage characterised by rapid emotional, cognitive and behavioural changes. This study aimed to determine the baseline levels of psychological flexibility and mindfulness among working parents in Windhoek. In addition, it examined the relationship between these constructs within the Acceptance and Commitment Therapy (ACT) framework. ACT is a process-based, contextual framework that enhances emotional functioning by fostering openness, mindful awareness and values-based actions. A total of 257 working parents of adolescents completed the pre-test measures, including the Parental Psychological Flexibility Questionnaire (PPFQ) and the Mindful Attention Awareness Scale (MAAS). Descriptive analyses indicated moderate baseline levels of psychological flexibility ($M = 95.86$, $SD = 18.21$) and mindfulness ($M = 66.54$, $SD = 13.54$). Pearson's correlations revealed a significant association between overall psychological flexibility and mindfulness ($r = .54$, $p < .01$), with the strongest relationship between Cognitive Defusion subscale and mindfulness ($r = .57$, $p < .01$). The reliability coefficients confirmed internal consistency for both instruments, with Cronbach's alpha $\alpha = .87$ for PPFQ and $\alpha = .88$ for MAAS. The findings provide empirical support for the theoretical association between psychological flexibility and mindfulness and establishes the basis for developing ACT-based interventions for working parents.

Keywords: Acceptance and Commitment Therapy, psychological flexibility, mindfulness, work-parenting pressure, adolescence.

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Introduction

Modern-day working parents and guardians, especially those raising adolescents, often experience unique challenges, and an inability to manage work and parenting demands. This dual commitment often brings about psychological distress, and unpleasant parent-child interactions, which may negatively impact the overall parenting experience (Moreira et al., 2019). The Namibia Statistics Agency reported the growing job scarcity and high unemployment rates of 36.9% overall and a 44% youth unemployment rate in Namibia. This level of unemployment further exacerbates the situation that compels parents to prioritise work and limit time to attend to parenting responsibilities adequately.

Effective parenting is associated with positive child outcomes, including adolescent social adjustment and emotional regulation (Moreira et al., 2019; National Academies of Sciences, Engineering, and Medicine, 2016). However, excessive work commitments often reduce parents' ability to provide the necessary care and guidance, particularly during the critical developmental stage of adolescence. The lack of formal support programmes in Windhoek, underscores the need to design evidence-based interventions to strengthen parenting practices.

Acceptance and Commitment Therapy (ACT) promote psychological flexibility and mindfulness, enhance emotional wellbeing, and enable individuals to take values-based actions despite difficult and distressing emotional experiences (Harris, 2019; Hayes et al., 2012; Luoma et al., 2017). Moreover, research indicates that mindfulness is positively associated with psychological flexibility, and that these ACT-based processes influence how individuals relate to their thoughts and emotions, thus enhancing psychological functioning (Harris, 2019; Luoma et al., 2017; Scott & Davenport, 2016). In the parenting context, these constructs encourage openness to emotional difficulties, acceptance of challenging child behaviours, and a commitment to effective parenting practices (Levin et al., 2016; Brassell et al., 2016; Burke & Moore, 2015).

This study aims to assess the baseline levels of psychological flexibility and mindfulness of working parents of adolescents and to explore the association between these constructs. The findings will further inform the development of evidence-based interventions to foster responsive parenting practices.

Literature Review

In recent decades, family structures have shifted toward dual-income households, reflecting the broader economic and social transformations. While such changes may provide financial stability, they are often associated with increased work-parenting role conflict, emotional struggle, and adverse adolescent outcomes (Brassell et al., 2016; Dapiton et al., 2023; Leeming & Hayes, 2016). Despite these challenges, limited research has examined how these dynamics unfold in Namibia, where dual-income households are increasingly common and formal support structures for working parents of adolescents remain inadequate. This gap underscores the importance of examining the ACT based processes of psychological flexibility and mindfulness to facilitate adaptive functioning and emotional regulation. The ACT posits that psychological flexibility, the ability to remain open to internal experiences while acting in accordance with personal values, is dependent on the cultivation of mindful awareness. Mindfulness, in turn, enhances flexibility by allowing individuals to observe thoughts and emotions without judgment or avoidance, while responding constructively to stressors (Harris, 2019; Scott & Davenport, 2016).

Acceptance and Commitment Therapy (ACT), is a behavioural model of human functioning, that is concerned with understanding behaviour in relation to its function and context (Harris, 2019 & Hayes et al., 2012). In addition, this model is further supported by the Relational Frame Theory (RFT), a behavioural approach of language and cognition, that explains how humans acquire and apply language to psychological experiences, through relational frames and derived concepts (Biglan, 2004 & Hayes et al., 2012).

The ACT fosters psychological flexibility through six interrelated processes of acceptance, cognitive defusion, self-as-context, mindfulness, values clarification and committed action (Harris, 2019 & Hayes et al., 2012). According to Harris (2019) ACT postulate that inherent human psychological processes can often become maladaptive and contribute to psychological difficulties. It follows that ACT-based interventions, promote the acceptance of unpleasant emotions, reduces avoidance of unwanted private experiences, and enable individuals to foster sustained behavioural change (Harris, 2019; Luoma et al., 2017; Scott

& Davenport, 2016). Additionally, the ACT challenges the traditional view that undesirable thoughts and emotional difficulties are pathological conditions to be eliminated (Hayes et al., 2013 & Macri & Rogge, 2024). Harris (2019) similarly critiques the Western ideal of “healthy normality”, which presumes that psychological wellbeing is the natural human state when external conditions are favourable.

Acceptance and Commitment Therapy (ACT), instead, asserts that psychological distress, emotional pain, and unpleasant memories are inherent human experiences (Levin et al., 2020 & Luoma et al., 2017). Labelling these experiences as abnormal often obscures the important influence of behavioural, environmental, and contextual factors on psychological functioning (Hayes et al., 2012 & Levin et al., 2020). Rather than attempts to avoid and eliminate internal discomfort, ACT promotes cultivating psychological flexibility and mindfulness, to enable mindful parenting practices, even in the face of distressing child interactions (Harris, 2019; Hayes et al., 2012; Luoma et al., 2017).

Despite its empirical promise, the ACT is criticised for overlaps with other behavioural models, which might limit its theoretical application to the targeted populations (Kashdan & Rottenberg, 2010). Importantly, the emphasis of Acceptance and Commitment Therapy on internal experiences may overlook the impact of external factors such as workplace challenges, childcare demands, and cultural expectations (Hayes et al., 2013 & Kashdan & Rottenberg, 2010). Furthermore, an overreliance on cognitive defusion and acceptance techniques may inadvertently divert attention from interventions that might support individuals to reframe dysfunctional thinking patterns and promote emotional wellbeing (Harris, 2019 & Kashdan & Rottenberg, 2010).

Although psychological flexibility and mindfulness are independently associated with enhancing effective parental behaviours, there is limited research that has examined their interrelationship in the working parents of adolescents setting, particularly in low to middle-income countries such as Namibia (Harris 2019; Hayes et al., 2012; Luoma et al., 2017). This research gap is considerable in light of the rising prevalence of dual-income households and the emotional demands of parenting adolescents (Amos, 2013 & Dapiton et al., 2023). Existing studies in this area have focused on clinical populations or general adult samples, yet, the

non-clinical parenting context largely remained underexplored.

The Parental Psychological Flexibility Questionnaire (PPFQ) has been extensively used in non-clinical parent populations to assess the psychological flexibility processes of acceptance, cognitive defusion, and committed action. Evidence suggests that higher parental psychological flexibility is linked to reduced distress, effective parenting strategies and improved adolescent outcomes (Burke et al., 2023 & Çakmak, 2022). In addition, the Mindful Attention Awareness Scale (MAAS) measures mindfulness in both clinical and general adult populations and provides a further perspective on parental functioning. Moreover, the MAAS has demonstrated sound psychometric properties and has been successfully applied in parenting studies (Chaplin et al., 2021). Given its association with adaptive behaviour, mindfulness can be considered an essential predictor of psychological flexibility in working parents (Chaplin et al., 2021).

Despite these research gaps and limitations, the ACT processes remain theoretically robust for enhancing psychological flexibility, mindful behaviour, and psychosocial competence. Accordingly, this study aimed to examine the relationship between psychological flexibility and mindfulness within the context of working parents of adolescents.

Objectives of the Study

This study assessed the baseline levels of psychological flexibility and mindfulness among working parents, of adolescents, examined the relationship between these two constructs and generated findings to guide the design of an ACT-based parent intervention.

Hypotheses

It was hypothesized that there is significant positive relationship between psychological flexibility and mindfulness among working parents of adolescents in Windhoek, Namibia.

Research Methodology

This study employed a quantitative correlational research design to investigate the relationship between psychological flexibility and mindfulness among working parents. The researcher collected data using the Parental Psychological Flexibility Questionnaire (PPFQ) and the Mindful Attention Awareness Scale (MAAS). The demographic data, of age, gender,

employment, qualifications, parenting status and adolescent information, were gathered through the Demographic Questionnaire. The participants were recruited through survey links shared with the offices of the Chief Executive Officers and Human Resource Departments of various public and private organisations in Windhoek.

The Parental Psychological Flexibility Questionnaire (PPFQ) is a 19-item self-report measure that assessed psychological flexibility on three out of the six core processes of ACT. The PPFQ has consistently demonstrated construct and predictive validity, with a strong internal consistency of $\alpha \approx .91$ (Burke et al, 2023; Burke & Moore, 2015; Çakmak, 2022). The Mindful Attention Awareness Scale (MAAS) is a 15-item, self-report measure that assessed mindfulness and present moment awareness. The MAAS has demonstrated adequate reliability and validity with an internal consistency of $\alpha \geq .87$ (Brown & Ryan, 2003).

The PPFQ and MAAS were administered through the online SurveyMonkey system, which guaranteed safe and secure data storage with protected user logins (SurveyMonkey Security Statement, 2021). A pilot study was conducted to assess the suitability of the instruments for the Namibian population, and the researcher included the recommendations in the final instruments (Creswell & Creswell, 2018). The inclusion criteria for participation were working parents and guardians of adolescents between the ages of 12 and 19 years, with Internet access and

a good command of the English language. The participants provided consent by completing the consent form. In addition, the researcher communicated all relevant local and international ethical guidelines and principles as required by the University of Namibia to the participants.

The data was analysed using the IBM SPSS statistical software version 27. The analysis included descriptive statistics, such as the means and standard deviations.

Pearson correlation coefficients were used to determine the association between psychological flexibility and mindfulness, with a significance level set at $p < .01$. Cronbach's alpha was used in the reliability analysis to evaluate the internal consistency of the scales, with values of $\alpha = .70$ or higher indicating acceptable reliability.

Study Results

Data from $n=257$ working parents of children between the ages of 12 and 19, with 256 valid responses, were included in the current study. The study sample provided a convincing dataset for demographic analysis and interpretation as indicated in Table 1. The education levels reported in Table 2 were notably high, and ranged from a bachelor's to postgraduate degrees. The employment data in Table 3 revealed that the public sector is the biggest participant employer.

Table 1. Participant Demographics

| Demographic Characteristic | Frequency (n) | Percentage (%) |
|----------------------------|---------------|----------------|
| Gender | | |
| Female | 192 | 74.7 |
| Male | 65 | 25.3 |
| Age Brackets | | |
| 27–31 | 15 | 5.9 |
| 32–36 | 48 | 18.8 |
| 42–46 | 80 | 31.3 |
| 47–54 | 63 | 24.6 |
| 55+ | 10 | 3.9 |
| Mean Age | 42.67 | – |

The marital status data indicated that the majority of participants were married (56.8%), followed by single individuals (33.1%). Smaller proportions were reported for other categories, including widowed (6.6%), cohabitating (1.9%), and divorced (1.6%).

Table 2: Education Levels of Participants

| Education Level | Frequency (%) |
|--------------------------------------|---------------|
| Certificate / Grade 12 | 18.7 |
| Diploma | 18.3 |
| Bachelor's Degree | 32.7 |
| Postgraduate (e.g., Master's Degree) | 29.2 |

Table 3: Employment Sector

| Employment Sector | Frequency (%) |
|-------------------|---------------|
| Public Sector | 60.8 |
| Private Sector | 39.2 |

Table 4 shows, adolescent demographic data with the most frequently cited age group of children being 12 - 14 years.

Table 4: Adolescent Demographic Information

| Number of Children | Frequency (%) |
|----------------------------------|---------------|
| One | 57.6 |
| Two to Three | 36.2 |
| | |
| Child Age Group of Focus (Years) | Frequency (%) |
| 12–14 | 50.2 |
| 15–17 | 27.6 |
| 18–19 | 19.1 |
| | |
| Child Gender of Focus | Frequency (%) |
| Male | 51.8 |
| Female | 45.5 |
| Not Indicated | 2.7 |

The participants reported that their adolescent children most frequently used smartphones (77%), followed by smart TVs (61.5%), laptops (38.5%), and tablet (25.3%). In terms of social media platform usage, YouTube was the most commonly accessed (71.2%), followed by WhatsApp (62.3%), TikTok (59.1%), and Instagram (50.6%). Facebook (21.4%) and Snapchat (17.5%) were less frequently used. These findings suggest that adolescents predominantly engage with video-based and instant messaging technologies, as perceived by their parents.

Table 5(a), presents descriptive statistics for psychological flexibility and mindfulness. Psychological flexibility was assessed using the PPFQ, and includes cognitive defusion (CD), committed action (CA), and acceptance (ACC). The combined psychological flexibility score (PF Combine), derived from the three subscales, showed that participants demonstrated relatively high levels of psychological flexibility, with a mean score of 95.86 (SD = 18.21). Mindfulness, measured using the Mindful Attention Awareness Scale (MAAS), showed moderate to high levels (M = 66.54, SD = 13.54).

Table 5(a): Descriptive Statistics for Psychological Flexibility and Mindfulness

| Variable | M | SD | n |
|-------------------------|-------|-------|-----|
| Cognitive Defusion (CD) | 40.48 | 10.13 | 257 |
| Committed Action (CA) | 22.34 | 7.11 | 257 |
| Acceptance (ACC) | 33.03 | 6.74 | 257 |
| PF Combine | 95.86 | 18.21 | 257 |
| MAAS | 66.54 | 13.54 | 221 |

As shown in Table 5(b), Pearson’s correlation analysis revealed a significant association between psychological flexibility and mindfulness ($r = .54, p < .01$), with the strongest relationship observed between Cognitive defusion and mindfulness ($r = .57, p < .01$). This confirms that higher psychological flexibility is associated with greater mindfulness among working parents.

Table 5(b): Pearson Correlation Coefficient

| Variable | 1 CD | 2 CA | 3 ACC | 4 PF Combine | 5 MAAS |
|----------------------------|------|------|-------|--------------|--------|
| 1. Cognitive Defusion (CD) | 1.00 | .58 | .30* | .89** | .57** |
| 2. Committed Action (CA) | | 1.00 | .09* | .74** | .35* |
| 3. Acceptance (ACC) | | | 1.00 | .57** | .27* |
| 4. PF Combine | | | | 1.00 | .54** |
| 5. MAAS | | | | | 1.00 |

Note: *P < .05; **P < .01

Table 6, shows that mindfulness is correlated positively with psychological flexibility, with the strongest association observed for Cognitive defusion and PF combine score, while Acceptance and Committed action demonstrated moderate correlations. These findings align with the ACT theory, suggesting that higher psychological flexibility corresponds with greater mindfulness. Reliability analysis further confirmed satisfactory internal consistency across all measures, with Cronbach’s alpha values ranging from $\alpha = .76$ to $\alpha = .88$ for psychological flexibility subscales and $\alpha = .88$ for MAAS., supporting the reliability and construct validity of the instruments used.

Table 6: Correlation Between Psychological Flexibility and Mindfulness and Reliability

| Measure | MAAS | Significance Level (α) |
|--------------------|------|---------------------------------|
| Cognitive Defusion | .57 | $\alpha = .88$ |
| Committed Action | .35 | $\alpha = .76$ |
| Acceptance | .27 | $\alpha = .81$ |
| PF Combine | .54 | $\alpha = .87$ |
| MAAS | | $\alpha = .88$ |

The Kruskal-Wallis test results analysis demonstrated that there are no statistically significant differences in psychological flexibility and mindfulness scores based on age, marital status, highest qualification, residential address, income, number of children, child age or child gender, with all p-values $>.05$. Given these results, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This confirms that higher mindfulness is significantly related to greater psychological flexibility among working parents of adolescents in Windhoek.

Discussion

The primary objective of this study was to assess the baseline levels of psychological flexibility and mindfulness among working parents of adolescents and to examine the relationship between these two constructs, using the validated measures of the PPFQ and MAAS. The findings support the hypothesis that higher levels of psychological flexibility are associated with greater mindfulness. This relationship reinforces ACT's theoretical proposition that psychological flexibility underpins mindful awareness and facilitates adaptive parenting behaviours, enabling parents to respond more effectively to the competing demands of work and parenting.

The findings of this study highlighted that psychological flexibility contributes to shaping mindful parenting behaviours among working parents of adolescents. The significant correlation between cognitive defusion and mindfulness suggests that parents who can better distance themselves from distressing thoughts and cognitions create space for mindful, values-driven parenting practices. The results confirmed the correlation between mindfulness and the multiple facets of psychological flexibility, including acceptance and committed action. In addition, the moderate yet, consistent associations between acceptance and committed action with mindfulness suggests that parents may benefit from enduring difficult emotions, while committing to take values-based actions despite internal struggles. Therefore, mindfulness is beneficial when accompanied by a willingness to accept emotional discomfort, while acting in line with chosen parental values. Notably, the absence of significant differences across demographic variables suggests that enhanced psychological flexibility and mindfulness apply broadly to diverse groups of working parents,

regardless of age, marital status or educational background.

These outcomes provide empirical justification for integrating ACT-based processes into parent empowerment initiatives. Interventions that foster psychological flexibility and mindfulness equip working parents with the skills to manage work-parenting pressures. Thus, enable parents to sustain positive and responsive relationships with their adolescents. These interventions also offer an opportunity for schools, workplaces, and communities to collaborate in supporting working parents through accessible and affordable evidence-based initiatives.

The study results, overall, indicate sufficient evidence of the relationship between psychological flexibility and mindfulness among working parents of adolescents in Windhoek; however, several limitations are noted. Firstly, the study employed a cross-sectional design, which limits the establishment of causal inferences of the observed relationship. Therefore, longitudinal studies might be needed to determine causality. Secondly, the data collection relied on self-report measures of PPFQ and MAAS, which might introduce biases such as response, recall and social desirability bias. Finally, the sample from formal organisations, required internet access and a good command of the English language. This potentially introduced sampling bias by excluding informally employed parents with a lack of digital access and those not fluent in English. These challenges limit the generalizability to the broader population of working parents in Windhoek. These limitations highlight the need for further research to achieve the necessary generalisability of the results.

Conclusion

This study examined the relationship between psychological flexibility and mindfulness among working parents of adolescents to better understand the interplay of these two constructs in this population. The results provide empirical support for the association between psychological flexibility and mindfulness, reinforcing the Acceptance and Commitment Therapy's theoretical proposition that these processes are related and contribute to adaptive parenting behaviours. Importantly, the absence of significant demographic differences suggests that interventions targeting psychological flexibility and mindfulness may be broadly applicable to diverse groups of working parents. This outcome

reinforces the rationale for designing inclusive parent support programmes that respond to the realities of working parents of adolescents.

The study positioned psychological flexibility and mindfulness within the parenting context, and by so doing, contributes to the growing literature on ACT-based empowerment approaches. This further validates the potential of these interventions to enhance parent-child relationships. Given that, nurturing and responsive interactions between parents and adolescents are essential to adolescents' long-term emotional, behavioural, and developmental

outcomes (Selemon, 2013), these findings provide a foundation for interventions that address this need.

The evidence suggests that tailored parent-support interventions, such as ACT-based parenting workshops, online platforms, and workplace wellness programmes, which can be customised are valuable for addressing adolescents' developmental challenges and to support parents in managing work-parenting pressure.

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Kinship Care Experiences: A Qualitative Study of Aawambo Individuals raised by Grandparents in the Omusati Region, Namibia

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Abstract

Kinship care, where family members care for and raise children, is a long-standing tradition in Africa, yet few studies have explored the experiences of these children in sub-Saharan Africa. Using a qualitative approach, this study examines the lived experiences of 12 Aawambo adults (50% female), aged 18-45, who were raised by their grandparents in the Omusati Region of Namibia. Data was collected with in-depth interviews and analysed using thematic analysis. The analysis revealed that most participants had overwhelmingly positive experiences. Five key themes emerged from the data: 1) the formation of strong bonds with and a preference for grandparents; 2) the unique challenges faced while living with grandparents; 3) the complexity of navigating parental bonds; 4) the perceived differences in upbringing between those raised by grandparents versus parents and 5) the role of grandparents as cultural educators. The findings highlight the importance of understanding the unique experiences of grandchildren in these care arrangements. This research suggests that increasing support and resources for families and caregivers involved in kinship care, alongside improving access to education, could significantly enhance the well-being of children in such households.

Keywords: Aawambo culture, Namibia, Informal kinship care, Grandparents, *Okutekula*

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INTRODUCTION

Worldwide, an estimated 163 million children do not live with a biological parent (Leinaweaver, 2014), many live with relatives, including grandparents. This trend is highly significant in Namibia, where approximately 7% of children are orphaned (Namibia Statistics Agency, 2024), resulting in kinship care being a common arrangement. Among the Aawambo people, for example, an estimated 29% of children are cared for by family (Brown et al., 2023). Kinship care refers to the full-time care of a child by a relative when the parents are unable or unwilling to do so (Assim, 2013; Kalomo & Taukeni, 2018; Xu & Bright, 2018). This study focuses on informal grandparent-led kinship care, which tends to be a private, extended-family practice made without administrative or judicial orders (O'Higgins et al., 2017).

The causes of grandparent-headed households in Southern Africa are distinct, often driven by parental death, illegitimacy, or parents seeking educational or work opportunities (Kalomo & Taukeni, 2018; Phetlhu & Watson, 2014; Sharley et al., 2020). Kinship care is an age-old African custom where the community collectively shares the responsibility for child-rearing (Assim, 2013; Lachaud et al., 2016). Among the Aawambo, this is known as 'okutekula', a practice that exemplifies core values like fairness and respect for authority and offers families a flexible framework for responding to rapid economic or social change (Brown et al., 2020a). It can be a voluntary, semi-permanent arrangement driven by a family's desire for assistance, or to secure an heir, or as a symbol of prosperity and friendship (Brown, 2007).

While the pivotal role of grandparents in Southern African child-rearing aligns with the extended family's cultural significance (Louw, 2013), this arrangement presents both advantages and challenges (Langosch, 2012). For children, the strong emotional bonds with grandparents can foster resilience to overcome life and educational challenges (Lee & Blitz, 2020; Osher et al., 2018; van Dijk-Groeneboer, 2020). Children in grandparent-led homes can experience increased reassurance, better behaviour, greater adaptability, better academic performance, and improved physical functioning compared to those with non-relative caregivers (Harnett et al., 2014; Shoali et al., 2020; Zioguest & Dunifon, 2014). Conversely, these arrangements may demand significant adaptation from grandparents, including compromised

financial security, well-being, and loss of independence (Conway & Strickler, 2003; Langosch, 2012; Minkler et al., 1997). For children, challenges include the emotional cost and potentially assuming caregiving responsibilities for aging grandparents (Motsa & Morojele, 2022), and may lead to risks like lower motivation and poor educational attainment (Cooper & Cefai, 2013; Li & Liu, 2019). Furthermore, children may experience unequal treatment, such as being used as household labourers, which can limit their educational opportunities (Isiugo-Abanihe, 1985). The socio-economic disparity between families can influence the hardships faced by the fostered child (Brown, 2007). While literature highlights these challenges, few qualitative studies have deeply explored the long-term life experiences and subjective interpretations of adults raised in Aawambo grandparent-led households. Therefore, this study addresses this gap by exploring the perceived influence of this upbringing on the identity, relational dynamics, and socio-economic outcomes, of individuals living in rural homesteads in the Omusati Region of Namibia.

METHODOLOGY

The selection of a qualitative research approach was a deliberate choice aimed at achieving an in-depth, holistic understanding of the participants' experiences and perceptions (Moser & Korstjens, 2017).

Data collection methods

Ethical clearance was obtained from the Psychology and Social Work Department of the University of Namibia. Permission was obtained from the headman of each village. The target sample was 12 individuals (50% female) between the ages of 18 and 45 years raised by their grandparents in a traditional Oshiwambo homesteads (Omusati region), recruited by a combination of convenience and snowball sampling methods. Traditional leaders provided information on households that met the selection criteria. Researchers engaged homesteads to explain the purpose of the study and obtain informed consent from participants. Audio-recorded interviews, which averaged 50 minutes, were conducted at participants' convenience in private, distraction-free settings. Researchers created a safe non-judgmental environment by employing active listening, empathy, and sensitivity to participants' responses. Anonymity was maintained by assigning a code to each participant and information was kept on

password-locked computers. Any identifiable information is excluded from any results related to this study. Data will be kept in a secure and de-identified form for five years. To mitigate potential researcher bias stemming from the Aawambo researcher's insider status, the team employed reflexive practices (Smith & Noble, 2014). This involved striving for impartiality, incorporating diverse perspectives, and utilizing peer debriefing throughout the data collection and interpretation process (Roulston & Shelton, 2015).

Research instruments

Socio-demographic data was collected with a short questionnaire (age, sex, highest educational level, etc.). Interviews were conducted using a semi-structured interview guide informed by previous research on extended family and kinship care (Kelch-Oliver, 2011) and modified to fit the Namibian context. The interview guide was translated into Oshiwambo with the assistance of an Oshiwambo student major. The interview guide explored: the experience of living with grandparents, aspects of the parental relationships, perceptions of their upbringing, current study/work status, and any need for help or support.

Data analysis

Thematic analysis was employed for the systematic interpretation and synthesis of meaning embedded within the qualitative data. Following the six-phase method of Braun and Clarke (2006), the process began with active data familiarization, during which researchers took comprehensive notes. This was followed by the generation of preliminary codes, which were then clustered to develop initial themes. The next step involved a review, modification, and refinement of these themes to clearly articulate the essence of each one.

RESULTS

Participant socio-demographics

The socio-demographic information of the 12 participants (mean age=28) is detailed in Table 1. Most (83%) of participants started living with grandparents before age six. In terms of parental status, eight participants were orphaned (67%). Fifty percent of the participants were unemployed, two employed (16%), one in school (8%), and three were pursuing further studies (25%).

Table 1
Socio-demographic characteristics (n=12)

| Participant | Age | Gender | Highest educational level | Employment Status | Age you started living with GP | Orphan Status ^a |
|-------------|-----|--------|---------------------------|-------------------|--------------------------------|----------------------------|
| A | 37 | Female | Grade 9 | Unemployed | 8 | Double orphan |
| B | 40 | Male | Grade 12 | Unemployed | 0 | Single orphan |
| C | 21 | Male | Grade 10 | Learner | 9 | Non-orphan |
| D | 27 | Male | Undergraduate degree | Teacher | 5 | Single orphan |
| E | 27 | Female | Undergraduate degree | Unemployed | 1 | Non-orphan |
| F | 30 | Female | Undergraduate degree | Teacher | 2 | Single orphan |
| G | 27 | Female | Grade 12 | Tertiary Student | 2 | Single orphan |
| H | 26 | Male | Grade 12 | Unemployed | 3 | Double orphan |
| I | 32 | Male | Grade 11 | Unemployed | 0 | Single orphan |
| J | 28 | Female | Grade 8 | Unemployed | 0 | Single orphan |
| K | 23 | Male | Grade 12 | Tertiary Student | 5 | Non-orphan |
| L | 22 | Female | Grade 12 | Tertiary Student | 3 | Non-orphan |

^a non-orphan=both parents alive; single orphan=one parent deceased; double orphan=both parents deceased

Themes

Five major themes were identified from the qualitative interviews. While several themes were closely connected, the researchers attempted to best distinguish between them for a clearer presentation.

Theme 1: The bond and preference for a grandparent

All the participants expressed a deep affection and appreciation for their grandparents. The consistent presence and care provided by a grandparent created a deep sense of security and trust for their grandchildren. All participants expressed that their grandparents(s) treated them as their own children:

“When they looked at me it was as if they were looking at their own child... they used to call on me using very sweet and endearing terms like “our first born from our son”. (Participant A).

Affection was also expressed by differentiating the relationship with the hypothetical treatment they could have received from their parents:

“I got knowledge from being raised by her [grandmother] about our culture and tradition... if I had been raised by my mother, I wouldn’t have gotten to know what I know now.” (Participant C)

In many cultures, including Aawambo culture there is a deep respect for elders, which often translates into a strong bond with the grandparent, who embodies wisdom and authority.

Theme 2: Challenges experienced while living with a grandparent

Despite the positive bond, living with grandparents also presented unique challenges for participants, ranging from personal (e.g., feeling/made to feel like a housekeeper, lack of academic/homework support, late and tiring chores) to social challenges (e.g. social ostracism from classmates, financial difficulties, healthcare access, feelings of exclusion):

“I couldn’t bring my homework to my grandmother to get help because she didn’t understand, so I went back to school without understanding the homework I got.” (Participant B)

“Sometimes I would work, and the workload wasn’t for somebody my age, sometimes I would go fetch water from very far and I would even go with a 25litre bottle that I struggled to carry,

but I had no other choice. Because the house needed water for people to use and for me to wash my clothes.” (Participant J)

These challenges are likely caused by the lack of financial security in households and the age gap between the children and grandparents.

Theme 3: Navigating parental bonds

Most participants maintained functional and positive bonds with their biological parents, who were characterized as supportive figures offering guidance as needed. These supportive relationships were sustained through frequent communication (visits and phone calls) and mutual respect:

“I have a good relationship with my mother, we take turns calling each other every day.... we always make time to check up on one another.” (Participant D)

“Yes, if there’s anything I need I can tell her and let her know, and she will understand.... Even if I tell it to my grandmother first, I will still come tell my mother.. I count them as being on the same level, even though I am closer to my grandmother” (Participant F)

For some, relationships became closer and stronger, with mutual understanding, and even symbolic gestures such as “oku lukilwa” which refers to the naming of the child after their parent:

“My father and I now have a great relationship and I even named my son after him. So we refer to each other as “my child”. If you saw us in town you’d think we were siblings.” (Participant I)

Conversely, some reported strained or distant relationships with parents, often attributed to perceived neglect or mistreatment, often following a parent's remarriage. These participants expressed feelings of abandonment and emotional distance. For instance, one participant described her father becoming hostile and treating her like a "foreigner" after his remarriage:

“When my father got married, I realised that he started to treat me badly and I decided that I would just go live with my mother” (Participant A)

Another participant shared that they had a poor emotional connection to their mother, because she was the only child without a present father:

"Some women don't like their children equally; they love the children with present father's more." (Participant J)

Theme 4: Perceived differences in upbringing – grandparents versus parents

Participants consistently perceived distinct differences in their upbringing compared to those raised by parents, primarily across two areas: practical skills and values. For the former, participants often expressed pride in acquiring hands-on traditional knowledge (e.g., preparing traditional beer, pounding mahangu) from grandparents, viewing children raised by parents as lacking these competencies.

"... we were raised to work with our hands, but those children of nowadays raised by their parents, don't know how to prepare traditional beer ... we know those things, but many children that live with their parents don't." (Participant I)

Secondly, participants perceived that their grandparents instilled important values, often contrasted with children raised by parents, particularly those in urban settings:

"When a child is raised by their parents ... their manners are very dirty, especially the ones that grew up in town ... While those raised by their grandparents are very respectful towards other people." (Participant J)

This difference is likely fuelled by grandparents holding more traditional values emphasizing respect for elders and cultural customs, contrasting with parents who may have greater exposure to modern or Westernized child-rearing practices.

Theme 5: The role of Grandparents as cultural educators

All participants reported that their grandparents served as key educators who imparted various forms of knowledge. Grandparents in Aawambo culture frequently use storytelling (folktales, proverbs, and historical anecdotes) as a method to convey values. This pedagogical practice transmits lessons on respect, honesty, community responsibility, and resilience, directly reflecting cultural ideals and moral codes (Rodil & Winschiers-Theophilus, 2015; Sone, 2018). One participant shared how their grandmother taught them to mediate conflicts, prioritize education, and respect others' belongings:

"My grandmother taught me a lot. Even if there are people fighting, I can tell

them to leave each other alone... the importance of school and why going to school is important... to not touch people's things and not to steal from them... "if you see something and it I not yours, don't touch it...if you need something, ask". (Participant B)

Another participant expressed being raised with a strong work ethic and the understanding that these values should be passed down to future generations:

"I also appreciate that I was raised to be thankful for what I had and if some things weren't possible, you move on with what was possible. Also, if you are raised to know and love work, that work you have learned will not end with you, you will also teach it to the children that you will raise one day. And the cycle continues." (Participant F)

Analysis also revealed that the challenges inherent in a grandparent-led upbringing (e.g., economic hardship, parental absence) often acted as a catalyst for future-oriented motivation. Participants articulated a strong desire to transcend current circumstances and secure a better life for themselves and their communities. One participant's aspirations were to obtain economic self-sufficiency exemplified by their goal of starting a cooked food business at an open market whereas another participant shared their aspiration to see a positive shift in the professional landscape of their home villages.

DISCUSSION

This study explored the influence of grandparent-led upbringing on individuals' life experiences and perceptions. The study revealed an enduring bond between participants and their grandparents, forged through years of close interaction and shared experiences. Grandparents were more than caregivers; they were mentors and confidants who provided stability and a sense of identity. This connection often surpassed relationships with biological parents, particularly where parents were distant or uninvolved. Participants frequently cited their grandparents as the individuals who knew them best, understood their needs, passed down knowledge, and offered a safe space for free expression. These findings resonate with previous research in Africa (Molosiwa & Galeforolwe, 2018; Mtshali, 2015; Schrijner & Smits, 2017) and abroad (Cole, 2017; Dolbin-MacNab & Yancura, 2018; Hayslip et al., 2019). Within the Aawambo

culture, grandparents are not merely caregivers but pivotal custodians of cultural knowledge, moral instruction, and provide essential emotional and practical support for their grandchildren (Brown et al., 2020b; Leonard et al., 2022; Sharley et al., 2020).

However, the study also uncovered the complexities of relationships with biological parents. While some participants reported positive relationships, some described their interactions with parents as distant, strained, or challenging. These strained relationships were often attributed to a lack of consistent presence or involvement during the participants' formative years and were further exacerbated by the stronger, more familiar bonds they had developed with their grandparents. This dynamic highlights the potential emotional ambivalence that can arise in informal kinship care, where roles of primary caregivers and biological parents may overlap, conflict, or remain unclear (Blake et al., 2023; Datzberger et al., 2024; Koh et al., 2024; Kruger, 2024).

Consistent with previous literature on grandparent-led households (Akimanimpaye et al., 2024; Ariyo et al., 2019; Motsa & Morojele, 2022), this research further reveals the socio-economic difficulties faced by individuals raised in traditional homesteads. Financial difficulties were a recurring theme, with many participants noting the hardships their families endured, particularly in relation to education, employment, and basic needs. The grandparents, despite their pivotal role, often lacked the financial resources necessary to fully support their grandchildren's aspirations, leading to a cycle of economic struggle, exemplified by the fact that only 16% of participants were employed.

The findings observed here mirror those found in contexts outside of the Aawambo community (Abdullah et al., 2021; Cudjoe et al., 2021; Iannelli et al., 2024; Leinaweaver, 2014). This underscores the importance of recognizing and supporting these informal caregiving arrangements (Brown et al., 2023), both within the community and through broader social policies. It is essential for educators and related service professionals to implement inclusive and affirming practices that fully validate kinship care as a recognized and preferred family structure. The research also suggests that children in grandparent-led households may require specific educational support to ensure that grandchildren feel supported and represented in educational settings. Professionals should

create interventions that address the dual realities of love and support, as well as financial or caregiving stress. Despite its strengths, a limitation is that this study only used the experiences of 12 individuals within a rural community, which may limit the generalizability of the findings to other contexts. Future research could expand by looking at the lived experiences of children raised by other non-parental family members. Studies could also explore the phenomenon from the perspective of grandparents.

The current study confirms the crucial, supportive role of Aawambo grandparents in providing a sense of identity, belonging, and cultural continuity for their grandchildren. One of the study's primary contributions lies in its nuanced illumination of the intergenerational complexity, including the potential emotional ambivalence towards parents, inherent in informal kinship care. We provide context-specific empirical evidence that shows how traditional kinship systems are simultaneously a powerful source of resilience while still impacted by broader systemic challenges, such as poverty and youth unemployment. This highlights the need for social and educational support systems that recognize these complex family dynamics, not only to preserve cultural heritage but also to strategically address the multifaceted social and economic obstacles. Our findings advocate for a shift toward supportive policies that strengthen the capacity of these informal caregiving structures, to ensure better long-term outcomes for individuals raised in grandparent-led households.

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Caregivers' Mental Health Readiness during Reintegration of Children from Residential Child Care Facilities in Selected Regions in Namibia

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Abstract

Residential Child Care Facilities (RCCFs) play a critical role in safeguarding children separated from their biological families. While reintegration of children into family settings is significant, limited attention is paid to the emotional distress experienced by caregivers who take the primary responsibility for the day-to-day care of children during separation. The aim of this study was to explore the mental health readiness of caregivers during child reintegration in Namibia's Khomas, Oshikoto, and Oshana regions. The authors used phenomenological research design to interview 20 full-time and 6 part-time caregivers from three facilities guided by a semi-structured interview schedule. The study revealed that caregivers experience profound emotional distress during reintegration likened to grief, often expressing anxiety, helplessness, concern and mixed emotions. Limited professional support was reported with caregivers adopting various self-coping strategies. The study implications highlight the critical need for systemic mental health preparedness and structured support for caregivers to sustain quality care for children who remain in RCCFs post-reintegration.

Key Words: Caregiver mental health, Reintegration, Residential childcare, Attachment

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Introduction:

Residential child care facilities (RCCFs) exist as a form of alternative care for children to fulfil the mandate of providing a safe and secure environment for children who need to be cared for, away from their biological home settings. Children are separated and placed in residential care due to various reasons, including parents' inability to fulfil their obligations, leading to inadequate care and protection (Wald, 2021). This aligns with the United Nations sustainable development goal 3, which speaks to the United Nations commitment to ensure that individuals, irrespective of age, live healthy lives and their well-being is safeguarded although placement in residential care should be for the shortest period and as a matter of last resort (UN General Assembly, 2010).

To ensure optimal development of children, RCCFs rely on caregivers, who are employed to provide a nurturing environment, aiding these children to develop cognitively, emotionally, socially, and physically (Thompson et al., 2022). As such, the role caregivers play in the full realization of the mandate of RCCFs is vital. While RCCFs provide safe shelter for children, research attributes greater benefits to children being raised in a home setting under the care of biological parents or kinship families. These include forming and maintaining long-term meaningful relationships (Bowlby, 1969) and positive physical, cognitive and emotional development outcomes (Walakira, 2022). Reintegration of children into their families is prioritized under the International and National Child Welfare regulations, such as the United Nations Guidelines for the Alternative Care of Children (Frimpong-Manso, 2022) and Namibia's Child Care and Protection Act No. 3 of 2015 (Republic of Namibia, 2015). Children in RCCFs are thus recommended for reunification with their parents, a one-time event and subsequent reintegration, which itself is a multi-dimensional step-by-step process that evolves overtime (Wedge, 2013) and needs comprehensive preparation of all parties involved (Walakira, 2022).

While reintegration is a vital component for the optimal development of children who need alternative care, the process also presents its own challenges. Reintegration of children, who for specified period of times, are under the care of caregivers, may cause significant disruptions in

both the children and the caregivers. Based on assertions made by the Bowlby theory of attachment (Ainsworth et al., 1978; Thompson et al., 2022), children build emotional relationships (attachments) with their primary carers, generally a parent or constant adult figure, which are crucial for survival and development. These attachments are argued to make children under the care of caregivers feel safe, secure, and supported, particularly during times of stress and uncertainty. Separation from their caregivers in the residential child care facilities can, for some children have disastrous consequences for both the children and the caregiver. This separation, if not guarded, has potential to undermine the child's feeling of security, resulting in both short-term emotional distress and perhaps long-term emotional effects for both the child and the caregiver (Petrowski et al., 2017; Desmond et al., 2020)

Of specific interest is the mental well-being of caregivers during the process of separation. The World Health Organization (WHO) defines mental health as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" (WHO, 2014). In this study, mental health readiness refers to the psychological preparedness and resilience of caregivers in handling the emotional and psychological challenges associated with the reintegration of children from RCCFs back to their families. It is argued to entail self-awareness, ability to recognize one's thoughts, feelings, and mental state and apply emotional self-management (Smith, 2018; Edmunds, 2025). Caregivers often experience feelings of loss, worry, anxiety, and uncertainty when children who have been in their care have to be separated from them. This can have an emotional toll on caregivers and may negatively impact on the quality of care provided to the children who remain in their care. As such, reintegration can be a double-edged sword for caregivers. While it may bring a sense of accomplishment in seeing a child return to their family, it can also trigger feelings of loss, anxiety, and uncertainty about the child's future well-being (Smith, 2018).

Studies have found that caregivers often experience a range of emotions during the reintegration process, including grief, fear, and a sense of inadequacy (Edmunds, 2025). These emotional responses can have a profound impact on their mental health, leading to burnout,

depression, and other psychological issues if not adequately addressed Salloum et al., (2015). Literature (Ratnayake & Hyde, 2019) asserts that mental readiness in individuals enhances their ability to adjust to change, engage in help seeking behavior to uphold their mental and emotional well-being. As such, mental health readiness enhances individuals' ability to take proactive steps for self-care and early intervention. Hence the importance of preparation for all parties involved. The UN General Assembly, (2022) recommends preparation to include the child, the family of origin, the RCCF Family which includes the caregivers and the community. In Kenya, Ochanda and Muko (2016) discovered that children exiting institutional care often encounter rejection, doubt, and a lack of family readiness, experiences that can heighten caregivers' anxieties as they expect similar obstacles. Well-planned reintegration (transition) reduces caregiver stress and enhances competence to deal with separation in a healthy manner, reducing anxiety (Marini et al., 2025).

Many studies in sub-Saharan Africa and globally have focused on the mental health readiness of children and their families of origin (Giraldi et al., 2022; Ochada & Muko, 2016; Milligan, 2016; Petrowski, 2017). While much of the research has focused on quality of care of children in residential care (Kapata, 2019; Nshimyimana et al., 2015) and views of caregivers on reintegration of children (Mlambo, 2021), there has been less emphasis on the mental health readiness of caregivers who are critical to successful reintegration. Caregivers play a big role in the care and nurturing of children while in residential care. Specific to Namibia, research conducted on child reintegration and caregiver well-being and related constructs include, child fosterage in Namibia, the impact of informal care arrangements upon children's health and welfare (Sharley, et al., 2020), the experiences of primary caregivers caring for children with physical disabilities in Hardap region of Namibia (Ndadzungira, 2016), an exploration of the perceptions of caregivers regarding the psychosocial support needs of hearing impaired children Nuule, (2023), effects of grant termination for orphans, vulnerable children and their caregivers in Windhoek, Namibia (Hasheela, (2024), and lastly, exploring the well-being of caregivers of a family member with down syndrome in Namibia (Byleveldt, (2013). Despite the continuous care of children who

remain in care and the possible ramification of the effects on separation on the mental health of caregivers, there is a dearth of literature and empirical evidence on the role of caregivers and their mental health readiness during the reintegration process and how this affects the quality of care of children who remain necessitating the current study.

Research question:

- The study was guided by the following research question:
- What is the mental health readiness of caregivers during the reintegration process of children from residential child-care facilities in selected regions in Namibia?

Methods:

A qualitative research approach, employing phenomenological research design, was used to investigate the subjective experiences and perspectives of caregivers in Residential Child Care Facilities (RCCFs). As defined by Creswell and Creswell (2018), this approach is appropriate when researchers aim to explore and comprehend the meanings that individuals or groups attribute to a social or human issue.

Purposive sampling was used to sample caregivers from 3 selected RCCFs in Namibia. Only full-time caregivers with at least five (5) years of experience and have reintegrated children in Residential Child Care Facilities (RCCFs) in the Khomas, Oshikoto, and Oshana regions were included in the study. Data was collected until reaching saturation which brought the number of participants to 26 Caregivers. All interviews were recorded with consent, transcribed verbatim, and checked against field notes for accuracy.

Thematic analysis was conducted using Braun & Clarke's framework. Codes were generated inductively, without applying any pre-existing categories. Ethical clearance was obtained from the University of Namibia Decentralized Ethics Committee (Ethics number-SAHS29/24). Thereafter, institutional permission was sought and obtained from the gate keepers of the selected children's homes. The researchers were solely involved in data collection. Before conducting interviews, the researchers briefed participants on the aim of the study, and consent from the participants on the use of recorders and note taking. Every participant had the right to withdraw from the study, at any given point, without incurring any negative outcomes and

personal particulars were protected by using codes.

To ensure the study's trustworthiness, the researchers applied Lincoln and Guba's (1985) four trustworthiness criteria, credibility, transferability, dependability, and confirmability. Credibility was established through prolonged interaction with participants. Transferability was supported by rich, contextual descriptions of the setting and participant roles, allowing others to judge applicability in similar contexts. Dependability was ensured by keeping a detailed audit trail of research decisions and procedures. Confirmability was enhanced through peer debriefing, where each researcher reviewed the portion of data analysis by the other researcher to reduce bias and validate findings (Nowell et al., 2017).

Findings:

Guided by the semi-structured interview guide, participants were asked the following questions: 1. What are your responsibilities in the reintegration process? 2. Explain how you feel emotionally or psychologically when children in your care are being reintegrated. 3. What contributes to or helps you emotionally during reintegration? 4. How does separation affect your day-to-day responsibilities as a caregiver to the children who remain in your care?

Following thematic data analysis, five main themes emerged that illustrate the intricacies of caregiver mental health readiness during child reintegration. These themes as presented below include: (1) Emotional and psychological effects of reintegration, (2) Worry and anxiety for children's well-being after reintegration, (3) Caregivers experience Mixed Emotions during reintegration, (4) Coping Strategies for Caregivers, and (5) Impact on Remaining Children and Care Environment.

Emotional and Psychological Impact of Reintegration

Caregivers described the reintegration of children in their care as an emotionally distressing experience, often comparing it to losing a loved one. Many reported feelings of deep sadness, emptiness, and grief, emphasizing how the separation disrupted their emotional well-being. These emotions were described not only as sadness but as a profound psychological loss that affected their daily functioning. For

example, P-23 said, *"Really, to be honest, that is like... you being tortured. It's like you're being destroyed. A part of you is going. I felt like I lost a child."* While P-14 highlighted the ongoing emotional impact through memories of the child in their environment, *"Sometimes you see the bed they used to sleep in, the chair they used to like, it feels like you lost an arm."* These emotions were intensified when reintegration happened suddenly or without preparation. *"I cannot even eat for the whole week" (P-23).*

In addition, caregivers reported forming strong emotional bonds with children, making reintegration emotionally challenging with P-1 admitting stating that, *"I miss them. I don't feel fine, I talk to myself, I cry."* Similarly, P-9 recounted how caregivers mourned a child's departure: *"We all cried. The child was taken to another RCCF when she was two years old. We spoke about the child for a whole week."*

Worry and anxiety for children's well-being after reintegration

Caregivers expressed concerns about how children would adjust after leaving care. These worries reflected a protective instinct and fear about the child's safety and well-being in their new environment post reintegration. P-2 shared that, *"I'm concerned where he is going to sleep, how it will look like. I'm concerned with his safety ... When I sleep right now, I dream that he is already feverish and having an attack. Even when I'm on leave i can feel it that he is not feeling well, the bond between us is very big"*.

Some caregivers reported experiencing significant stress P-14 during the reintegration process *"I feel sad and guilty, because some of them they did not succeed in their education, I feel sad, lonely and too much stressed."* while others indicated they experienced little to no stress especially when the reintegration aligned with a natural life transition, such as attending college for example, P-9 shared that, *"I did not reintegrate young children, they did not give me any stress because they were all grown up and mature. They were all at universities, during holidays they went to their families, so it was not stressful to let them go. Participant also said, P-16 "For those who finish university, you feel proud that it's your fruit you sowed, you feel good but painful for the younger once's. They call you mummy. Because they are used to you,*

even when they need shoes, they call you”. Some care givers such as P-2 feel unprepared to release children due to uncertainty surrounding the well-being of children post-reintegration which causes them worry, anxiety and distress and P-3 who stated that, *“Sometimes I am not ready myself to release that child because the children are not ready.”*

Many participants expressed concern about the children's welfare after leaving care. Some shared stories of reintegrated children facing poverty, dropping out of school, or lacking supervision at home. One caregiver recalled; *“He was given money and squandered it... now he’s back on the streets”* (P-6). Another participant felt helpless and unsupported *“I just cry when I think about it, there’s nothing I can do”* (P-7). While another participant felt that the children were not ready for reintegration due to their health conditions, hence found it difficult to settle in with their families. P-3 said, *“...One of the children I take care of is not in the hostel and on medication, I was the one reminding him to take the medication. So, I worry about who is reminding them”*

Caregivers experience Mixed Emotions during reintegration

Some caregivers shared emotionally conflicted feelings experiencing both sadness and relief. P-4 said, *“You feel bad because it’s like your own child. Sometimes you are happy because the child is going to the family”* reflects the dual nature of the effects of reintegration. While it is emotionally challenging, it is also seen as a positive or necessary step in the child’s development. A few caregivers expressed acceptance and even a sense of release. In Participant P-20’s words, *“Sometimes it’s a, it’s a kind of release. And if you work for- with the girls, you know the girl... when they turn like 16/17 years, they are problematic in the house. “At least, maybe, let me rest a little bit.”*

Coping Strategies for Caregivers

Some caregivers rely on self-affirmation and positive self-talk to manage their emotions. P-1 stated, *“I tell myself to be positive every day.”* Others find comfort in their role, as P-4 expressed, *“I only tell myself that it’s okay because the child is going to the family. If the Lord says this is your work, it’s your work.”*

Some caregivers said they engage in recreational and social activities to cope with stress. P-2 shared, *“Dancing and singing with the children every Friday, I take them out to the swimming pool.”* P-3 also finds relief through social gatherings: *“Sometimes we make loud music and dance the worries away. When we do that, children also say, ‘Who can dance better?’ and we laugh. That really helps me.”* While others cited relying on Spiritual Practices such as faith, praying, singing praise and worship songs and going to church which provides comfort to them. P-4 explained, *“I just pray. It gives me peace.”*

Similarly, P-5 stated, *“I pray to God that He gives me everything. It gives me peace.”* Only two care givers cited turning to professional counselling for emotional support. P-3 described the benefits of counselling: *“I go to Child Line Lifeline; there are counsellors who help always. I pour out my thoughts, they listen, and I feel relieved.”* Others find comfort in peer support, as P-2 shared, *“As mothers, we also sit and talk about our experiences and challenges and how to solve them.”* While another caregiver said she transfers her love, care and affection to children who remain in the facility. P-6 shared, *“There was another child who came and stole my heart. I started focusing on her and giving her love and attention.”*

Impact on Remaining Children and Care Environment

Caregivers reported that the departure of reintegrated children had noticeable effects on other children in care. Younger children often react with sadness and confusion, sometimes crying or asking where the others had gone. The absence of older children, who had previously helped with household responsibilities, increased the burden on caregivers. *“Now I am left with a 3-year-old and 15-year-old, it’s very difficult.”* (P-21). *“Actually, no. Uh, it’s part of your life. So, now if they go it prepares me for the second stage for those ones who are still there. You must understand the purpose while you are here. I’m telling myself, “One day, the child must go.” So, that’s why I also...and it helps me to prepare also those ones who remains”* P-5 and P-7 who said *“It does not affect my day-to-day activities, I know why I’m here, I have to fulfil my duties, I don’t need to show my loneliness I have to avoid those things so that it will not affect the remaining children.”*

Discussion:

The study found that caregivers often experience are often not ready and experience deep emotional distress during the reintegration process. These emotions are likened to the grief felt when losing a loved one. These findings align with Attachment Theory as outlined by Bowlby and Ainsworth (Bowlby, 1969; Ainsworth, 2018), which emphasizes the anguish resulting from separation from attachment figures. Just as children feel turmoil when separated from their caregivers, those who frequently serve as primary attachment figures in Residential Child Care Facilities (RCCFs) also endure psychological trauma during enforced separations. The fact that only two caregivers mentioned professional counselling indicates that, although formal mental health resources can be helpful, they are not frequently utilized, reflecting broader trends in Sub-Saharan Africa where public mental health literacy and accessibility barriers limit uptake of formal psychological services (Atilola, 2016).

The phrase "losing a child," mentioned by caregivers, reflects the intensity and mutual nature of these connections. It could be argued that the intensity of these connections, amplifies the emotional and psychological trauma that the caregivers will go through, during and after reintegration. Based on (Salloum et al., 2015) assertions, it is inevitable that disruption of attachment bonds can lead to emotional consequences for both individuals, especially when the separation happens abruptly and without sufficient preparation. Preparation is essential for caregivers to mentally and emotionally transition in a healthy manner. Preparation helps caregivers deal with the mental load that is heightened by worry, doubt, fear, and anxiety at onset (Luthra & Haux, 2022).

Moreover, caregivers expressed considerable concern regarding how children adjusted, their safety, and their general well-being after reintegration. This aligns with the findings of (Delap & Mann, 2020.) and (Smith et al., 2018), which highlight caregivers' inherent urge to protect and their worries about the child's new environment. These concerns arise from the bond's caregivers form and their understanding of the children's histories, including experiences of trauma or instability.

Caregivers' concerns about the well-being and adjustment of reintegrated children can intensify feelings of hopelessness and increase caregiver

burden. Literature highlights that hopelessness often involves expecting more negative than positive outcomes, encountering obstacles to important goals, and experiencing a sense of giving up, particularly among those caring for children with complex needs (Walakira et al., 2022). These challenges are closely linked to the concept of mental health readiness, where a caregiver's ability to cope with separation is influenced by their perception of the suitability of the receiving family (Smith et al., 2018). Overall, these findings indicate that caregivers' mental health is negatively impacted when they continually worry about the welfare of reintegrated children.

The mixed emotions experienced by caregivers, who feel both sadness and relief, emphasize an important psychological reaction and illustrate the intricate reality of reintegration. Although many child protection systems aim for reintegration, it also brings about challenges to the emotional stability of caregivers. (Smith et al., 2018) refers to this experience as the "bittersweet" nature of reintegration. On one hand, there are uplifting feelings, such as pride when a child does well after reintegration, which coexist alongside deep feelings of grief. This complexity corresponds with the psychosocial elements of Attachment Theory, where one's emotional state is shaped by both inner relationships and external shifts (Bowlby, 1969; Lin, 2025). Children in residential care who are separated from their siblings or peers suffer emotional and relational drawbacks. For example, McLaren et al. (2024) detail strategies designed to maintain sibling relationships to mitigate emotional disruptions within group care environments. Likewise, research such as sibling separation and placement instability (Font et al., 2021) indicates that separation is linked to increased instability for the children who remain.

Although policies often advocate for sibling placements, empirical analyses (e.g., DiGiovanni & Font, 2021) warn that favorable outcomes are not a certainty. When older children are reintegrated due to self-reliance, there seem to be involuntary separation which affects remaining younger siblings. Furthermore, Jones-Mason et al. (2025) explored methods for restoring attachment following separation, which is pertinent for understanding how caregivers who intervene must not only cope with their own

stress but also work to restore or stabilize the emotional security of the children left behind.

Caregivers employ a variety of coping strategies to manage reintegration stress, including positive self-talk, faith-based activities, peer support, recreational pursuits, and, less commonly, professional counselling. This highlights the necessity for both internal and external support systems, a concept supported by the work of (Salloum et al., 2015) as well as Delap & Mann (2016) to promote thorough preparation for all individuals involved in the reintegration process. The fact that only two caregivers mentioned professional counselling indicates that, although formal mental health resources can be helpful, they are not frequently utilized (Atilola, 2016). It appears that peer support and religious involvement provide culturally relevant, informal emotional relief, reinforcing the conclusions drawn by (Mensi et al., 2021), that spiritual and community-based support plays a crucial role in caregivers' resilience. This highlights the lack of organized institutional mental health preparedness programs in RCCFs, a deficiency emphasized by the (African Union, 2016), which advocates for policy execution to guarantee comprehensive caregiver assistance throughout reintegration processes.

In view of the above, care should be taken to ensure that mentally caregivers are in the position to bounce back and offer a nurturing and secure environment to the children that remain in their care. The findings of the study echoed that such care may become compromised, if caregivers do not receive immediate and consistent mental health care. Given the diverse nature of the reintegration process at various RCCFs, mental health care support can be tailored at individual and institutional level, addressing diverse concerns alluded to in the results section.

Conclusion:

This study illustrates the profound emotional distress caregivers experience which are often likened to grief when separated from children to whom they have become primary attachment figures. Diverse emotions caregivers face stem not only from separation but also from uncertainties surrounding the child's safety, adjustment, and wellbeing post-reintegration. These findings emphasize that caregivers are not secondary stakeholders in the reintegration process, but central figures whose mental and

emotional well-being has direct implications for the quality of life they live, and the quality of care provided to other children who remain in their care.

The study also reveals the complex range of emotions that caregivers experience, ranging between sorrow and pride, grief and hope which reflects the bittersweet reality of reintegration. Although some coping strategies, such as faith-based practices and peer support, offer culturally congruent relief, the underutilization of professional mental health services suggests a significant gap in formal support systems. In this regard, the study highlights a critical policy and practice deficit which is the absence of structured psychological preparation and post-reintegration support tailored to the caregivers' needs. Without adequate emotional support, caregivers risk compassion fatigue and burnout, which could compromise their own well-being and that of the children they continue to care for.

The study therefore provides a basis for intervention development tailored specifically towards enhancing mental health readiness of caregivers at residential childcare facilities. Understanding the range of negative emotions that caregivers experience is necessary for creating awareness on emotional intelligence and self-care strategies aimed at capacitating the care giver to deal with the emotional and psychological aftermath of reintegration. Focusing on the mental health readiness of the caregiver, will have positive outcomes that go beyond the caregiver to the children they continue to care for. This has the potential to create a sustainable, functioning reintegration process that treats not only the children being reintegrated but also the caregiver's mental health as an integral part of the reintegration.

In addition, the study encountered several limitations. The study relied on interviews to generate data. As such, the mental readiness construct was explored from the verbal responses of participants as lived in their contexts. Future studies can investigate components of mental health readiness such as psychological capital as well as mental well-being, using a quantitative research design. Quantitative studies could investigate how compassion satisfaction, management of burnout, secondary trauma and emotional intelligence, contribute to caregivers' mental health and improve consistent, high-

quality care of children who remain. These findings would not only deepen theoretical insights into caregivers' mental health preparedness but also contribute to the development of focused interventions and supportive policies for caregivers during and after reintegration. The study further adopted a cross-sectional research approach. Further studies can design a longitudinal study that investigates and explores, over a period, the complexity of mental health readiness in different demographic settings.

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Assessing the factors that influence Satisfaction with Life and Personal Growth of the Nedbank Desert Dash 2023 Cyclists in Namibia

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Abstract

Heightened levels of stress, depression, and anxiety may be experienced if an individual has low psychological well-being. The purpose of this study was to investigate whether cognitive control and cognitive flexibility influence life satisfaction and personal growth among participants of the Nedbank Desert Dash 2023. Understanding the psychological aspects of ultra-endurance athletes can provide insights into enhancing their well-being and performance. This research addressed the gap in the literature regarding the psychological challenges faced by ultra-endurance athletes, particularly in the Namibian context. A quantitative research approach was employed, utilising a self-administered online questionnaire (n=99). The results indicated significant positive correlations between cognitive control and life satisfaction, as well as between cognitive flexibility and life satisfaction. Similarly, cognitive control and cognitive flexibility were positively correlated with personal growth. Enhancing cognitive control and flexibility through psychological interventions and customised training programs can significantly improve the well-being and performance of ultra-endurance athletes. Robust support systems and educational workshops on cognitive strategies are essential for promoting mental resilience and overall life satisfaction among these athletes. The novelty of this study in Namibia may contribute to the field of sport psychology by expanding existing knowledge, illuminating the unique experiences of ultra-endurance athletes, and creating a foundation for future research.

Keywords: cognitive control, cognitive flexibility, satisfaction with life, personal growth, ultra-endurance cycling

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INTRODUCTION

Heightened levels of stress, depression, and anxiety may be experienced if an individual has low psychological well-being (Keyes, 2014). Satisfaction with life and personal growth are important factors to consider when attempting to increase psychological well-being. When people achieve satisfaction with life and foster personal growth, they enjoy better health, greater success, and longer lives (Kim et al., 2021; Rodrigues & Pieters, 2019).

Satisfaction with life can be defined as an appreciation of one's life or how much one likes their own life (Sameer et al., 2023). Satisfaction with life is linked to better physical health indicators, better health behaviours, and better psychosocial indicators (Kim et al., 2021), as well as academic advantages (Antaramian, 2017). Higher satisfaction with life, especially in the domains of health, relationships, and performance, has been found in athletes (Ivanchev & Stoyanova, 2019).

Personal growth refers to the extent to which an individual makes use of their personal talents and potential to improve themselves (Ryff, 2014). The absence of personal growth can lead to a stagnant and unfulfilled existence, robbing life of meaning and purpose, and diminishing one's ability to cope with challenges (Deci & Ryan, 2008). Personal growth, as a domain of psychological well-being, reduces the risk for diseases and increases a person's longevity (Ryff, 2014).

This study considered cognitive control and cognitive flexibility, which are vital for an individual to adapt to continuously changing environments and emotion regulation, especially in stressful situations (Gabrys et al., 2018). These stressful events may extend to sports. The Nedbank Desert Dash is an annual ultra-endurance cycling event that takes place during December in Namibia (Nedbank Desert Dash, n.d.). The goal is to cycle about 369 kilometres from Windhoek to Swakopmund in 24 hours. The event is classified as an ultra-endurance competition because it exceeds six hours in duration (Zaryski & Smith, 2005). According to Belinchón-deMiguel et al. (2019), ultra-endurance races place a lot of physical and psychological demands on the participants. Therefore, this study explored the influence of cognitive control and cognitive flexibility on satisfaction with life and personal growth of the 2023 Nedbank Desert Dash cyclists.

Objectives of the study

Research done on ultra-endurance competitors mostly concerns itself with the physiological aspects, while neglecting the psychological factors (Meckfessel & Ross-Stewart, 2019). According to the researcher's knowledge, there are limited studies linking life satisfaction and personal growth to cognitive control and cognitive flexibility. Research on these variables could provide deeper insights into how enhancing these cognitive functions might contribute to improved psychological well-being. It would provide researchers with a better understanding of how endurance athletes use cognitive strategies to cope with the challenges in sport and how psychological well-being interventions could be applied to enhance satisfaction with life and personal growth amongst cyclists and athletes.

Furthermore, based on the researcher's knowledge, there is very little or no data available on the psychology of ultra-endurance cycling in the Namibian context. Therefore, it is important to elaborate on the psychological factors that may have an impact on cyclists.

The primary objective of this study was to investigate whether cognitive control and cognitive flexibility influence life satisfaction and personal growth of the Nedbank Desert Dash 2023 cyclists.

Literature review

Sport psychology explores how psychological factors influence sports participation, performance, and conversely, how involvement in sports affects psychological well-being and personal development (Weinberg & Gould, 2015). Psychological well-being is important when dealing with stress or coping with challenges. Cognitive control and cognitive flexibility refer to the ability of an individual to adapt to continuously changing environments, facilitating goal-directed behaviours and emotion regulation, especially in stressful situations (Gabrys et al., 2018). Metacognitive processes are fundamental to effective cognitive control in elite endurance athletes (Brick et al., 2015). This suggests that ultra-endurance athletes would have greater cognitive control and flexibility. High levels of psychological flexibility scores were significantly associated with higher quality of life and lower depression and anxiety (Johles et al., 2020).

Satisfaction with Life

Sameer et al. (2023) define satisfaction with life as an appreciation of one's life or how much one likes their own life. This refers to how well we generally feel and how much we believe life provides us with what we desire (Sameer et al., 2023). Life satisfaction forms part of the cognitive component of subjective well-being (SWB), while also being its own distinct construct (Smith & Konik, 2022). SWB pertains to individuals' assessments of their lives, encompassing how they perceive their experiences in terms of emotions and thoughts (Diener & Scollon, 2014). According to Diener and Scollon (2014), these assessments can relate to current situations (for instance, "I am having a good time") or reflect a broader, long-term outlook (such as, "My life is enjoyable"). Life satisfaction is not simply the average of satisfaction across different areas, as individuals evaluate each domain in their own unique ways (Malvaso & Kang, 2022). For some people, relationships may be the best indicator of overall satisfaction, and thus, they place more emphasis on relationships. While someone else may prioritise health or financial stability.

Thus, satisfaction with life is a subjective, cognitive concept which refers to how much individuals like their own life and that different factors are significant in people's lives (Malvaso & Kang, 2022; Sameer et al., 2023). In this study, we will use the terms 'satisfaction with life' and 'life satisfaction' interchangeably.

The antecedents of life satisfaction include personal characteristics, particularly *personality traits*, such as extraversion and neuroticism, which play a significant role in determining levels of life satisfaction (Malvaso & Kang, 2022). Additionally, *psychological factors* such as personal standards, expectations, and value alignment contribute significantly to overall life satisfaction (Diener et al., 1985).

Research has identified numerous outcomes associated with life satisfaction across multiple domains. In the academic sphere, Antaramian (2017) demonstrated that high life satisfaction significantly correlates with enhanced academic performance, improved cognitive functioning, and increased educational engagement. Students with higher life satisfaction typically exhibit better *academic achievement, stronger motivation, and more effective self-regulation strategies* (Antaramian, 2017).

In terms of *physical health and athletic performance*, Ivantchev and Stoyanova (2019) highlight the positive relationship between life

satisfaction and athletic achievement. Individuals with higher life satisfaction demonstrate better physical health outcomes, *improved training adherence, and enhanced athletic motivation*. These findings suggest that life satisfaction may catalyse physical well-being and athletic success (Ivantchev & Stoyanova, 2019).

The behavioural outcomes of life satisfaction manifest in various ways, including *enhanced goal pursuit, improved coping mechanisms, and better life management skills* (Diener et al., 1985; Malvaso & Kang, 2022). Individuals with higher life satisfaction typically demonstrate more effective decision-making abilities, better stress management strategies, and improved time management skills (Diener et al., 1985).

Research indicates that higher levels of life satisfaction correlate with enhanced relationship quality, improved social integration, and better professional relationships (Headey & Muffels, 2016). These *social outcomes* often manifest in stronger interpersonal connections, better communication skills, and more effective teamwork capabilities.

It is important to note that these outcomes do not exist in isolation but rather interact in complex ways (Malvaso & Kang, 2022). For instance, improved academic performance may lead to better professional opportunities, which in turn can enhance financial satisfaction and overall life satisfaction (Antaramian, 2017). Similarly, better social relationships may contribute to improved coping mechanisms and stress management, creating a positive cycle of well-being (Headey & Muffels, 2016).

Personal Growth

Ryff (2014) defines personal growth as an individual's capacity to realise their potential for continued development and the ability to grow and expand as a person. This definition emphasises the dynamic nature of growth and the importance of continuous self-improvement. Ryff (2014) identifies personal growth as one of the six core dimensions of well-being, highlighting that individuals who prioritise personal growth experience a deeper sense of fulfilment and resilience.

Building on this understanding, Maurer et al. (2023) characterise personal growth as a transformative process involving both internal changes in self-awareness and external manifestations in behaviour. Thus, the definition for personal growth used in this study can be summed up as an individual's capacity for

ongoing self-improvement and transformative development, encompassing both internal self-awareness and external behavioural changes (Maurer et al., 2023; Ryff, 2014). The terms 'personal growth' and 'personal development' were used interchangeably in this study.

Research has identified several key antecedents that facilitate personal growth. Ryff and Singer (2008) emphasise the importance of supportive environmental conditions that provide opportunities for development and self-realisation. The capacity for *introspection and self-reflection* has been identified as a crucial precursor to personal growth (Ryff, 2014). Maurer et al. (2023) highlight that growth often emerges from encountering and overcoming challenges, suggesting that difficult life experiences can be a catalyst for personal growth.

Personal growth reduces *the risk for diseases, increases a person's longevity* (Ryff, 2014), and contributes significantly to overall *psychological well-being and life satisfaction* (Ryff & Singer, 2008). Personal growth is associated with better *adaptation to life changes and increased capability in handling life's challenges* (Ryff, 2014). Individuals who experience personal growth show *improved self-awareness and understanding* of their values and goals (Maurer et al., 2023). Furthermore, growth experiences often lead to *enhanced interpersonal relationships and social connections* (Deci & Ryan, 2008).

Cognitive Control and Cognitive Flexibility

Cognitive control and cognitive flexibility emerge as critical cognitive processes that play a pivotal role in adaptive behaviour and performance regulation (Brick et al., 2015). Cognitive control represents a sophisticated mental mechanism that allows individuals to regulate, modify, and adapt cognitive processes and behaviours in response to changing environmental demands and internal goals (Gabrys et al., 2018). It encompasses the ability to modulate attention, inhibit inappropriate responses, and strategically adjust cognitive processing to meet task requirements (Brick et al., 2015).

Complementarily, cognitive flexibility refers to the capacity to shift cognitive sets, adapt thinking strategies, and modify behavioural responses when environmental conditions or personal objectives change (Odaci & Cikrikci, 2018). In this study, cognitive flexibility will be defined as the capacity to adjust mental

strategies, see situations from various perspectives, and adapt to new information or changes (Johles et al., 2020; Odaci & Cikrikci, 2018).

Individuals with higher resilience or cognitive flexibility demonstrate more *robust cognitive control mechanisms*, enabling them to effectively manage stress and maintain performance under challenging conditions (Brick et al., 2015). Environmental complexity and task demands significantly influence cognitive control and flexibility. High-stress environments, such as competitive athletics, provide particularly illuminating contexts for understanding these processes (Johles et al., 2020). Johles et al. (2020) demonstrated that psychological flexibility among athletes correlates strongly with *performance outcomes*, indicating the critical role of context in modulating cognitive adaptability. While moderate levels of pressure can enhance cognitive engagement, excessive stress can compromise cognitive resources and reduce flexibility (Gabrys et al., 2018).

Cona et al. (2015) found that cognitive functioning predicts athletic performance, emphasising the neural substrates of these psychological processes. Similarly, academic and professional environments benefit from enhanced cognitive adaptability, with individuals demonstrating superior *problem-solving and decision-making* capabilities (Gabrys et al., 2018). Beyond performance metrics, cognitive control and flexibility significantly impact *psychological well-being*. Gabrys et al. (2018) found inverse relationships between cognitive control capabilities and depressive symptoms, suggesting these cognitive processes serve as protective psychological functions. Individuals with greater cognitive flexibility report higher life satisfaction and more effective stress management strategies (Gabrys et al., 2018).

Relationship between Satisfaction with Life, Personal Growth, Cognitive Control, and Cognitive Flexibility

Ultra-endurance athletes represent a unique population that regularly pushes the boundaries of human physical and mental capabilities (Belinchón-deMiguel et al., 2019). The relationship between cognitive processes and psychological outcomes in these athletes provides valuable insights into human potential and adaptation. Ultra-endurance sporting events have gained significant popularity in recent

years (Meckfessel & Ross-Stewart, 2019). Therefore, it has become increasingly important to determine which psychological and physiological factors influence athletes' performance and well-being.

Previous research has shown that psychological factors previously reported as predictors of ultra-endurance mountain race performance failed to predict the performance of athletes in concurrent studies (Belinchón-deMiguel et al., 2021). These findings suggest that more rigorous, systematic research is needed to increase the accuracy and broaden researchers' knowledge on the psychological factors that impact ultra-endurance athletes.

This analysis examines how cognitive control and cognitive flexibility influence life satisfaction and personal growth, specifically within the ultra-endurance athlete population.

Hypothesis 1: Cognitive control positively impacts the satisfaction with life and personal growth of the cyclists participating in the Nedbank Desert Dash 2023, Namibia.

Hypothesis 2: Cognitive flexibility positively impacts the satisfaction with life and personal growth of the cyclists participating in the Nedbank Desert Dash 2023, Namibia.

A study by Méndez-Alonso et al. (2021) found that ultra-endurance athletes demonstrate distinctive patterns of cognitive control and flexibility that set them apart from other populations. Mental strength, resilience, race classification, and completion are key factors in athletic success (Méndez-Alonso et al., 2021). Research by Baniyadi and Salehian (2021) builds on this notion, stating that exercise and physical health promote mental health and develop cognitive well-being. Boardman and Pieters (2021) found a positive relationship between cyclists' psychological well-being and general health, linking physical and psychological health amongst cyclists in Namibia.

Brick et al. (2015) identified that elite endurance athletes possess superior metacognitive processes fundamental to effective cognitive control. These enhanced cognitive abilities enable athletes to (a) regulate attention during extended periods of physical exertion, (b) maintain focus despite fatigue and environmental challenges, and (c) adapt strategies in response to changing race conditions (Brick et al., 2015). The cognitive demands of ultra-endurance events require exceptional levels of mental control and

adaptability. Cona et al. (2015) found that successful ultra-runners exhibit superior inhibitory control, both in suppressing irrelevant information and managing motor responses. This enhanced cognitive control appears to be both a prerequisite for and a consequence of ultra-endurance training and competition (Méndez-Alonso et al., 2021).

Johles et al. (2020) established that athletes with higher psychological flexibility report greater quality of life and reduced psychological distress. Furthermore, Thornton et al. (2023) suggest that having cognitive strategies to maintain mood stability, social motivation, and emotional stability is vital for success in ultramarathons. This relationship is particularly significant in ultra-endurance sports, where the ability to adapt cognitive strategies directly influences both performance and life satisfaction (Thornton et al., 2023).

In addition, Odacı and Cikrikci (2018) established that cognitive flexibility influences life satisfaction through its interaction with personality dimensions. This finding was further supported by Smith and Konik (2022), who demonstrated a sequential relationship where cognitive flexibility served as a significant predictor of life satisfaction. These findings suggest that the ability to adapt thinking patterns and maintain cognitive control directly contributes to how satisfied individuals are with their lives.

Ultra-endurance athletes' heightened cognitive control and flexibility appear to enhance their satisfaction with life through improved stress management (McCormick et al., 2018) and enhanced coping mechanisms (Thornton et al., 2023). Research by McCormick et al. (2018) demonstrates that the ability to regulate cognitive processes during extreme physical challenges transfers to general life satisfaction. Ultra-runners develop sophisticated coping strategies through their participation. Thornton et al. (2023) found that these cognitive adaptations contribute to both athletic success and overall life satisfaction by enabling effective management of life's challenges.

Méndez-Alonso et al. (2021) identified that ultra-trail athletes develop specific psychological traits through their sport participation that facilitate personal growth. Ultra-endurance events serve as catalysts for developing enhanced cognitive control and flexibility, which Roebuck et al. (2018) link to accelerated personal growth and development.

The extreme conditions of ultra-endurance events require exceptional cognitive adaptation. This environmental pressure enhances the relationship between cognitive processes and personal growth outcomes (McCormick et al., 2018). Athletes who effectively utilise cognitive control and flexibility during these challenges experience greater personal development (Belinchón-deMiguel et al., 2021).

In addition, ultra-endurance communities provide unique social contexts that facilitate the translation of cognitive capabilities into life satisfaction and personal growth (Krouse et al., 2011). Success in ultra-endurance events, facilitated by cognitive control and flexibility, creates positive feedback loops that enhance both life satisfaction and personal growth (Thornton et al., 2023). Ivantchev and Stoyanova (2019) also found a positive correlation between overall life satisfaction and personal growth for both athletes and non-athletes. This suggests that personal growth experiences contribute to enhanced life satisfaction, but also that higher life satisfaction may facilitate further personal growth, and that this relationship exists regardless of athletic status.

METHOD

Research approach

The study was conducted using a quantitative research design. This research study did not involve manipulating any variable, and its purpose was to identify whether a correlation exists between the identified variables.

Participants

The cycling population identified for this study includes the participants of the Nedbank Desert Dash 2023 who speak English (N=954). Due to the specific desirable characteristics the ultra-endurance athletes present, the purposive sampling method was used. The study included n=99 research participants who participated in the Nedbank Desert Dash 2023.

Measuring instruments

The participants were asked to fill out a self-administered questionnaire, which identified key demographical information and evaluated their satisfaction with life, personal growth, cognitive flexibility and cognitive control. Demographic data, including sex, age, highest level of education, type of cycling, weekly cycling distance, experience, and racing category, were collected.

Satisfaction with life was measured with the Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985). The SWLS makes use of a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7) with five items (Pavot & Diener, 1993). The SWLS contains statements such as, “*in most ways my life is close to my ideal,*” and “*so far I have gotten the important things I want in life*” (Pavot & Diener, 1993).

Personal growth was measured using Ryff’s *Psychological Well-Being Scale* (PWBS) (Ryff & Keyes, 1995). This dimension captures an individual’s desire for self-development, a sense of realising potential, and adaptability to new challenges (Ryff & Keyes, 1995). The *Psychological Well-Being Scale* makes use of a six-point Likert scale ranging from strongly disagree (1) to strongly agree (6). The personal growth subscale includes seven items, “*I have a sense that I have developed a lot as a person over time*” (Ryff & Keyes, 1995).

Cognitive control and cognitive flexibility were measured using the *Cognitive Control and Flexibility Questionnaire* (CCFQ) developed by Gabrys et al. (2018). The CCFQ is designed to assess individuals’ capacity for cognitive control and flexibility, particularly in situations involving stress or depressive symptoms (Gabrys et al., 2018). It measures two main components: cognitive control—managing thoughts and behaviours—and cognitive flexibility—adapting strategies and perspectives. Gabrys et al. (2018) indicate that higher cognitive control and flexibility are associated with reduced stress and depressive symptoms. The scale utilises a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7) (Gabrys et al., 2018). The cognitive control subscale included nine items. The items included statements like, “*I get easily distracted by upsetting thoughts or feelings*” (Gabrys et al., 2018). The cognitive flexibility subscale included items such as, “*I consider the situation for multiple viewpoints before responding.*”

Design

The researchers worked together with the race administrators, who emailed participants the link to the online questionnaire once they registered for the Nedbank Desert Dash 2023. Participants received information about the study’s purpose and a consent form before they could fill out the questionnaire. Ethical clearance to conduct the study was obtained

from the Decentralised Ethics Committee of the University of Namibia. The data were analysed using SPSS version 29.0. No participants were harmed, deceived or disadvantaged in any way. Furthermore, participants' information was anonymised, and the questionnaires are kept in a safe place. Only the research team has access to the collected data.

Data Analysis

The Statistical Package for Social Science (SPSS) version 29.0 was used to determine the quantitative correlation between the variables. The main techniques used to obtain the results include descriptive statistics, such as frequencies, and testing the reliability of the variables using Cronbach's Alpha. The hypotheses were tested using Pearson correlation (2-tailed).

RESULTS

Descriptive statistics and correlations

Descriptive statistics were run for all the demographic information of the Nedbank Desert Dash 2023 participants. Demographic statistics are presented in *Table 1*.

Table 1

Demographic information of Nedbank Desert Dash 2023 participants

| | n | % | | n | % |
|------------------------------|----|------|--|----|------|
| Sex | | | Years of cycling experience | | |
| Male | 76 | 76.8 | Less than 1 year | 3 | 3.0 |
| Female | 23 | 23.2 | 1-3 years | 17 | 17.2 |
| | | | 4-7 years | 32 | 32.3 |
| Age | | | 8-12 years | 9 | 9.1 |
| 18-23 years | 2 | 2.0 | 13 years and more | 38 | 38.4 |
| 24-29 years | 4 | 4.0 | | | |
| 30-39 years | 25 | 25.3 | Number of cycling sessions per week | | |
| 40-49 years | 32 | 32.3 | 1-3 sessions per week | 32 | 32.3 |
| 50-59 years | 24 | 24.2 | 4-5 times per week | 55 | 55.6 |
| 60 years and older | 12 | 12.1 | 6 and more times per week | 12 | 12.1 |
| | | | | | |
| Highest Qualification | | | Average cycling distance per week | | |
| Grade 12 | 12 | 12.1 | Less than 50km | 3 | 3.0 |
| Certificate | 4 | 4.0 | 50-100km | 18 | 18.2 |
| Diploma | 22 | 22.2 | 101-149km | 28 | 28.3 |
| Degree (honours) | 42 | 42.4 | 150km and more | 50 | 50.5 |
| Ma degree | 17 | 17.2 | | | |
| PhD degree | 2 | 2.0 | | | |
| | | | Racing category | | |
| Type of cycling | | | Four-person team | 47 | 47.5 |
| Road races only | 0 | 0 | Two-person team | 12 | 12.1 |
| MTB races only | 32 | 32.3 | Solo | 40 | 40.4 |
| MTB and road race | 67 | 67.7 | | | |

Table 2

Descriptive statistics and Pearson rank order correlation

| Item: | TOTAL MEAN | SD | α | 1 | 2 | 3 | 4 |
|--------|------------|------|----------|------|---|---|---|
| 1. SWL | 25.52 | 5.11 | .86 | - | | | |
| 2. PG | 37.96 | 5.55 | .75 | .23* | - | | |

| | | | | | | | |
|-------|-------|------|-----|------|-------|-------|---|
| 3. CC | 43.67 | 8.40 | .83 | .23* | .31*+ | - | |
| 4. CF | 48.59 | 8.63 | .90 | .28* | .41*+ | .31*+ | - |

Note: SWL: Satisfaction with life; PG: Personal growth; CC: Cognitive control; CF: Cognitive flexibility; α : Cronbach’s alpha; SD: Standard Deviation.

Pearson correlation was used to analyse H1 and H2. The analysis provides support for hypothesis one and hypothesis two. Overall, the direction of these relationships is positive, indicating that as one variable increases, the others tend to increase as well.

DISCUSSION

The results of this study provide robust support for the hypothesis that cognitive control and cognitive flexibility positively impact life satisfaction. These findings align with previous studies by Odacı and Cikrikci (2018) and Smith and Konik (2022), which also identified a positive correlation between cognitive flexibility and satisfaction with life. Additionally, McCormick et al. (2018) established that ultra-endurance athletes possess heightened cognitive control and flexibility, which enhances their life satisfaction.

Cognitive control enables individuals to regulate emotions, maintain focus on goals, and resist counterproductive impulses. On the other hand, cognitive flexibility allows them to adapt to changes, find creative solutions, and reframe challenges positively (Brick et al., 2015; Gabrys

Practical implications

The findings of this study have several practical implications for athletes, coaches, sports psychologists, and event organisers. Enhancing cognitive control and cognitive flexibility through targeted psychological interventions and customised training programs can significantly improve the well-being and performance of ultra-endurance athletes.

Athletes should incorporate cognitive training exercises into regular training routines to enhance cognitive control and flexibility. Utilise techniques such as mindfulness, mental imagery, and cognitive-behavioural strategies to manage stress and improve focus. Coaches and Sports Psychologists should design integrated training programs that include both physical and cognitive components. Provide athletes with tools and resources to develop their cognitive skills and offer regular workshops and seminars on cognitive strategies. The event organisers may implement pre-race workshops that focus on cognitive preparation and mental resilience.

et al., 2018). Ultra-endurance athletes exemplify this relationship, as their success requires both control (to persist through discomfort and maintain training regimens) and flexibility (to adapt to changing conditions and balance multiple life demands). Together, these cognitive abilities create a foundation for life satisfaction by enabling individuals to remain steadfast in their pursuits while adapting to life’s inevitable changes and challenges.

Furthermore, the results support the hypothesis that cognitive control and cognitive flexibility positively impact personal growth. This study’s findings align with previous research by Belinchón-deMiguel et al. (2021), which established that effective utilisation of cognitive control and flexibility enhances personal development. Individuals with stronger cognitive control and flexibility may be better equipped to navigate the challenges and demands of long-distance cycling events, such as the Nedbank Desert Dash, while maintaining a positive outlook and sense of self-improvement (Gabrys et al., 2018; McCormick et al., 2018; Thornton et al., 2023).

Provide access to sports psychology services for participants and include guidelines on cognitive strategies in race materials.

Limitations

Data collection was constrained to the period during which the Nedbank Desert Dash 2023 event was held, limiting the timeframe for gathering data. The study only collected data from participants of a single event, which restricts the generalisability of the findings to all cyclists in Namibia. Additionally, the reliance on self-reported data through questionnaires may introduce response bias, potentially affecting the accuracy of the results. Using a cross-sectional research design, no cause-and-effect relationship could be established.

Future research recommendations

Future research could explore additional cognitive and psychological factors that may influence the well-being and growth of cyclists, as well as investigate potential moderating or mediating variables that could explain the relationship between cognitive function and

these positive outcomes. Longitudinal studies could be conducted to track cognitive development in endurance cyclists, investigating the effectiveness of specific cognitive training interventions, and examining the relationship between cognitive abilities and race performance. Additionally, researchers should study how different racing environments impact cognitive functioning. Methodologically, recommendations include using larger sample sizes to identify demographic differences, incorporating diverse participant pools across various cycling disciplines and developing athlete-specific cognitive assessment tools.

CONCLUSION

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Understanding Perinatal Depression and Its Psychosocial Determinants through the Experiences of Namibian Women in Windhoek Namibia

Saara Kerthu Hatupopi, Mariatha Yazbek, Annatjie van der Wath

ABSTRACT

Perinatal depression increases women's risk of physical, social, and psychological problems. There is limited information on the psychosocial factors influencing perinatal depression in Namibian women. This study explores women's perceptions of perinatal depression through their experiences. A qualitative, exploratory design was employed, using semi-structured interviews with 21 women during the antenatal and postnatal periods in June and July 2021. Data were transcribed and analysed thematically. Results revealed two main themes: awareness of perinatal depression through women's experiences, and psychosocial determinants of perinatal depression, each with seven sub-themes. The analysis highlights the complexity of the condition, emphasizing the roles of social support, mental health history, and socioeconomic status. These insights can guide interventions to improve outcomes for mothers and families and suggest the potential for developing an online screening tool.

Keywords: Perinatal, Depression, Psychosocial, Mental Health.

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INTRODUCTION AND BACKGROUND

Perinatal depression is a common mental health disorder occurring during pregnancy and up to one year postpartum, impacting daily functioning and posing serious risks (Howard & Khalifeh, 2020; Van-Niel & Payne, 2020). Depression during pregnancy is called antenatal depression, while after delivery it's postnatal depression. The perinatal period, spanning from conception to one year post-delivery, is crucial for both the mother and the baby (Garcia & Yim, 2017). Mental health issues, especially depression, that occur during this period can greatly affect maternal and infant health. If left untreated, they can interfere with mother-infant bonding and raise the risk of suicide (Larsen et al., 2022).

The risk of perinatal depression rises as pregnancy progresses, and untreated symptoms in the second and third trimesters may appear postpartum (Sheeba et al., 2019). In low- and middle-income countries, the prevalence of antenatal depressive symptoms is 26.3%, while postpartum depression rates range between 7% (Dadi et al., 2020; Atuhaire et al., 2020). Social determinants include young maternal age, food insecurity, poverty, and partner violence (Holcomb et al., 2025; Gelaye et al., 2016).

In Namibia, screening for perinatal depression is still a notable gap in routine perinatal care. A study conducted in Outapi revealed that 8.0% of pregnant women faced gender-based violence, potentially heightening their risk of developing perinatal depression. Despite the alarming prevalence of intimate partner violence (IPV) during pregnancy, a factor known to heighten the risk of mental health issues, the existing perinatal guidelines often neglect the essential component of mental health (Ministry of Health and Social Services [MOHSS], 2020; Bikinesi et al., 2017).

A qualitative study in Windhoek found that 14 of 21 interviewed women reported antenatal depression, while 7 struggled with postnatal depression (Hatupopi, 2023). A recent quantitative study in Windhoek revealed that 21.8% of pregnant women had suicidal thoughts, which were strongly associated with antenatal depression at 62.4% (Amwaalanga et al., 2025).

Risk factors were multifaceted, including financial hardship, unemployment, lack of social support, gender-based violence, paternity denial, unplanned adolescent pregnancies, and

HIV-positive status, often leading to despair and suicidal ideation.

Neglecting to address risk factors and missing perinatal depression diagnoses can lead to severe consequences for mothers and their children (Mlambo & Amukugo, 2024; Rafferty et al., 2019). Screening for perinatal depression and implementing targeted psychosocial interventions is crucial for enhancing maternal mental health and supporting Sustainable Development Goal 3 (SDG3), which aims to improve the well-being of both mothers and children. This article examines the experiences of Namibian women with perinatal depression and its psychosocial determinants.

OBJECTIVES OF THE STUDY

To explore and describe the understanding of perinatal depression and its psychosocial determinants through the experiences of Namibian women.

METHODS

This study employed a qualitative approach with an exploratory design due to limited knowledge about perinatal depression in Namibia.

STUDY PARTICIPANTS RECRUITMENT.

In this study, a midwifery lecturer conducted a brief questionnaire to screen for antenatal and postnatal depression (perinatal depression) among women during routine health talks at Windhoek Central Clinic and other clinic locations. Women were invited to participate voluntarily and assured that they could withdraw at any time without affecting their care. They were given a consent form after a brief explanation. Eligibility included women aged 18 or older who could read and speak English, regardless of pregnancy or postnatal status, as well as neonates up to 6 weeks old. The final sample consisted of 50 pregnant women and 50 postpartum mothers, all aged 18 years or older.

Participants were selected based on EPDS scores of 10 or higher to identify those at risk. Since perinatal depression is sensitive, the EPDS was essential for detecting depressive symptoms. This pilot study aimed to identify potential participants who met the inclusion criteria; however, the data were not used for statistical analysis.

Women with EPDS scores of 10 or higher were included. One hundred women were screened; 38 scored ≥ 10 , indicating risk. Twenty-eight agreed to interviews; the final sample consisted of 21 women after data saturation was reached.

Those with severe depression were referred to a social worker.

DATA COLLECTION

The study was approved by the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria (49/2021) and the Namibian Ministry of Health and Social Services. Informed consent was obtained. A female PhD candidate conducted semi-structured interviews in private rooms, lasting 20-60 minutes. Questions included: “What do you understand about perinatal depression?” and “What has your experience been with depression?” Field notes recorded non-verbal cues. The study included 14 antenatal and 7 postnatal women.

DATA ANALYSIS

Thematic analysis was employed (Braun & Clarke, 2006; Kiger & Varpio, 2020). The lead researcher and two supervisors manually coded data, identifying themes through inductive analysis. Initial themes were reviewed and

refined. Member checking was conducted with approximately one-quarter of the participants.

TRUSTWORTHINESS

The study established trustworthiness through transferability, credibility, dependability, and confirmability (Polit & Beck, 2017). Credibility was ensured through audio recordings, verbatim transcription of interviews, observational notes, and member checking. Confirmability was supported by maintaining an audit trail, recording interviews, and backing themes with participant quotes. Dependability was ensured by reaching consensus on themes, and transferability was strengthened by providing a detailed description of the study's context, setting, and participants.

RESULTS

The researcher interviewed 21 women with perinatal depression. Ages ranged from 18 to 41; four were adolescents (18-19), two were between 20 and 25, and the rest were between 26 and 41. Six women were employed, and 15 were unemployed. Fourteen experienced antenatal depression, and seven experienced postnatal depression.

Table 1: Participants’ age, employment status, and depression type

| Age | | Employment status | | Depression type | |
|--------------|----|-------------------|----|----------------------|----|
| 18-19 | 4 | Employed | 6 | Antenatal depression | 14 |
| 20-25 | 2 | Unemployed | 15 | Postnatal depression | 7 |
| 26-41 | 15 | | | | |
| TOTAL | 21 | | 21 | | 21 |

TABLE 2. Themes, subthemes, and quotes from the participants

| Themes | Subthemes | Quotes from the participants |
|---|---|--|
| Theme 1: Awareness of depression This theme shows depression expressed through participants' experiences, giving each participant a unique view. Women often use relevant phrases to share their experiences and perceptions of perinatal depression. The main theme is supported by seven sub-themes | 1. Manifestations of perinatal depression The participants explained their depression symptoms, sharing emotional struggles and physical signs like insomnia, sadness, irritability, fatigue, headaches, appetite loss, and weight loss. | Depression causes overwhelming stress, headaches, weakness, and fatigue. Despite needing rest, struggling to sleep, and feeling powerless. It feels like food won't go down, even when hungry, with a weight in the throat, a heavy heart, and no appetite. The mind is burdened, making it hard to eat despite being hungry. |
| | 2. Conceptualisations of perinatal | Believed depression happens when many emotions build up and overthinking them can overwhelm and weigh you down. |

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| | <p>Participants described perinatal depression as emotional difficulties, a troubled mindset, and overthinking, linked to rumination from interpersonal and social issues. Some attributed it to life events, such as the inability to support the family and marital conflicts.</p> | <p>You don't break because of your strength. It occurs when you obsess over issues, ruminating without solutions.</p> |
| | <p>3. Suicidal ideations Participants felt their struggles were linked to social challenges, causing despair and suicidal thoughts. Some saw death as an escape from their pain and turmoil.</p> | <p>At times, I contemplate ending my life! It is not a frequent thought, but it surfaces occasionally, especially during my emotional highs and lows! I wonder if it might lessen the burden for those around me.</p> <p>My family, taking a deep breath, given our current financial struggles, I believe that my passing would relieve them of some debts. I wouldn't have to face family conflicts anymore. Instead of caring for me, my parents and siblings would take care of my children.</p> <p>Depression is when you find yourself in a dark place, an extremely dark place, like when you're faced with a serious problem and can't figure out how to solve it, maybe even contemplating ending your life.</p> <p>Depression feels like nonstop overthinking, paired with a sense of helplessness. Your mind becomes cluttered and overwhelmed. You might even think about ending your life to escape your struggles or pain. It's as if life has stopped, and you're caught in thoughts that pull you into despair and depression.</p> |
| | <p>4. Difficulty performing daily tasks. Participants described depression impacting their ability to function during the perinatal period, feeling overwhelmed, and struggling to concentrate or do chores.</p> | <p>The responsibilities feel overwhelming, and the baby's arrival leaves me feeling overwhelmed with feelings of failure and demotivation. Struggle with household tasks and concentrating on my studies, often feeling disconnected and trapped.</p> <p>Sometimes, I lack the energy to even wash my baby's clothes.</p> |
| | <p>5. Social isolation Participants felt life was a struggle marked by isolation and a desire to connect. They sensed judgment over their pregnancies, increasing feelings of separation; many preferred solitudes, especially those</p> | <p>A few weeks ago, I realized I was depressed. I wanted to stay in the dark, be alone, and isolate myself, even from my partner.</p> <p>I rarely leave the house, except on my scheduled cooking days.</p> <p>I prefer solitude and am not interested in talking, even if someone visits.</p> |

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| | with unplanned pregnancies facing harsh family judgments. | |
| | <p>6. Feelings of Disappointment Many participants felt disappointed in themselves. One felt guilty for not using contraception. Two felt pressured to finish school, get a job, get married, and then have children for financial independence. Another criticized herself for having three children, being unemployed, and contracting HIV at 24</p> | <p>I believe I should have been more aware, given my single and uneducated status. I regret not using contraception and that peer pressure influenced my decisions, and I take full responsibility. I'm struggling at 24 with three children, including the youngest (pointing at the baby). Being HIV-positive and unable to support them is heartbreaking. Becoming pregnant young was challenging it interrupted my plans, left me unprepared, and disappointed my parents</p> |
| | <p>7. Effects on the Family Participants discussed how perinatal depression affected their families. Some individuals expressed negative feelings toward their husbands and children, which led to communication issues, neglect, excessive scolding, and frequent arguments.</p> | <p>This depression has hurt my family. We argue in front of the children. I don't help with homework, clean, or cook because I'm often angry and tired. These issues seem to halt our family life. My pregnancy is affecting me; I neglect my husband, chores, and the house. I feel guilty but can't control it. My husband worries, blaming pregnancy hormones and mocking me, as I've never acted like this. I'm upset but unable to control it, so I spend time on the computer, pretending to do schoolwork.</p> |
| <p>Theme 2: Psychosocial determinants of perinatal depression Participants identified several psychosocial factors that can be addressed to help mitigate the risk of developing perinatal depression. Understanding these factors is crucial for developing effective support strategies for women during the perinatal period.</p> | <p>1. Financial struggles Participants shared their experiences of severe financial hardships, describing a widespread sense of insecurity that left them anxious and overwhelmed. Debt was a constant source of stress affecting mental health, while the pressure to meet family needs deepened hopelessness and contributed to depression.</p> | <p>I am mainly facing financial difficulties; I must admit that I cannot meet my family's needs because of these issues. I believe this is the main cause of my depression. Things were fine at first, but once school started, my sponsor left me. Currently, I am facing rental issues and overall financial difficulties. The landlord told me I must move out of the house today and tomorrow. I struggle to maintain financial stability as I work in a hair salon, and taking maternity leave would probably put me in debt.</p> |
| | <p>2. Unemployment and poverty Unemployment and related stressors are major depression causes. Those with less education, poor job skills, and experiencing</p> | <p>We are unemployed after losing our jobs and have recently returned from England due to the COVID-19 pandemic. I hope to find a job that supports my children. I want a job that ensures they don't go hungry or beg on the streets, as we currently live in poverty.</p> |

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| | <p>economic hardships due to COVID-19 face worse prospects. As participants state:</p> | <p>Being unemployed makes having children difficult, and we face severe hardship</p> |
| | <p>3. Lack of social support and emotional support Participants lacked partner and family support, struggling to meet children's needs alone. They noted their husbands' reluctance to help, which worsened their depression and made them feel their partners were inadequate in support and understanding.</p> | <p>It impacts me because my partner isn't helping with challenges; he's reluctant to work and not genuinely seeking a job, though he could have earned more if he had pursued opportunities. I feel he's somewhat lazy.</p> <p>I lack support at home, as my father and brothers are unhelpful. My baby's father supports me but lives elsewhere, and my sister, who is busy from 6 am to 8 pm, is exhausted and can't assist much.</p> <p>He struggles to understand me; when I seek moral support, he dismisses it as excessive. I feel he's using the pregnancy to attract his concern, and I often cry over these ongoing relationship issues.</p> |
| | <p>4. Gender – based violence Participants indicated that gender-based violence fuelled their depression, blocking solutions. Some considered leaving their husbands but felt trapped by unemployment and the low income it provided for their children. As a result, many stayed in harmful relationships, affecting their mental, physical, and emotional health.</p> | <p>We often argue, and my husband sometimes starts fights in front of our children, using abusive language. He says hurtful words to me and seems unaware of their impact.</p> <p>I frequently argue with him, who sometimes pushes or hits me. This makes me consider leaving, despite lacking a place or support for my children. If I found a job, he might respect me. His abusive behaviour and drinking affect my mental and physical health; my thinness shows this (gesturing to myself).</p> <p>He often comes home drunk and seeks fights, causing stress. His drinking and aggression cause me immense stress, especially when he finds us asleep and starts arguments or throws objects at me, escalating his aggression.</p> |
| | <p>5. Paternity denial and rejection The researcher interviewed four adolescent mothers, three of whom faced paternity denial. Their partners' disbelief and denial caused anxiety and sadness, leading to perinatal depression. These reactions disrupted communication and worsened the mothers' emotional challenges.</p> | <p>The stress stemming from my child's father is deeply rooted in his absence; he refuses to acknowledge his role as a parent, denying not only paternity but also the responsibilities and connections that come with it.</p> <p>This denial creates a heavy cloud of uncertainty and frustration in our lives, amplifying my challenges as a single parent.</p> <p>The baby's father questioned his paternity, even after I asked if he had unprotected sex with me. He insisted the child wasn't his and insulted me,</p> |

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| | | <p>feeling entitled to comment on my private parts, humiliating me, and breaking down in tears.</p> <p>I felt betrayed when he cut off contact after I told him I was pregnant, refusing responsibility, then later suggested the child might be his. The social worker advised me not to hold grudges, just like (sad face).</p> |
| | <p>6. Issues of Adolescent Pregnant Women Teenage participants felt depressed and hesitant to share their pregnancies with family, fearing negative reactions, which increased their depression.</p> | <p>I didn't want to disappoint my parents, but I did. I couldn't face them or admit I was pregnant, knowing they'd ask: Who's the father? I had no answer. I also struggled in school, feeling overwhelmed. Can you understand my pain? I feared letting them down, but I still disappointed them.</p> <p>They're upset with me, which hurts. I feared their reaction.</p> <p>When I found out I was pregnant, I worried about my grandparents' response. My grandfather, a traditional Herero man, doesn't accept pregnancy before marriage or finishing school.</p> |
| | <p>7. Unplanned or unwanted pregnancy Most participants said an unplanned or unwanted pregnancy contributed to their depression. Those who recently gave birth felt it was too soon to be pregnant again, and some were still studying. Many wanted access to a safe abortion.</p> | <p>During pregnancy, I was more depressed due to an unplanned pregnancy, even considering abortion, but I changed my mind, fearing the consequences of killing.</p> <p>My youngest is one year old, and now I'm pregnant again, which disappoints me as I feel unprepared and not ready physically, emotionally, financially, or mentally.</p> |
| | | |

DISCUSSION

This study offers insight into Namibian women's struggles with perinatal depression, highlighting a critical need to integrate mental health support into perinatal services. The age range of participants (18-41) reflects research showing stress often affects young mothers (Phiri et al., 2021). The finding indicates that 14 had antenatal depression, which aligns with evidence that antenatal depression predicts postnatal depression (Ogbo et al., 2018). Reported symptoms matched DSM-5 criteria. The description of depression as "overthinking" social events aligns with global studies (Rodrigues, 2018) and reflects mental distress in Sub-Saharan Africa (Backe et al., 2021). It

should not be ignored when mentioned during the assessment.

Insomnia and eating problems were frequently observed in this context study. This aligns with a study by Haroz et al. (2017), which identified common symptoms as social isolation, fatigue, and insomnia. Isolation often worsens symptoms, while societal pressures and self-doubt contribute to their emotional struggles. Many women link their distress to perceived poor choices made before and during pregnancy.

The participants shared how perinatal depression negatively impacted their daily routines and activities. This aligns with Research in Sub-Saharan Africa, which shows

that women in their childbearing years face a significant risk of perinatal depression, impacting their daily lives (Davies et al., 2016; Ng'oma et al., 2019).

Women perceived personal challenges as significant social issues affecting their mental health, often leading to suicidal thoughts. Many believed suicide could relieve their overwhelming distress. Factors such as a history of psychiatric disorders and socioeconomic issues exacerbate these risks (Jago et al., 2021; Yu et al., 2024). A study in Malawi found that 58% of women with HIV and perinatal depression had suicidal thoughts (LeMasters et al., 2020).

In study four, women who experienced suicidal thoughts were pregnant. Studies revealed that the prevalence of suicidal ideation may be higher among pregnant women than in women during the postnatal period (Enătescu et al., 2021; Al-Halabí et al., 2021).

The high unemployment rate (15 of 21 participants) is a major risk factor, particularly in a context where 32% of the population lives in poverty (Stiftung, 2014) and Windhoek's unemployment rate is also high (Lilungwe, 2020).

The lack of social support intensifies the burden of perinatal depression (Hirschler et al., 2021). The link to gender-based violence is critical in Namibia, where 8% of pregnant women experience violence (Bikinesi et al., 2017), a known risk factor (Biaggi et al., 2016). Paternity denial and adolescent stigma align with previous studies (Okine et al., 2020), revealing a significant gap in rural perinatal mental health data.

STRENGTHS AND LIMITATIONS

A strength is data collected directly from women with EPDS-identified symptoms. Limitations include a sample restricted to public facilities in Windhoek and conducting interviews only in English, which may limit the depth of the findings.

IMPLICATIONS OF THE STUDY

Understanding these psychosocial factors is essential for enhancing maternal mental health services and creating customized interventions. The results suggest opportunities for innovation, such as an online screening tool for providing timely support.

CONCLUSION

This study highlights Namibian women's perceptions of perinatal depression and emphasizes key psychosocial factors like social

isolation, financial difficulties, and lack of support. It calls for targeted mental health interventions and broader studies. Increasing awareness can improve support for new mothers and lead to healthier communities.

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Statistical Significance of Ensemble versus Non-Ensemble Classifiers in Mental Health Disease Prediction

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ABSTRACT

Mental health disease prediction is one of the most dangerous ones in the world. It is important to diagnose as early as possible. This study investigates the machine learning models to early detect mental health disorders. Our main objective of this paper is to compare the ensemble learning model and the traditional model for mental health diseases. We have compared the boosting algorithms (Gradient Boosting, XGBoost, AdaBoost, and CatBoost) and traditional classifiers (KNN, Logistic Regression, Decision Tree, and SVM) on mental health prediction tasks. The models such as GradientBoosting, XGBoost, AdaBoost and CatBoost obtained the highest recall at 0.9375 and F1-score 0.85141. Our experimental result reveals that the boosting algorithm performs best against the traditional classifiers across the different performance metrics. It has been observed and significantly improved on recall at (42.5%) and F1-score (24.4%). To validate the robustness of the model, we employed the two statistical methods, both parametric (t-test) and non-parametric (Wilcoxon) test. We observed and confirmed that the ensembles give the best result and statistically significant performance gains ($p < 0.05$). These findings demonstrate the effectiveness of ensemble approaches in capturing complicated patterns related to mental health data, reinforcing their potential as dependable clinical decision supports.

Keywords: Ensemble Learning, Mental Health Disease Prediction, Boosting Algorithms, Statistical Significance Testing, Machine Learning in Healthcare

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Introduction

Mental health disorders pose a major global health issue, impacting emotional, psychological, and social well-being. Disorders like depression, anxiety, stress, obsessive-compulsive disorder (OCD), and substance addiction are common among various populations.

With progress in artificial intelligence, machine learning (ML) has become a valuable method for forecasting mental health. Health. Health outcomes are examined by examining complex behavioural, demographic, and clinical data. Researchers have utilised multiple ML techniques, such as Support

Vector Machines (SVM), Decision Trees, Naïve Bayes, K-Nearest Neighbour (KNN), Logistic Regression and ensemble methods, to effectively classify mental health conditions. Research shows these models reach high accuracy, with ensemble methods like Gradient Boosting outperforming conventional algorithms. However, challenges persist in creating interpretable, real-time predictive models that are adaptable to dynamic, real-world settings.

Related Work

This study compared five machine learning methods—Support Vector Machines (SVM), Decision Trees, Naïve Bayes, K-Nearest Neighbour (KNN), and Logistic Regression—for classifying mental health datasets. Despite the relatively small size of the dataset, all models achieved accuracy rates above 79%. These results indicate that expanding the dataset in future studies could further improve classification accuracy (Vaishnavi et al., 2022).

Mental health issues cover a broad spectrum of conditions affecting emotional and psychological well-being. Commonly studied problems in behavioural and predictive modelling include stress, social anxiety, depression, obsessive-compulsive disorder (OCD), substance addiction, and personality disorders (Srividya, Mohanavalli, & Bhalaji, 2018). Researchers have utilised standardised psychological assessment tools, such as the Depression, Anxiety, and Stress Scale (DASS-21), to label individuals in datasets based on their attribute scores for modelling mental health conditions. Additionally, factors from the

World Health Organisation Quality of Life (WHOQOL) assessment were used as input features for selection and predictive modelling. Among the various methods applied, Linear Regression and Neural Networks showed promising results in predicting anxiety, with accuracy ranging from 68% to 88% (Rohani et al., 2022). Analysis of mental health survey data from frontline healthcare workers identified the specific professional role—such as nurse, emergency room staff, or surgeon—as the most significant predictor of mental health decline. To uncover these predictive factors, researchers employed a wide array of statistical and machine learning techniques, including Decision Trees, Multinomial Logistic Regression, Naïve Bayes, K-Nearest Neighbours (KNN), Support Vector Machines (SVM), Neural Networks, Random Forests, Gradient Tree Boosting, XGBoost, CatBoost, LightGBM, Synthetic Minority Oversampling Technique (SMOTE), and the Chi-Squared test (Daly et al., 2021). Studies examining mental health determinants among students have identified key factors such as financial difficulties, academic stress, homesickness, social isolation, and challenges in cultural adjustment. Demographic variables like age (21–30 years), gender (female), and marital status (unmarried) were also linked to higher levels of depression and anxiety. In analysing secondary datasets, four predictive models—Logistic Regression, DT, RF, and K-NN—were used to classify mental health outcomes. These models were evaluated using metrics including accuracy, classification reports, Receiver Operating Characteristic (ROC) curves, and Area Under the Curve (AUC) scores. Among them, Random Forest showed the best predictive performance, demonstrating its effectiveness in managing complex interactions among risk factors (Prabha et al., 2022). Empirical assessments of machine learning algorithms for mental health prediction have found that Gradient Boosting outperformed other single and ensemble methods. Specifically, Chung & Teo (2023) reported that Gradient Boosting achieved the highest classification accuracy of 88.8%, surpassing Neural Networks, Extreme Gradient Boosting,

Deep Neural Networks, and ensemble classifiers. The author has systematically conducted empirical studies evaluating machine learning algorithms for predicting mental health have shown that Gradient Boosting outperforms other individual and ensemble methods. A significant limitation in current research is the lack of machine learning studies conducted in real-time, ecologically valid settings. This gap underscores the need for models capable of effectively capturing and adapting to the complexities of everyday life. As noted by Sano et al. (2018), future research should focus on developing algorithms that function dynamically in naturalistic environments, providing timely insights and adaptive interventions. Among machine learning techniques, logistic regression is recognised for its ability to differentiate between positive and negative feature importance, offering valuable interpretability when analysing linguistic markers related to mental health conditions. However, (Matero et al., 2019). Discussion of the model's assumptions and potential dataset inconsistencies is necessary, as these issues can affect classification accuracy. Recent progress in ensemble learning has led to highly accurate and interpretable models for classifying mental health disorders. For example, (Alghamdi et al., 2023) proposed an ensemble machine learning model that achieved perfect scores across all evaluation metrics, including accuracy, precision, recall, and F1-score.

Objectives of this study :

In this paper, our objective is to predict mental health diseases using machine learning. Apart from this, this study also conducted a statistical analysis of ensemble and non-ensemble learning algorithms. The statistical methods, such as the paired-t test, the Wilcoxon rank and Cohen's d, predict mental health diseases.

Methods for mental health diseases'

In this section, we have proposed a model for Mental Health Disease. Fig.1 is proposed for mental health disorder prediction using different machine learning models.

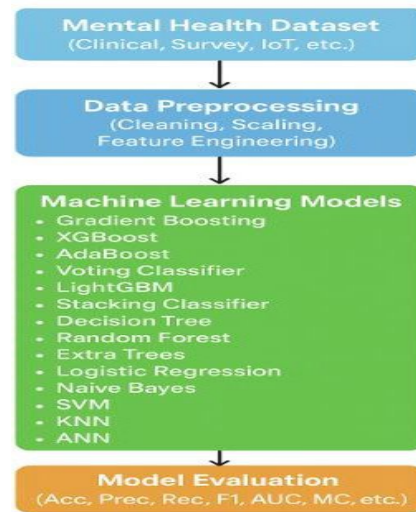


Fig.1 Proposed methodology for mental health disease

Phase 1: Input – Mental Health Dataset: In this phase, we have collected the data from different sources for testing purposes, as well as used the Kaggle repository. This dataset contains several features like demographic information, electronic health records, survey results, etc. **Phase II: Data Pre-processing:** This section demonstrates how the data is cleaned and removes the noise using the different techniques like imputation, normalization, data balancing (SMOTE), Feature engineering, encoding, etc. This guarantees clean, comparable inputs for all models in the following phase. **Phase III: Machine Learning Models:** In this section, we used the 15 classifiers to predict the mental disease.

We employed tree-based models where DR, RF, and ET(Extra Trees) are used, Boosting models where GB, XGB, AdaBoost, CatBoost, and LightGBM are used, and Linear/probabilistic models such as LOGR, NB, and SVM are used. Finally, we also used instance-based (KNN) and Neural models (ANN) are employed for mental health disease prediction. **Phase IV: Model Evaluation:** In this phase, we have estimated the performance of the model by using the performance metrics such as Accuracy, Precision, Recall, F1-Score, ROC-AUC, PR-AUC, MCC, Log Loss, Cohen's Kappa, etc. **Phase V: Best Model Selection:** In

this phase, we have identified the top models that help us detect the early mental health diseases. It has been observed that model like GB, XGB, AdaBoost, and CatBoost performs well in comparison to the other models. **Phase VI: Prediction Output:** This is the last phase where we predict the human beings' health status, like normal, at risk, or severe. This phase is directly linked to the clinical decision support system.

Results

In this section, we employed different machine learning models and estimated their performance for mental health diseases. It also discusses the performance metrics for the different classifiers. It has been observed that GB, XGB, AdaBoost and CatBoost obtained the same accuracy of 0.8373

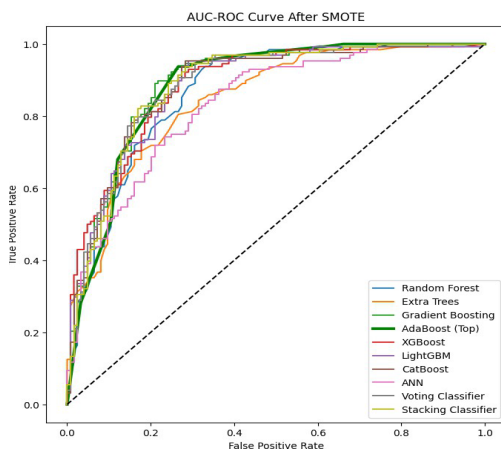


Figure 1: AUC-ROC curve after SMOTE

Fig.1 represents the AUC-ROC curve that shows the trade-off between sensitivity (True Positive Rate) and 1-specificity (False Positive Rate) for each classifier. Boosting models, specifically Gradient Boosting, XGBoost, and CatBoost, had the greatest ROC-AUC scores, with CatBoost reaching 0.890. This demonstrates excellent discriminative power, which means that these models are extremely successful at differentiating between positive and negative cases. The tick mark indicates the top performer for quick visual reference.

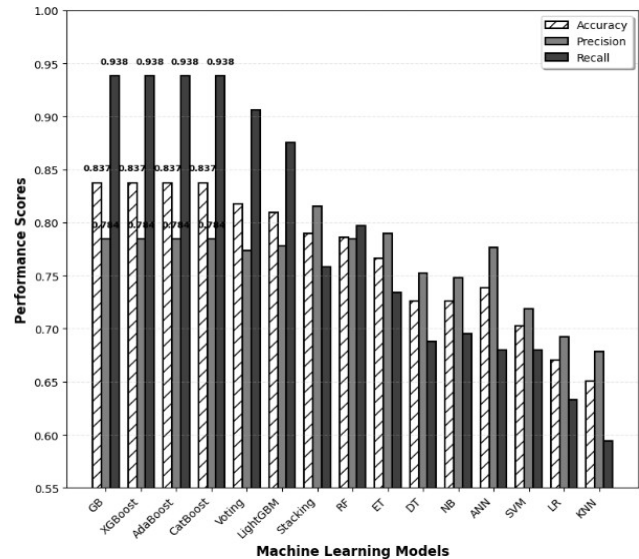


Figure 2 Model performance comparisons between accuracy, precision, and recall

The Fig.2 discusses how the different ML models perform for mental health disorders. Here, we considered the three performance metrics to see how the classifiers work, and these are accuracy, precision, and recall. It has been observed that an ensemble-based classifier performs well to understand the insights for mental health diseases. The model Gradient Boosting performs well, and the accuracy obtained is 0.884, CatBoost is 0.884, and Adaboost is 0.837. Similarly, precision and recall, boosting performs well in comparison to other models. The recall score obtained the highest sensitivity of 0.918. That means it has the highest sensitivity and can correctly classify the true class labels for mental health diseases.

The depicted Fig.3 presents the performance metrics such as F1-score and ROC-AUC for mental health disease. Our experimental observation reveals that the ensemble learning model performs better than the traditional models. The models Gradient Boosting, XGBoost, and CatBoost give the best result. The highest F1-score obtained is .0854, and ROC-AUC values (0.889–0.890). Apart from this, the voting classifier also performs well and with a 1-

score of 0.835 and the highest ROC-AUC (0.891). It means that these models are robust and balance between the precision and recall for mental health diseases. Other models perform moderately. From our observation, we concluded that ensemble-based learning performs well and most balanced model.

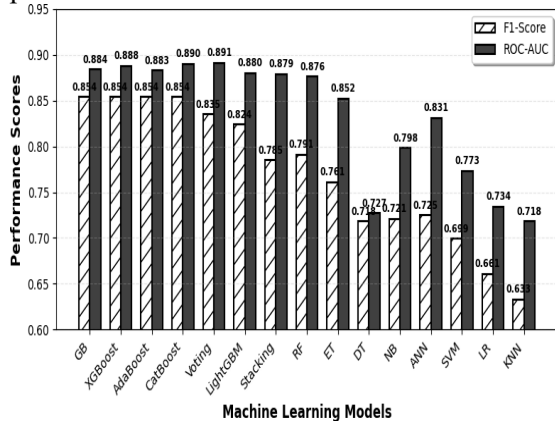


Figure 3 Model performance comparisons between F1-score and ROC-ACU

From our work, we have identified the top 4 models (GB, XGBoost, AdaBoost, CatBoost) that have a similar score. As well as the highest accuracy is 0.8373, precision is 0.8151, and the highest Recall is 0.938 (GB/XGBoost/AdaBoost/CatBoost: 0.938). Similarly, the best balanced model obtained is stacking (Precision: 0.8151, though Recall is lower)

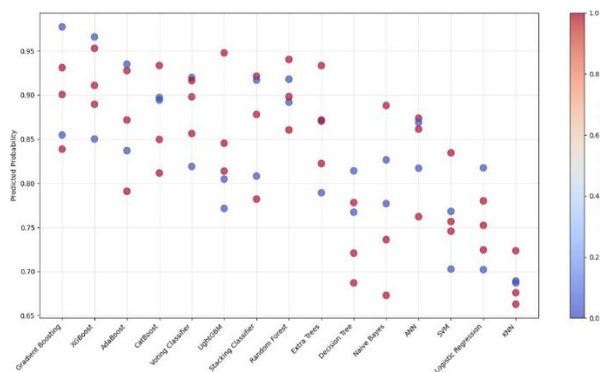


Figure 4. Model confidence distribution by true classes for mental health disease

Fig.4 illustrates how the predicted probabilities help with mental health diseases. The above-mentioned figure discusses how ensemble learning performs well. The model Gradient Boosting, XGBoost, CatBoost, and AdaBoost

performs well. It has been observed that these models predicted probability is higher, i.e. 0.90. It has a strong ability to distinguish positive and negative cases. This figure demonstrates that boosting family results is good for mental health diseases.

Fig.5 demonstrates how the ROC-AUC score helps with mental health diseases. The depicted figure discusses the different models' performance for mental diseases. The voting classifier performs well, and its score is 0.891. But the other models' score is a little less than CatBoost (0.890), XGBoost (0.888), and Gradient Boosting (0.884). AdaBoost (0.883) and LightGBM (0.880). ANN outperformed classical models (0.831), although Naive Bayes (0.797), SVM (0.773), Logistic Regression (0.734), Decision Tree (0.727), and KNN (0.718) did not perform well. Overall, ensemble-based boosting approaches frequently outperformed individual classifiers, demonstrating their ability to classify mental health disorder cases with greater reliability.

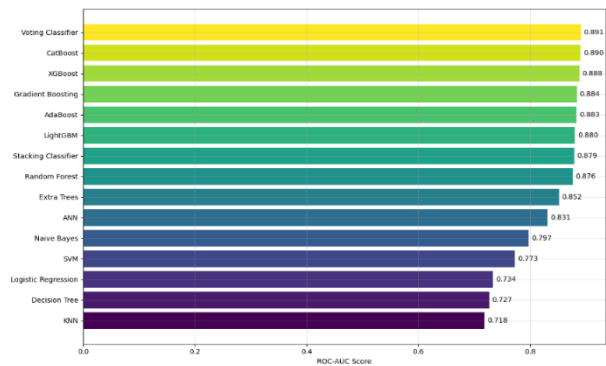


Figure 5 Model performance ranking by ROC-AUC

Discussion

This study designed a model that predicts mental health disease using machine learning classifiers. We have conducted the experimental work on mental health disease and considered the three potential research questions systematically.

RQ1. How do ensemble-based boosting algorithms (Gradient Boosting, XGBoost, AdaBoost, and CatBoost) compare to traditional classifiers (KNN, Logistic Regression, Decision Tree, and SVM) in

terms of mental health disease prediction?

Response to the research question

In this section, we have estimated the avg performance of the traditional machine learning classifiers and boosting-based machine learning classifiers.

Table 1: Boosting ensemble vs traditional classifiers' performance

| Metric | Boosting avg | traditional avg | improvement |
|-----------|--------------|-----------------|-------------|
| Accuracy | 0.8337 | 0.695 | 20.40% |
| Precision | 0.784 | 0.718 | 9.20% |
| Recall | 0.938 | 0.658 | 42.50% |
| F1-score | 0.854 | 0.686 | 24.40% |
| ROC-AUC | 0.886 | 0.75 | 18.20% |

In the Table.1 Presents the comparisons between the boosting ensemble learning model and traditional classifiers. To respond to the research question, we have estimated the avg of the two different classifiers. It has been observed that the accuracy is enhanced by 20.4%. Similarly, precision also increased 9.2%. The recall is increased by 42.5% which means it is the strongest parameter to judge the mental health prediction.

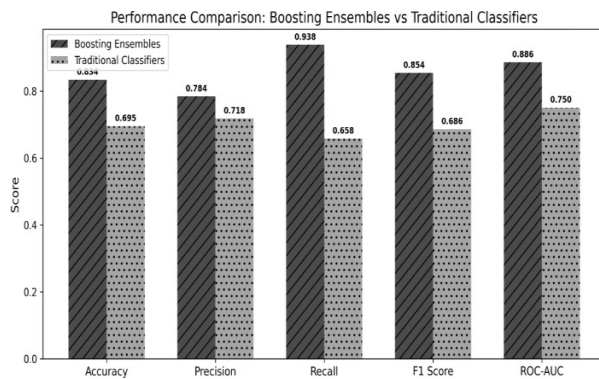


Figure 6. Performance comparison between boosting ensembles and traditional classifiers in mental health disease prediction.

The above-mentioned Fig.6 represents the boosting ensemble learning models for mental health disease. In this section, we have compared the boosting ensemble model vs

traditional classifiers for mental health disease prediction. We observed that boosting family classifiers performs well in comparison to the other models in terms of their performance metrics, such as accuracy, precision, recall, f1-score, and ROC-AUC. It has been observed that recall has the highest gain, followed by the F1-score.

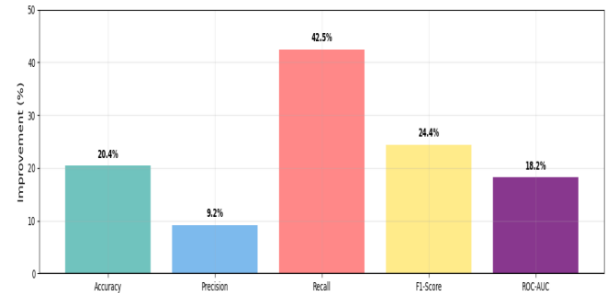


Figure 7: Percentage of improvement for mental health disease prediction

From Fig.7 mentioned above, we observed that boosting ensembles significantly outperform as compared to traditional classifiers across all metrics. The largest improvement is in Recall (42.5%), crucial for mental health applications. Even the smallest improvement (Precision at 9.2%) is still substantial. F1-Score improvement of 24.4% indicates better balance between precision and recall.

RQ2. Can ensemble learning approaches like Voting and Stacking Classifiers improve the robustness of predictions in mental health datasets over individual classifiers, and what are the implications for real-world clinical decision support systems?

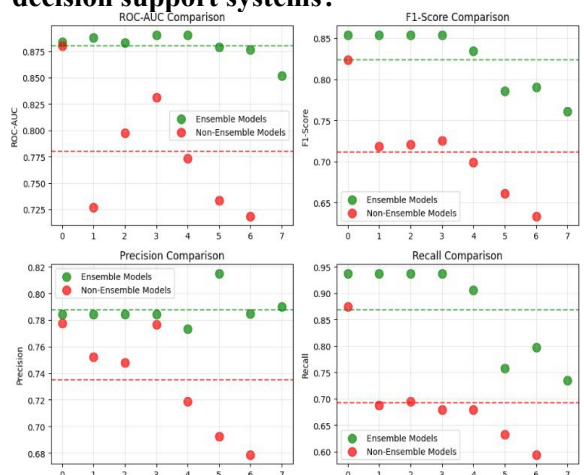


Figure 8: Performance metric score for the ensemble learning approach

Response to the research question:

Fig.8 presents how the ensemble learning models are a better predictive analysis as compared to the traditional one for mental health prediction. The mentioned figure exhibited that the ensemble learning model is better than the traditional one. The ensemble models achieved the highest ROC-AUC score, and it's more than 0.87, although most traditional models remained around 0.76. They also achieved higher F1-scores, demonstrating a strong combination of precision and recall. Similarly, we observed that the ensemble models' precision was also above 0.77, and the recall score was 0.90, indicating that they were more successful at correctly identifying persons with mental health risks. Overall, ensemble methods outperformed non-ensemble models in terms of accuracy, reliability, and usefulness in early detection. Precision in ensembles was more stable, above 0.77, and recall values were the greatest, frequently above 0.90. The classifier achieved higher values in almost all performance measures

The Voting Classifier (ROC-AUC 0.891) and Stacking Classifier (0.879) perform competitively, demonstrating that ensemble combinations improve robustness. These models address the shortcomings of individual classifiers and produce more consistent findings, making them appropriate for clinical decision assistance in mental health prediction, which is depicted in Fig.9

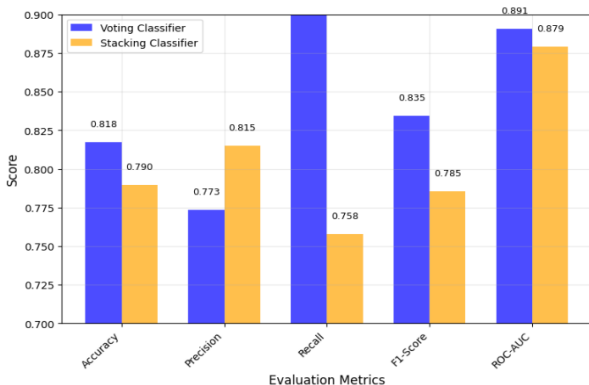


Figure 9 Comparison of voting and stacking classifiers for mental health disease

RQ3: Do both parametric (t-test) and non-parametric (Wilcoxon) tests show statistically significant differences in performance between ensemble and non-ensemble methods?

Response to the research question:

To address the above research question.3, we utilized the parametric as well as non-parametric tests for mental health disease prediction. This RQ aims to check the parametric and non-parametric. Apart from these, we have compared the ensemble and non-ensemble models.

Table :3 statistical significance of the different metrics for mental health disease prediction.

| Metric | Ensemble | Non-Ensemble | Difference | T-test | Wilcoxon | Cohens d |
|-----------|----------|--------------|------------|----------|----------|----------|
| Accuracy | 0.8131 | 0.7024 | 11.07% | 0.000107 | 0.03125 | 2.02 |
| Precision | 0.7864 | 0.7278 | 5.87% | 0.11483 | 0.03125 | 1.07 |
| Recall | 0.8689 | 0.6615 | 20.75% | 0.000031 | 0.03125 | 3.78 |
| F1-Score | 0.8235 | 0.6929 | 13.06% | 0.000041 | 0.03125 | 2.38 |
| ROC-AUC | 0.8804 | 0.7634 | 11.70% | 0.001123 | 0.03125 | 2.31 |

From the above-mentioned Table 3, it is found that statistical significance is achieved for all performance differences ($p < 0.05$).

We observed that the Wilcoxon p-values are identical for consistent ranking patterns as well, and the highest gain for the performance metrics is recall at 42%. A statistically significant improvement, even at the smallest level (Precision: 8.1%). Across ALL measures, ensemble approaches perform better than non-ensemble methods.

It has been observed that GB models perform well for predicting mental disease. Their performance metrics consistently perform well. The voting classifier also performed the highest AUC-ROC score of 0.891, but exhibits a slightly lower F1-score. The top performer is Boosting models, and it is of 0.854. We also found that in DT, we obtained a larger performance gap between the F1 and AUC scores.

Bnm./Figure 10 represents the statistically significant test for different models with their performance metrics. We used both the parametric(t-test) and non-parametric (Wilcoxon) test, and they reveal that there is a significant difference in both. For the majority of metrics, both the t-test and the Wilcoxon test verified statistical significance ($p < 0.05$); however, Precision failed to achieve significance in the t-test. All things considered, our results show that ensembles produce statistically significant gains in addition to increased predictive accuracy, confirming their applicability for tasks involving the prediction of mental health illnesses.

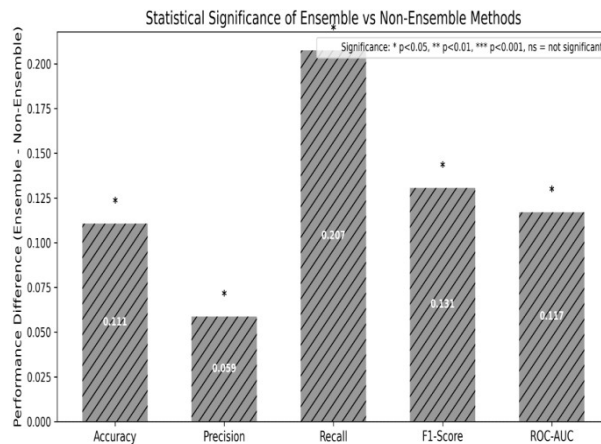


Figure 10: Statistical significance of ensemble vs non-ensemble methods for mental health disease prediction.

Conclusion

In this paper, we employed several machine learning classifiers, and we observed that the ensemble models achieved the highest ROC AUC score, and it's more than 0.87, although most traditional models remained around 0.76. They also achieved higher F1-scores, demonstrating a strong combination of precision and recall. Similarly, we observed that the ensemble models' precision was also above 0.77, and the recall score was 0.90, indicating that they were more successful at correctly identifying persons with mental health risks. Overall, ensemble methods outperformed non-ensemble models in terms of accuracy, reliability, and usefulness in early detection. Precision in ensembles was more stable, above

0.77, and recall values were the greatest, frequently above 0.90.

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Boosting-Based Machine Learning Models for Mental Health Disease Prediction: A Comparative Performance and Statistical Significance Analysis

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ABSTRACT

Context: Mental health disease is counted as one of the major diseases. Early as well as accurate prediction of mental health is one of the top priorities. This study discusses how machine learning helps to accurately predict mental health. We have conducted 15 machine learning models for mental health disease prediction, including ensemble learning, boosting classifier, as well as traditional classifiers. **Objectives:** The main objectives of this study are to analyse the machine learning classifiers to detect mental health diseases. **Material/Method:** We also estimate the model's performance to see which ML classifiers perform well. The performance parameters, such as accuracy, precision, recall, and F1-score, are primarily used to evaluate the model's performance. Apart from this, we also conducted advanced statistical tests like the Friedman test, Nemenyi post-hoc analysis, confidence intervals, effect size analysis, and robustness evaluation. **Result:** The experimental work revealed that ensemble learning performs better than traditional as well as tree-based classifiers for mental disease prediction. The model LightGBM (F1 = 0.7853) and XGB (F1 = 0.7840) performed well, and the statistical significance study demonstrated significant differences between top-ranked and lower-performing models, with impact size comparisons emphasizing the practical advantage of boosting strategies.

Keywords: Mental Health Disease Prediction, Machine Learning Classifiers, Ensemble and Boosting Models, Statistical Significance Analysis, Clinical Decision Support

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Introduction

In the present era, people share their views, feelings, ideas, comments, reviews, and feedback via social media, blogs, and online comments, as well as express appreciation to one another through these channels. These comments are valuable and significant to businessmen, the government, and filmmakers, so that they can adjust or change if required. But analyzing and reading thousands of opinions and comments in a manual

The manner will be a tough task and is not feasible. This is where sentiment analysis comes in. Sentiment Analysis is a technique powered by AI that assists in detecting or understanding the emotion behind the given text by the people. It will identify if the text is positive, negative, or neutral emotion, it also takes into account the feelings and emotions (happy, sad, angry), intentions (interested or not), and urgency of the text. It has become a strong tool that assists in interpreting

the online discussions. By reviewing all such opinions and comments that assist in identifying the things that make the customers happy or dissatisfied, and also assist in refining the product or

Making amendments as needed. Previously, sentiment analysis employed machine learning algorithms such as Support Vector Machine (SVM) and Naive Bayes, and deep learning such as CNN and LSTM (Long Short Term Memory), where the aforementioned models are implemented for short texts, but could not grasp the real sense of the text in various scenarios. BERT is a transformer-based model that assists in comprehending the text not only word by word but also the context. Most models read the text from right to left or left to right, but the BERT model reads the text from both directions at a time, that is, bidirectional. This model comprehends the complete sense of the text by scanning the text from beginning to end. It performs much better than previous models since it comprehends the context without getting confused, complete sense of the text, and understands full sentence structures.

This study consists of four sections, where Section 1 presents the basic details of mental health disorders, limitations, and objectives. Section 2 presents the state-of-the-art of mental disorders using machine learning classifiers. Section 3 discusses the material and methods for

mental disorders. Section 4 presents the results and discussion, followed by the conclusion.

Literature Review

Mental health is a critical issue nowadays. More than one billion people suffer the mental diseases like bipolar disorder, schizophrenia, and anxiety etc. The author (Tutun et al., 2023) proposed an AI technique to early detect the disease. In this article, the authors (Iyortsuun et al., 2023) present a brief review of mental health disorders using machine learning and deep learning techniques. The author explored 33 research papers where their focus was diagnosis of schizophrenia, bipolar disorder, post-traumatic stress disorder (PTSD), anorexia nervosa, etc., as well as they also conducted the PRISMA study. The author (Vaishnavi et al., 2022). utilised the machine learning algorithms to early predict the mental health disease. The 5 machine learning classifiers are used, and the obtained stacking technique provides the best result. Their focus was only on the accuracy, but the author did not discuss the performance metric F1-score. However, the F1-score yields the best results for mental health diseases. Early diagnosis of mental health is important nowadays. The author (Sumathi & Poorna, 2016) used eight machine learning classifiers for mental disorders. The author has considered 60 cases of mental patients, where 25 attributes were identified for handling the critical attributes. They further explored the feature selection techniques and compared the different classifiers. The author (Chung & Teo, 2022). Cho, G., knows the critical elements for mental health disorders, their remedies, as well as application areas. The author (Cho, G., et al.2019) presented how machine learning is useful for handling mental disorder patients. Accurate as well as early diagnosis is one of the top priorities. The author used different machine learning classifiers and summarized the results about the mental health disorders. They have conducted a brief study about mental health disorders.

Literature Gap Analysis

- i. Many articles mention performance indicators but do not determine if the differences are statistically significant.
- ii. Few studies have examined how boosting models address bias, fairness, and robustness in mental health datasets.

Objectives of Mental Health Disease Prediction

- i. To assess the ability of boosting-based machine learning models (such as LightGBM, XGBoost, Gradient Boosting, and AdaBoost) to predict mental health conditions.
- ii. To evaluate these models with standardized criteria like accuracy, precision, recall, F1-score, and AUC-ROC.
- iii. To perform statistical significance testing (e.g., paired t-tests, ANOVA, McNemar’s test) to ascertain whether the observed performance differences are substantial.
- iv. To determine the best boosting algorithm for predicting mental health across a range of circumstances and datasets.

Limitations of Mental Health Disease Prediction

- The generalizability and model training of mental health datasets may be impacted by their frequent limitations, imbalances, or missing information.
- Boosting models are effective yet prone to overfitting, particularly on small or noisy datasets.
- Most studies in mental health prediction focus on particular algorithms (for example, XGBoost) rather than systematically comparing them.

Method

In this paper, we have used 15 machine learning classifiers to predict mental health diseases. The dataset included clinically relevant variables that covered demographic, behavioural, and psychological indicators that are frequently related to mental health disorders. Before modelling, data pre-treatment activities included resolving missing values, normalizing continuous attributes, and labelling categorical variables to guarantee consistency among classifiers. Different machine learning algorithms were used, including tree-based models (Decision Tree, Random Forest, Extra Trees), boosting-based methods (XGBoost, LightGBM, Gradient Boosting, AdaBoost), linear models (LR, RidgeRegressor, LinearSVC, SGD Classifier), probabilistic models (Gaussian NB, Multinomial NB), ensemble strategies (Bagging Classifier,

Voting Classifier), and distance-based models (KNeighbors). Friedman test, paired t-tests, effect size analysis, and Nemenyi post-hoc test. For the purpose of predicting mental health diseases, this methodological approach guaranteed the comparison results' robustness and dependability.

Result

This experimental work demonstrates that the model XGB and LightGBM perform well, and their accuracy score are 0.7863 and 0.7851. That means these models are able to capture the complex patterns of mental health diseases. These findings demonstrate the efficacy of boosting-based ensemble approaches in providing accurate diagnostic support for mental health condition prediction. The above-mentioned Figure 1 discusses how the accuracy comparison was done for different models for mental health prediction.

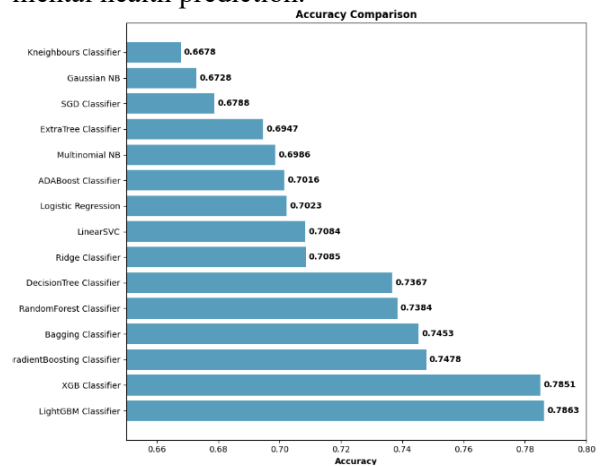


Fig 1. Accuracy comparison of different models for mental health prediction

The above-mentioned Figure 1 presents the model's performance metrics for mental health disorders. In this section, we used the 15 classifiers to estimate and predict mental health.

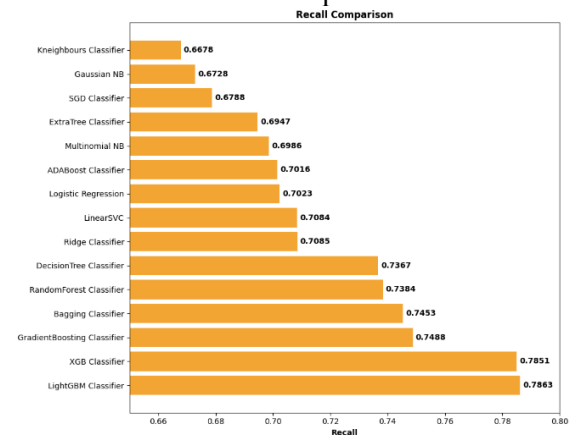


Fig.2 Recall comparison for mental health disease prediction

Figure 2 presents the recall comparison for different classifiers for mental health prediction. It has been observed that LightGBM and XGBoost perform well in comparison to the other classifiers. The recall scores obtained for LightGBM Classifier are 0.7863, and XGBoost are 0.7851; these two classifiers correctly identify the positive case for mental health disease. The ensemble learning model performs well, and other models obtained lower recall scorhat means other models reduce the false negatives.

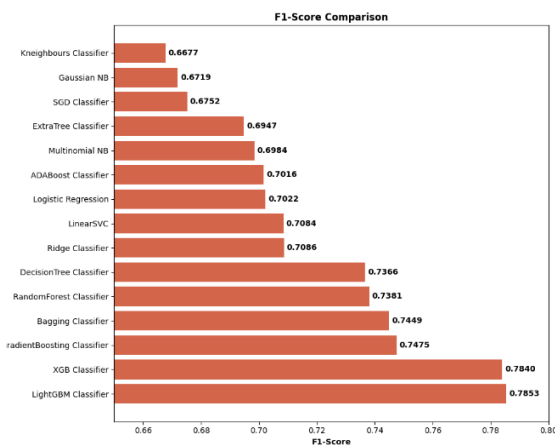


Fig.3 Comparison of the F1-score for mental health disease

In Figure 3 presents the comparative score of F1 of different classifiers for mental health disease. It balances the precision and recall score. The experimental work revealed that ensemble learning based classifiers perform well against the traditional learning models for mental health diseases. LightGBM (0.7853) and XGBoost (0.7840) perform well to predict the mental health disease.

Table 1: Top 3 model performance analysis for mental health disorders

| Model | Accura cy | F1- score | PRA | PRP | PRR | PRF |
|-------|-----------|-----------|--------|--------|--------|--------|
| LGBM | 0.786 | 0.785 | 0.6678 | 0.6678 | 0.6678 | 0.6677 |
| XGB | 0.785 | 0.784 | - | - | - | 0.785 |
| GB | 0.748 | 0.747 | 0.7863 | 0.7903 | 0.7863 | 0.7473 |

The key terms used in the above Table 2 are as follows

PRA : It stands for performance range accuracy

Neelamadhab Padhy et al.

PRP : It stands for performance range precision
 PRR : It means for performance range recall
 PRF: It stands for performance range F-measure

From Table 1 above, we present the accuracy and F1-score of the top-3 models for mental health disease prediction. Apart from this, we also present the performance ranges of the different metrics. From experimental observation, we found that the average performance of mean accuracy is 0.7182, and the mean F1-score is 0.7177.

From the above two graphs (recall and F1-score) comparison, we conclude that ensemble learning based models perform well. These findings demonstrate that boosting-based ensembles offer a balanced trade-off between sensitivity and precision, making them ideal for accurately and reliably predicting mental health diseases.

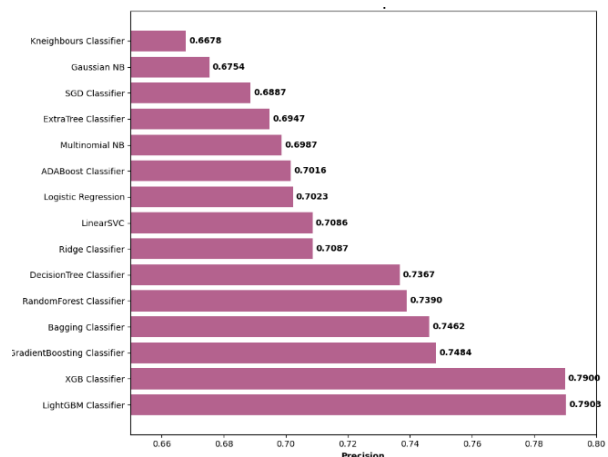


Fig.4: Comparison of precision across the model for mental health disease

Figure 4 presents how precision compares the different models for mental health disease prediction. Precision evaluates a model's capacity to reliably detect real positive cases while minimizing false positives, which is critical for avoiding misclassification of healthy people as mentally ill.

The results show that ensemble-based models once again dominate, with LightGBM (0.7900) and XGBoost (0.7900) having the greatest precision values. These findings demonstrate the reliability of boosting-based ensemble models in providing accurate and trustworthy predictions for mental health condition diagnosis.

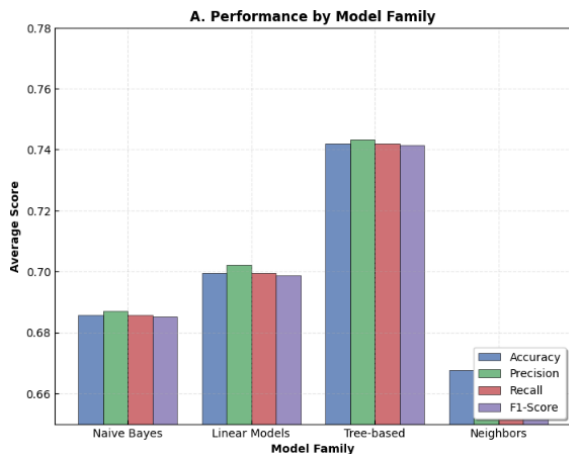


Fig.5 Performance by different model families for mental health disease

Figure 5 presents the different models' performance for mental disease prediction. In this section, we demonstrate how one family of algorithms works for mental health diseases. We employed a traditional-based (one family) and the other is tree-based. We conclude that the tree-based family plays a vital role in mental health disease prediction.

Table 2: Friedman Test and Nemenyi Post-hoc Analysis

| Test | Statistic | p-value | Interpretation |
|-----------------------------|-----------|---------|--|
| Friedman Test | 81.83 | 0 | Significant differences between models ($p < 0.05$) |
| Nemenyi Critical Difference | 5.138 | - | Models with a rank difference $> CD$ are significantly different |

From Table .2, it is revealed that the Friedman test statistically significant difference with respect to the different classifiers. The model's performance exhibits a significant degree of variability ($\chi^2 = 81.83, p < 0.0001$). The critical difference CD of 5.138, we conducted the post-hoc Nemenyi test test further demonstrated that some models—especially ensemble-based methods—perform noticeably better than conventional classifiers for mental health disease prediction.

In the below-mentioned Table 4 presents the top three models with their confidence interval(95%). It has been observed that the top models persist in the ensemble learning model. The model LightGBM achieved the highest

stability with an F1-score of 0.7830 ± 0.0275 . Then another model also achieved very closely by XGB with 0.7724 ± 0.0281 . An F1-score of ~ 0.78 with a narrow CI indicates the system's ability to accurately distinguish between persons with and without mental health issues, lowering the possibility of misclassification in screening programs.

Table 3: Confidence Intervals of Top Models (95% CI)

| Model | Mean F1 | \pm CI |
|-------------------|---------|--------------|
| LightGBM | 0.783 | ± 0.0275 |
| XGB | 0.7724 | ± 0.0281 |
| Gradient Boosting | 0.7457 | ± 0.0232 |
| Bagging | 0.7487 | ± 0.0197 |
| Random Forest | 0.7326 | ± 0.0172 |

Table 4: Paired t-tests Between Top Models

| Comparison | t-statistic | p-value | Significance |
|------------------------------|-------------|---------|-----------------|
| LightGBM vs XGB | 0.81 | 0.4403 | Not significant |
| LightGBM vs GradientBoosting | 2.02 | 0.0737 | Not significant |
| XGB vs GradientBoosting | 1.85 | 0.0973 | Not significant |

In the Table.4 We conducted a paired test between the top 3 models and obtained the result that there is no significant difference between LightGBM and XGB. We observed that LightGBM vs XGB ($t = 0.807, p = 0.4403$) and LightGBM vs Gradient Boosting ($t = 2.024, p = 0.0737$) show similar performance, implying that both LightGBM and XGB are equally strong candidates

Table 5: Effect Size Analysis (Cohen's d, Reference = LightGBM)

| Comparison | Cohen's d | Effect Size |
|---------------------|-----------|-------------|
| vs XGB | 0.27 | Small |
| vs GradientBoosting | 1.05 | Large |
| vs Bagging | 1.03 | Large |
| vs RandomForest | 1.57 | Large |
| vs DecisionTree | 1.32 | Large |

In Table 5, we conduct the pilot study to compare the benchmark model (LightGBM)to other top models using Cohen's d. During

comparison of Cohen’s d, we observed that XGB obtained a small effect (d=0.273) as comparison to the other models, confirming the models’ equivalence. An effect size study reveals that LightGBM and XGB are basically comparable (small effect size), but they outperform other approaches with large effect sizes for mental health.

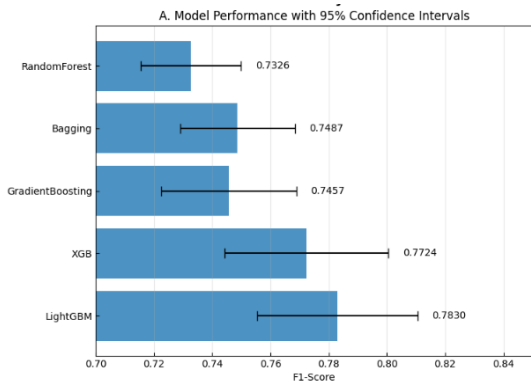


Fig.6: Model performance with 95% confidence intervals

Figure 6 demonstrates how the top 5 models perform using their F1-score along with their 95% confidence intervals. We considered the F1-score to be the benchmark of the performance metrics for mental health disease because both Precision (avoiding false positives, or incorrectly labelling healthy individuals as unwell) and recall (avoiding false negatives, or missing at-risk individuals).

From our experimental work, it is obtained that the model LightGBM (F1 = 0.7830) and XGB (F1 = 0.7724) obtained the highest predictive performance, producing the strongest predictive performance with relatively narrow confidence intervals, showing strong generalisability across multiple test sets for mental health disease. Finally, the ensemble-based learning gives the best result in mental health.

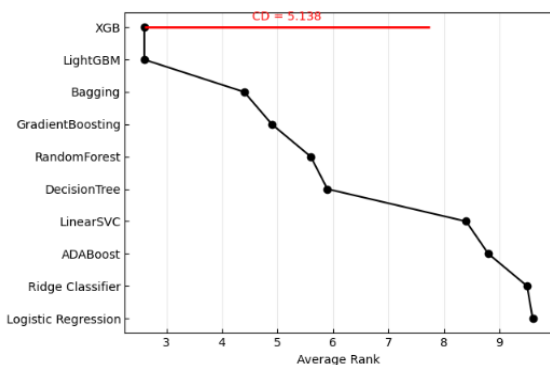


Fig 7. Critical difference diagram (Nemenyi Test) for mental health disease

The above Figure 8 demonstrates the critical difference diagram that discusses how the average ranks of the different classifiers represent for mental health disease prediction. We observed from our experiment that the models XGB and LightGBM give the best results in comparison to the traditional models.

That means these models capture the complex patterns of mental health disease. In applications related to mental health, where patient data may be noisy, unbalanced, or lacking, models offer increased resilience and generalisability across various datasets.

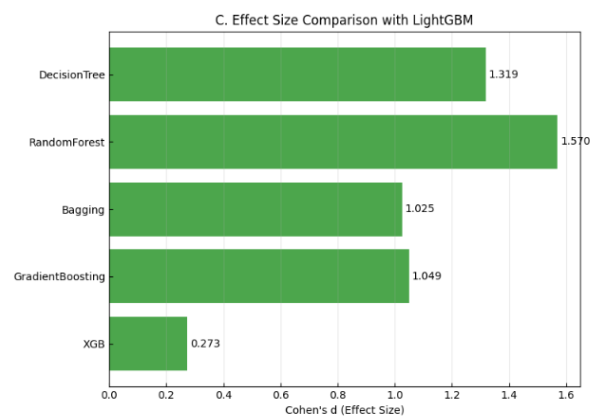


Fig.8: Effect size comparison with LightGBM

Figure 8 presents the effect size comparisons with the LightGBM, as well as illustrating the effect size comparison (Cohen’s d) for mental health disease. From our experimental observation, we have seen that the largest effect size of the two classifiers is RF, obtained 1.570, and DT obtained 1.319. It means that the LightGBM performs well. Effect size analysis is necessary in mental health prediction research since it enables us to determine which models are not only statistically superior but also clinically and practically significant, guaranteeing that the AI system will actually help patients and healthcare professionals. Our result demonstrates that LightGBM and XGB are the most dependable models for predicting mental health diseases, with LightGBM consistently outperforming the others in terms of robustness and practical relevance, even if a number of models have respectable predictive power.

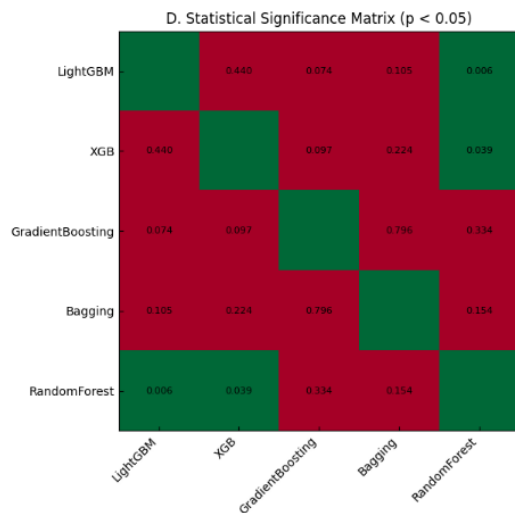


Fig.9 Statistical Significance Matrix

In this case, we used the statistically significant matrix ($p < 0.05$) of the top 3 performing classifiers for this study. This matrix represents the green cell and the red cell. The green cell presents the statistically significant difference in the models, but the red cell presents non-significant differences.

Significant differences. Significance for mental health diseases. There are statistically significant differences between LightGBM and RandomForest ($p = 0.006$) and XGB and RandomForest ($p = 0.039$), indicating that LightGBM and XGB regularly perform better than RandomForest in terms of prediction dependability. However, there is no discernible difference between LightGBM and XGB ($p = 0.440$), indicating that their performance is almost equal, which is represented in Figure 9.

Discussion

In this paper, our objective was to explore and evaluate the machine learning classifiers to predict mental health diseases. This study also compares the behaviours of boosting family of classifiers (GB, XGB, LightGBM) and traditional machine learning models and GNB, MNB, etc. We have discussed all comparisons of ML classifiers to see which model performs well. It has been observed that LightGBM performs well because LightGBM uses the concept of Leaf-wise tree growth. It means the model goes in-depth and explores the features effectively. Apart from this, it also uses the Histogram-based optimisation technique to avoid the overfitting issues. For high-dimensional data, this model works efficiently and handles the categorical features effectively.

Neelamadhab Padhy et al.

We have conducted the statistical validation in Table 2 we confirmed that there are significant differences in performance in ML models.. The Nemenyi post-hoc comparison confirms that the boosting-based models, especially LightGBM and XGBoost, exhibit statistically greater performance, while the Friedman test findings show that at least one model performs differently from the others.

From the Friedman Test, we conclude that there is a significant difference in their performance ($p < 0.005$). Similarly, we also conducted the Nemenyi Post-hoc test that which model outperforms others significantly.

Conclusion and future Scope

In this study, we used 15 machine learning classifiers to determine which model is the best for handling mental health diseases. We have used the tree-based, traditional-based based and ensemble-based learning for handling the mental health disorder prediction. The experimental observation revealed that traditional models such as Logistic Regression, Naïve Bayes, and Decision Trees showed less performance. That means these models are not suitable to handle the complex patterns. But in other cases, the model ensemble provides a substantial result as a comparison to the tree-based model. The model like LightGBM and XGB gives the best results, not only a good F1-score but also perform robust, narrow confidence intervals, and minimal practical differences in performance. These models perform better than traditional methods in capturing the intricate, non-linear correlations present in mental health data, according to statistical analysis.

Significance and effect size evaluations. These findings have practical implications for improving mental health risk screening accuracy, lowering diagnostic uncertainty, and facilitating prompt clinical decision-making through the use of sophisticated boosting models.

Future work: To enhance transparency, allow clinicians to decipher model predictions, and further bolster confidence in AI-driven mental health diagnoses, future research should concentrate on implementing explainable AI methodologies.

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Developing a Recruitment and Selection Psychometric Tool Across Industries in Namibia

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Abstract

The need for psychometrists to develop standardised instruments for the diverse competencies, attitudes, skills, and aptitudes of people cannot be overemphasised. In Namibia, the number of tools standardised in Psychology is minimal. Test administrators need to adapt foreign instruments for application in Namibia. The legal implications and challenges regarding the relevance and applicability of these adapted tools and outcomes further emphasise the need for test development in Namibia. This study began by consulting literature to identify the core competencies/skills of employees required for the 21st-century workplace. Items were developed and reviewed by researchers, academics, and industry experts from the fields of Industrial Psychology, Human Resource management and Psychometry. The draft instrument was pilot-tested (n = 247), focusing on the biographical characteristics of employees, digital literacy, strategic skills (Psychosocial Literacy), 21st-century skills, organisational impact, and Leadership/Management competencies. The study made use of SPSS 29 to analyse the descriptive statistics, reliability of the dimensions and factor analysis to reduce or align the item loadings. The instrument will be revised based on the results and standardised for the rest of the Namibian employees. The instrument is limited to Namibian employees who completed Grade 12, are proficient in English literature and work across diverse sectors/industries.

Key words: 21st century competencies; psychometric test development; psychosocial literacy; digital literacy; leadership/management competencies; Namibian employees; recruitment and selection

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INTRODUCTION

Background of the study

Theron et al. (2014) noted that the fight for top talent is ongoing. It is argued that when employees' psychological and social functioning is high, employees feel well and contribute to enhanced performance at work (Murangi, 2022). The fourth industrial revolution (Industry 4.0) has been noted to modify most aspects of work linked to artificial intelligence, robotics, 3-D printing and Internet-of-Things (IoT) (Mpofu & Schutte, 2023). The human capital (skills and competencies) of different industries will influence their productivity and functioning.

The challenge in many organisations is the high costs incurred from developing good selection methods. Globally, the world of work is changing, necessitating that selection methods need to be refined to meet the expectations of organisations in the 21st century. More so, the diversity of potential employees calls for robust, valid, reliable, and fair selection predictors that will be used in objective selection (Rothmann & Cooper, 2022).

Employees play an integral role in achieving organisational goals. When employees experience negative job attitudes like lower organisational commitment, apart from failing to achieve organisational goals, they also experience higher levels of absenteeism, burnout and turnover intention (Pieters et al., 2019). Pieters et al. (2019) found that affective commitment has a significant relationship with and predicted work engagement and turnover intention of employees. Affective commitment reported a negative relationship with turnover intention (Pieters et al., 2019).

There is an increased demand for the use of psychological tests, not only in traditional domains such as education but also in areas such as employment (Oppong, 2016). With the 4th/5th industrial revolution, the structure of organisations has changed, and there is a need for vigorous changes in employee selection processes at different levels. Recruiting suitable candidates has always been one of the organisation's requirements, and many diverse approaches have been taken to attract, screen, train and retain specialised employees. The use of psychometrics is one of the developments in recruiting qualified candidates (Rehman, 2012).

Statement of the problem

In the 21st century, the sustainability of organisations will continue, more than ever, to rely on suitable employees who have the characteristics needed to ensure productivity and efficiency. In this context, suitable candidates refer to the set of employees who possess the required characteristics that will enable them to perform optimally in their specific work role (Noe et al., 2020). This is necessary to ensure person-job fit and person-organisation fit, which are key components to enhanced organisational efficiency. Psychometric testing practices in South Africa may be regarded as discriminatory and part of unfair labour practices (Taylor & Radford, 1986). Some ethnic groups would score lower in some ability tests. Namibia lacks locally validated, reliable, and normed psychometric instruments for recruitment across industries, creating validity, fairness, and legal-defensibility risks when foreign tools are adapted.

Person-job fit and person-organisation fit cannot ultimately happen without careful selection. According to Rothmann and Cooper (2022), the primary objective of employee selection is to assess, as objectively as possible, which applicant is the best fit for the work.

It could be argued that selecting the right person from a pool of potential candidates can be costly and time-consuming for organisations or employment agencies. However, the positive outcomes that result from selecting and recruiting the best candidate cannot be downplayed. In contrast, the costs incurred from selecting and hiring a less appropriate candidate are challenging, as optimal task performance is linked directly to the quality of personnel an organisation has (Rothmann & Cooper, 2022). In addition, poor selection causes a poor person-job fit, contributing to job dissatisfaction, poor performance and high labour turnover. High turnover is even more costly for organisations, due to repeating the exercise of human resource planning, attraction, and selection (Pieters, 2017). Organisations cannot be sustainable if high turnover becomes the order of the day (Murangi et al., 2022).

It is noted that the test user needs to ensure that the test is valid, appropriately normed, and that cultural bias is considered. In Namibia, the psychological tests are limited for recruitment in various industries. Because validated local tools

are scarce, this study develops and provides initial validation evidence for a context-appropriate instrument for Namibian workplaces.

Objectives of the project

The objective of the project was to provide an in-depth understanding of the critical skills and competencies required within the Namibian workplaces. This objective was achieved by using literature focusing on the most relevant and critical skills/competencies in the workplace. Another objective of the project was to develop items for and pilot the instrument measuring the critical skills and competencies required within the Namibian workplaces. The current study reports on the test development and results of the pilot testing phase.

Significance of the study

Psychological assessment is valuable in enhancing personnel selection. Specific to the Namibian context, developing a psychometric assessment tool standardised for the Namibian population will allow organisations to make use of a locally developed assessment tool, with limited cultural biases. The tool will be applied across industries, making it possible for various employment sectors to utilise the tool in recruitment and selection.

Limitations and delimitations of the study

Recruitment and selection testing may last for days, relying on multiple tests. The purpose of this study is to develop and standardise a psychometric assessment for all industries within the Namibian context. The study is limited to employees within Namibia who are English literate and have completed Grade 12.

Literature review

Understanding employees' psychological needs is critical for effective human resource management, from hiring to retirement (Sartori et al., 2022). When recruiting employees, psychometric tests provide the best insight into a candidate's potential, providing a meaningful and valid prediction of that applicant's knowledge, skills, abilities and other characteristics of good job performance (Test Partnership Ltd., 2023). Employees are the most significant asset of an organisation, and healthy and happier employees perform at their best. A psychological assessment helps industries to understand the present health and well-being of their employees, teams and leaders.

A wide range of psychometric tests have been developed and utilised in various settings. These

settings include, amongst others, the clinical setting, educational setting, geriatric setting, military and organisational setting, and research setting (Cohen & Swerdlik, 2017). The demand for certain skills and knowledge in the 21st century will also influence the selection methods and predictors needed to recruit the most suitable candidates. The International Labour Organisation (2021) developed a global framework on core skills for life and work in the 21st century, which are transferable across diverse occupations. This framework provides guidance on core skills, which should be further refined based on each country and employment industry.

Employees should have digital skills, critical thinking and reasoning skills, self-awareness and self-management, problem-solving, be in a position to engage in productive negotiation and conflict resolution, adaptability, emotional stability, be creative and innovative in their thinking, have good planning and organisation, and have a passion for learning to learn (ILO, 2021). Some recruitment and selection methods or instruments do not consider these strategic skills.

Affective commitment predicts positive job attitudes (Pieters et al., 2019). Affective commitment is the psychological identification with the goals and values of the organisation and investing in the goals of the organisation (Allen & Meyer, 1996). Psychological assessment uses different methods and techniques to test individuals and their psychological characteristics (Sartori et al., 2022). Psychological testing assists industries in obtaining suitable candidates with the ability to meet the needs of organisations. Well-designed and standardised psychological tests can provide precise and reliable information about an individual's knowledge, skills, abilities, or characteristics. Psychometrics have existed for centuries in several forms and have been used with various degrees of success (Rehman, 2012).

Developing a psychometric test is traditionally time-consuming and requires extensive research, item writing, and validation. In the psychological assessment field, Artificial intelligence (AI) prediction methods are becoming increasingly popular (Fokkema et al., 2022). These methods provide flexibility for

modelling many predictor variables and non-linear associations between predictors and responses. AI can significantly improve the efficiency of psychometric test development. AI algorithms can automate this process by analysing large datasets and generating test items based on predefined criteria, reducing the time and effort required.

The urgency with which psychologists should address the lack of psychological tests standardised for the Namibia population emphasises this. Literature on the development and use of psychometrics for recruitment in Namibia has been insufficient to address major developments. An extensive literature review found the urgency with which psychologists should address the lack of psychological tests standardised for the Namibian population (Mpofu & Schutte, 2023; Murangi et al., 2022; Oppong, 2016). The project aims to develop and standardise a national psychometric tool aligned with Namibia's standard recruitment requirements.

METHOD

Research design

The study adopts a quantitative, cross-sectional research approach, with two different phases. A desk review was used to review the relevant literature on 21st-century skills and competencies for employees in the workplace. With reference to some foreign tests and the conceptual definitions of these skills/competencies, the researchers drafted items aligned to the dimensions and theoretical understanding of these competencies/skills. Face validity was utilised to advance the relevance of the items before the pilot testing. The pilot testing made use of a quantitative research design, relying on paper-and-pencil as well as online questionnaires to collect the data (survey). This study relied on a Positivistic paradigm as the philosophical research paradigm, gathering data from the participants and trying to remain neutral and detached to reduce bias.

Population of the study

According to the Namibian Statistics Agency (2018), a total of 1 047 782 people was employed in Namibia. This study will focus on the following industries (all): Banking, Financial and Insurance; Business Support Services and sales; Construction Industry and

Real estate; Education Industry; Food Beverage Wholesale and retail Industry; Industrial Metals and Minerals- Mining and quarrying; IT and Communication Industry; Law Enforcement-Safety and Security; Leisure, Tourism, Hospitality Arts Entertainment and recreation; Manufacturing Industry; Transportation and storage Industry; and Healthcare and Pharmaceutical Industry; Agriculture Forestry and Fishing; and Water supply sewage and waste management (Namibian Statistics Agency, 2018). The study will aim for regional and industry representation.

Sampling procedures

Making use of a confidence level of 95%, an error margin of 5%, a proposed sample size will be between 385-500 participants. Considering the extensive costs and focus of psychometrics, the instrument will focus on jobs requiring Grade 12 as part of the entry requirements. Based on the sample of 385, a total of 15-25% of the employed population per area/region will be approached based on the different employment sectors (stratified random sampling). To be included in the sample population, employees must be English literate. The sample (385-500) is representative of the different employment sectors within the Namibian economy. For the pilot testing phase, the phase being presented in this article, a total of 20% (77 of 385 employees) will be included in the sample.

Data collection methods/procedures

Permission for this study was sought from the University of Namibia Ethics Committee (SAHS28/24). Thereafter, permission was requested to distribute the survey from the different ministries and organisations. *Phase one* of this study made use of literature from journals listed on Sabinet, Ebscohost, SAE-publications, Directory of Open Access Journals (DOAJ), Encyclopaedia of Management, JSTOR, JUTA, and SAGE journals. Search terms included “employee competencies”, “21st century competencies”, “employee competencies”, “strategic skills”, or “soft skills”. The competencies that were the most prominent within the literature were identified as the appropriate competencies within the African continent. The diverse competencies cater to the diverse workplaces, current competency requirements and future competency requirements.

Learning from different established instruments like the Differential Aptitude Test (Form-K),

Customer Service AP, Emotional Intelligence Inventory, Hardiness Resilience Gauge, Personal Growth, Positive Relations, Cognitive Control and Flexibility, and the Job Crafting Questionnaire, different items focusing on aptitudes, core competencies and strategic skills were extracted and included in the instrument. Three principal investigators and six researchers were used to write the items. The two main parts were linked to employee competencies (Part 1; Section B-D) and leadership/management competencies (Part 2- Section E). The identified competencies/skills that were identified based on the extensive literature review included Digital literacy, Psycho-social literacy, Strategic Skills, Organisational Impact, and Leadership/management. A total of 365 items were developed for review and further reduced to 182 items for the pilot version.

The pilot instrument included a biographical section (Section A), which required information from the participants in terms of sex, age, tenure, highest qualification obtained, the research area employed in, the industry employed in and employment category. Section B focused on Digital literacy, which is aimed at assessing employees' knowledge of hardware (monitor, mouse) and software (Microsoft Office) of computers; different digital literacy techniques and the use of online platforms like Zoom/Microsoft Teams. The closed-ended responses ranged from (a) to (e), with one response being correct. Section C focused on Strategic skills (Psychosocial literacy). Section C, focused on assessing employees' perception in relation to emotional intelligence (self-awareness, awareness of others; emotional regulation, relationship management) and co-worker relations/interpersonal skills. This part of the tools is related to employees' ability to be aware of their own emotions, the emotions of others and how to regulate these emotions. The second part focused on employees' ability to engage and interact with colleagues in terms of forming and maintaining interpersonal relationships. Section D (21st Century Skills) focuses on learning ability (learn and transfer skills); critical thinking/decision making, and communication. This part focuses on employees' ability to learn, transfer knowledge and skills, think critically, and make decisions. Employees are also assessed on their ability to communicate in written and spoken form and their ability to understand the communication of

others. Section E focused on competencies/skills related to Organisational Impact. This section assessed work engagement (vigour, dedication, absorption); turnover intention (employees' intent to leave the organisation- employed employees); affective commitment (psychological identification with current organisation- employed employees); ethical behaviour (organisational justice and trust). These skills and competencies are extensively researched and relevant to the success of organisations.

Part 2, Section F is reserved for employees in management/leadership. This section measures leadership (authentic, transformational, and ethical leadership); toxic leadership (unhealthy leadership tendencies based on insecurities, entitlement, self-centred and controlling); leading self (motivation and perseverance as a leader). The closed-ended responses made use of a Likert scale ranging from strongly disagree (1) to strongly agree (5).

Before doing the pilot testing, the draft instrument was sent for language editing to ensure that the words and phrases were understandable. After drafting these items, experts from industry specialising in Industrial/Organisational Psychology, Human Resource Management and Psychometrists were used to provide expert feedback to refine these items further. These experts reviewed the items for relevance, comprehension and application to the workplace. *Phase two* of the study will make use of the pilot version to refine the instrument further. The workforce is divided into five main employment areas/regions. The northern regions (Otjizonjupa, Oshana, Omusati, Oshikoto, Ohangwena- Central North; Kunene, Kavango west and east, and Zambezi region- North East; n=42); central region (Khomas; n=18); Eastern region (Omaheke; n=2); Southern regions (Hardap and !Karas region; n=6); and Western region (Erongo region; n=9). All participants who passed Grade 12, are willing, employed, and speak and understand English, could become part of the study. The same version of the questionnaire was administered via online and paper-and-pencil formats.

Training was provided by the PIs to research assistants before they commenced with data collection. The researchers contacted selected employees with the request to partake in the research. The purpose and nature of the project

were explained to all participants before they gave consent. The questionnaire was completed within 30-45 minutes. Data was collected between October 2024 and March 2025. All questionnaires are collected and stored safely.

Data analysis

Content and face validity were used to ensure that the instrument is valid and aligned with the needed competencies and strategic skills within the Namibian job market (Phases one and two; Expert review). SPSS version 29 was used to calculate the means, standard deviation, as well as Cronbach's alpha (reliability; Phase two). Factor analysis was utilised to ensure that the different items measure in line with the different factors.

Research ethics

The ethical guidelines provided by the University of Namibia Ethics Committee guided the study. Permission was obtained from different organisations across Namibia and consent was obtained from each employee in writing after understanding the purpose of the study. Participants were allowed to choose not to participate or withdraw from the study at any time without any negative consequences. No names of participants or organisations were used to ensure anonymity. Completed questionnaires and meeting notes are kept in a locked safe for five years and the electronic data is saved, password-protected. The hard drive where the electronic data is stored will be formatted after 3-5 years. The findings of the study will be disseminated through various platforms such as newspaper articles, radio broadcasts, journal publications, and conference proceedings.

RESULTS AND DISCUSSION

A total of $n=247$ employees participated in the pilot testing phase. The majority were female ($n=142$; 57.5%); aged between 29-44 years ($n=134$, 54.3%); worked for 4-6 years ($n=67$, 27.1%); completed an Honours degree ($n=90$, 36.4%); are from the central region ($n=72$, 29.1%), working in the Education sector ($n=43$, 14.4%); and part of non-management employees ($n=176$, 71.3%). The sample was drawn from a wide range of industries, including banking, finance, and insurance; business support and sales services; construction and real estate; education; food, beverage, wholesale, and retail; industrial metals, minerals, mining, and quarrying; information technology and communications; law enforcement, safety, and security; leisure, tourism, hospitality, arts,

entertainment, and recreation; manufacturing; transport and storage; healthcare and pharmaceuticals; agriculture, forestry, and fishing; water supply, sewage, and waste management; energy, oil, and gas; as well as other sectors.

Factor analysis

Factor analysis is a unique technique used by test developers to identify which variables have an intercorrelation (Pallant, 2005). It may also be used to reduce the number of variables, aimed at refining and reducing the number of variables into more manageable, coherent subscales. The factors to measure the Future-Fit recruitment and selection scale were extracted using principal component analysis. The following guidelines were applied as indicated by Pallant (2005). A sample size above 150 (sample is 247); Correlations amongst the items above .3; Bartlett's test of sphericity ($p<.05$) and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (.6 or above). The results for the Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) are presented in Table 1 below for each variable/ dimension.

Table 1 presents information on the factor analysis. The information is divided into Part 1 (Section C- Strategic skills; Section D- 21st Century skills; and Section E- Organisational impact) and Part 2 (Section F- Leadership/ management competencies). The results include the Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO). Based on Table 1, all variables and dimensions align with the guidelines for factor analysis. To further refine the instrument, Cronbach's Alpha was calculated to decide how to align cross-loading items. Items that do not load onto the factor/s or improve the reliability were excluded from further consideration. The reliability, number of items per variable/ dimension, mean, and Standard Deviation of the different variables are presented below in Table 2.

Table 2 presents information about the different sections (Section C-F), Cronbach's Alpha, the number of items, the Mean and the Standard Deviation.

Table 1 Factor Analysis

| Variable | Kaiser-Meyer-Olkin (KMO) | Bartlett's test of sphericity |
|---|--------------------------|-------------------------------|
| Part 1: Section C- Strategic skills | | |
| Emotional intelligence (self-awareness, awareness of others; emotional regulation, relationship management) | .870 | <.001 |
| Co-worker relations/interpersonal skills | .865 | <.001 |
| Part 1: Section D- 21st Century skills | | |
| Learning ability (learn and transfer skills) | .890 | <.001 |
| Critical thinking/decision making | .886 | <.001 |
| Communication (send/ receive messages; understanding others, being understood by others) | .866 | <.001 |
| Part 1: Section E- Organisational Impact | | |
| Work engagement (vigour, dedication and absorption) | .906 | <.001 |
| Turnover intention | .835 | <.001 |
| Affective commitment | .866 | <.001 |
| Ethical behaviour (organisational justice and trust) | .806 | <.001 |
| Part 2: Section F- Leadership/ management competencies | | |
| Leadership (authentic, transformational and ethical leadership) | .720 | <.001 |
| Toxic leadership | .794 | <.001 |
| Leading self (motivation/ perseverance) | .845 | <.001 |

The reliability of the dimensions ranged from .72 to .94, in line with the proposed acceptable levels of .60 and higher (Gerber & Hall, 2017). The number of items per dimension/variable

ranged from 3 to 29. The distribution of the data is presented below in Table 2 in terms of the Mean and Standard Deviation (SD) of all domains/variables.

Table 2 Reliability statistics, number of items, Mean and Standard Deviation

| Variable | Cronbach Alpha | Number of items | Mean | Standard Deviation |
|--|----------------|-----------------|-------|--------------------|
| Part 1: Section C- Strategic skills | | | | |
| Emotional intelligence 1 (self-awareness, awareness of others) | .86 | 9 (2 removed) | 36.29 | 5.58 |
| Emotional intelligence 2 (emotional regulation, relationship management) | .81 | 6 | 24.25 | 3.57 |

| | | | | |
|--|-----|----------------------------------|--------|-------|
| Co-worker relations/interpersonal skills | .87 | 10 (1 removed) | 37.47 | 4.93 |
| Part 1: Section D- 21st Century skills | | | | |
| Learning ability (learn and transfer skills) | .90 | 7 items | 29.85 | 4.41 |
| Critical thinking/decision making | .88 | 9 items | 37.22 | 5.15 |
| Communication 1 (send/ receive messages) | .85 | 8 items (2 removed and 2 added) | 31.81 | 4.64 |
| Communication 2 (understanding others, being understood by others) | .86 | 11 items (2 removed and 2 added) | 45.12 | 5.83 |
| Part 1: Section D- Organisational Impact | | | | |
| Work engagement (vigour, dedication and absorption) | .94 | 29 items | 113.87 | 15.78 |
| Turnover intention | .87 | 8 items (1 removed) | 26.44 | 6.93 |
| Affective commitment (psychological meaningfulness) | .77 | 3 items (dimension split) | 11.09 | 2.37 |
| Affective commitment | .86 | 6 items (dimension split) | 23.42 | 4.15 |
| Ethical behaviour (organisational justice and trust) | .82 | 10 items | 41.24 | 4.86 |
| Part 2: Section E- Leadership/ management competencies | | | | |
| Leadership 1 (authentic, transformational and ethical leadership) | .91 | 13 items (dimension split) | 65.39 | 7.06 |
| Leadership 2 (authentic, transformational and ethical leadership) | .93 | 15 items (dimension split) | 56.03 | 6.60 |
| Toxic leadership (Narcissism) | .81 | 3 items (dimension split) | 5.75 | 3.02 |
| Toxic leadership (Ostracism/ self-interest) | .74 | 5 items (dimension split) | 14.45 | 4.05 |
| Toxic leadership (Self-promotion) | .72 | 3 items (dimension split) | 8.95 | 2.89 |
| Leading self (motivation/ perseverance) | .92 | 9 items | 39.72 | 4.26 |

CONCLUSION

This study developed an instrument from the literature on the main competencies and skills relevant and required for the 21st century within the African workplace. With the guidance of industry experts, the instrument was refined to use as part of the pilot testing. Part 1, Section B-E of the instrument focuses on the competencies/skills of all employees. Part 2,

Section F is specifically focused on the skills and competencies of management/leadership. A total of 18 competencies/skills were identified and included for the pilot testing instrument. The last phase of the project will focus on standardising the instrument for the Namibian employees across the different research sites and industries. Future studies may focus on using the instrument with other used instruments to

further advance confidence in the developed competencies/skills of the instrument.

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The Mediating Effect of Narcissism Between Organisational Culture, and Job Performance in the Public Service of Botswana. A Case of Ministry for State President

Broniah Badubi and C K Hlatywayo

Abstract

Purpose: Narcissism is known to have effects on organisational culture and job performance. The study sought to explore the mediating effect of narcissism between organisational culture and job performance, in the Botswana Public Service, a case of Ministry for State President.

Methodology: A cross-sectional survey was used to explore the nature of association between the variables. Online and paper and pencil were used as data collection method. A total of 335 employees participated in this study.

Results: Organisational culture showed a significant positive association with narcissism ($\beta = 0.24$, $p < .01$). Narcissism did not significantly mediate the culture-performance relationship (indirect effect = -0.0049 , 95% CI $[-0.015, 0.0038]$). The direct culture-performance relationship remained significant ($\beta = 0.23$, $p < .01$). These findings highlight the complex duality of narcissism in workplace settings, where its impact depends on both trait variant and organisational context. The study contributes to understanding how personality dynamics interact with institutional factors in public sector performance.

Recommendations: The use of screening tools to assess the narcissistic traits during the recruitment process is recommended.

Key words: Narcissism, Organisational Culture, Job Performance, Ministry for State President, Botswana.

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Introduction

In today's dynamic and competitive work environments, understanding the psychological factors that influence job performance has become increasingly vital (Fletcher et al., 2008; Wang & Oscar, 2024). Organisational culture and job performance are known to be influenced by individual personality traits (Bijalwan et al., 2024) such as narcissism. Narcissism, particularly in its multidimensional forms such as grandiose and vulnerable can significantly affect how individuals interact with organisational norms and expectations (Jauk et al., 2017).

These relationships with key organisational outcomes suggest the long-term harmful consequences to having individuals with high levels of narcissistic trait in key leadership positions (Braun, 2017). Lainidi et al. (2023) suggests that dark triad personality significantly impact workplace environments, leadership dynamics, and employee engagement. The Ministry for State President, as a central administrative entity, plays a crucial role in governance and national decision making. Furthermore, there is a paucity of evidence regarding effective solutions for dark traits which raises concerns about its applicability to Botswana (Jones & Figueredo, 2013). The study sought to explore how narcissism traits mediate the effect between organisational culture and job performance.

Hypothesis

- H₁ : Narcissism will significantly influence organisational culture
- H₂ : Narcissism will positively impact job performance
- H₃ : Narcissism will significantly mediate organisational culture and job performance

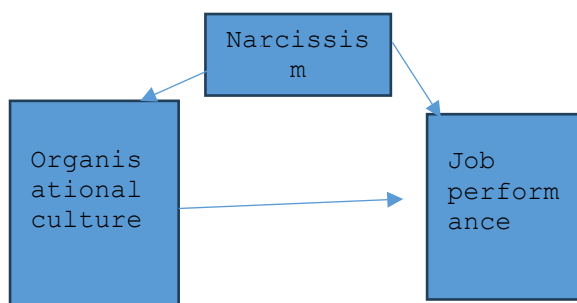


Figure 1 Conceptual Model: Authors own creation

Empirical Literature

Narcissism and Organisational Culture

Narcissistic leaders may put themselves first, promoting self-promotion and reducing teamwork (Cheng et al., 2024). Narcissists favour praise over organisational goals (Furnham & Treglown, 2021). Upadhyay and Baber (2023) emphasise that bureaucratic systems with rigid command chains empower manipulators. Narcissists succeed in charismatic leadership posts if their actions are tempered by ethics (Furnham & Treglown, 2021). O'Reilly et al., (2024) findings reflected that narcissistic leaders create environments with lower collaboration and integrity, leading to frustrated and fearful subordinates. O'Reilly et al., (2021), revealed that narcissistic leaders negatively impact collaboration and ethical behaviours, creating lasting damage to employee morale and performance.

Narcissism and job performance

Sudha and Shahnawaz (2020) findings showed no correlation on narcissism and performance, particularly through increased negative emotions and reduced life satisfaction. Schmid, Knipfer and Peus (2020), revealed moderate levels of narcissism were associated with optimal team performance, on the other hand, extreme narcissism resulted on dysfunctional leadership. Asrar-ul-Haq and Anjum (2020), shared that narcissistic leadership negatively impacted job satisfaction and well-being, with increased stress, and high intentions of quitting, and was negatively related with job performance.

Fezzey et al. (2023) found a positive relationship on narcissistic admiration and job performance. Daderman and Kajonius (2024) results showed that both managers exhibited higher levels of grandiose narcissism and lower levels narcissistic variants had a differentially predicted work performance. Lower task performance as evidenced in collectivist cultures where charisma is valued (Nuzulia et al.,2020).

Mediating effect of Narcissism between organisational performance and job performance

Sudha and Shahnawaz (2020) explored the subjective well-being and how it positively results were in two folds, the first one showed that grandiose narcissism negatively affects job performance and life satisfaction, while positively correlated to negative emotions. Umer et al., (2023) study showed that organisational narcissism significantly correlated with job

satisfaction if organisational citizenship behaviour is present, disagreeing to the views that narcissism may lead to workplace toxicity. Faeq (2025) indicated that workplace bullying acts as a key mechanism and correlated with narcissistic leadership to nurses' turnover intention and reduced creative performance.

Methodology

The study adopted a cross-sectional survey methodology to explore the association amongst the study variables. The population for the study were employees in the Ministry for State President in Botswana. Permission to conduct the study was obtained from the study through the Botswana Government Communications and Information System (BGCIS). Following approval, the BGCIS disseminated the online survey link to all Ministry of State President employees, while the Human Resources (HR) unit coordinated the distribution of paper-based questionnaires. A total of 335 responses were

acquired of these; 177 were submitted online and 158 were gathered via paper-based questionnaires. From the paper to pencil survey, 200 surveys were distributed, of these 175 were returned, and only 158 were usable as they were fully completed.

The research instrument

The study adopted previously published and verified instruments. Section A comprised of the demographic variables developed by the researchers. To measure narcissism, the instrument developed by Raskin and Hall (1979). The narcissism scale demonstrated good internal consistency (Cronbach's $\alpha \approx 0.83$). The *Organisational culture* assessment instrument developed by Cameron and Quinn (1999) was utilised to measure the organisational culture, The Cronbach coefficient for the OCAI is .70. Individual Work Performance Scale, was developed by Koopmans et al., (2012). The Cronbach coefficient for IWPS is .80.

Results

Table 1 Means, Standard Deviations, and Correlations Among Study Variables

| VARIABLE | 1 | 2 | 3 | M | SD |
|-----------------------------|--------|--------|---|------|------|
| NARCISSISM | | | | 3.02 | 0.66 |
| ORGANISATION CULTURE | .237** | | | 1.89 | 0.95 |
| PERFORMANCE | -.027 | .233** | | 2.53 | 0.48 |

Table 1 shows the average score for organisational culture was 3.21 (SD = 0.53), indicating a moderately positive perception of culture among participants. Narcissism had a similar average (M = 3.02, SD = 0.65). Notably, employee performance showed a much lower mean of 1.16 (SD = 0.94), with scores ranging from 0.00 to 5.00. Pearson correlation analysis

revealed that narcissism was positively and significantly correlated with organisational culture, $r = .24, p < .01$. However, the correlation between narcissism and job performance was not significant, $r = -.03, p = .66$. Organisational culture was positively and significantly correlated with job performance, $r = .23, p < .01$.

Table 2 Regression Analysis of Organisational Culture on Narcissism and Job Performance

| Model and Predictors | B | SE | T | P | 95% CI | R ² | F(df) | MSE |
|--------------------------------|-------|------|-------|-------|----------------|----------------|------------------------|--------|
| Model 1 narcissism (dv) | | | | | | .037 | $F(1,247) = 9.36^{**}$ | 101.55 |
| Constant | 41.63 | 2.31 | 18.02 | <.001 | [37.08, 46.18] | | | |
| Organisational culture | 0.09 | 0.03 | 3.06 | .003 | [0.03, 0.14] | | | |

| | | | | | | | | |
|-------------------------------------|-------|------|-------|-------|----------------|------|-------------------------|-------|
| Model 2 job performance (dv) | | | | | | .059 | $F(2,246) = 7.69^{***}$ | 68.66 |
| Constant | 40.92 | 2.89 | 14.16 | <.001 | [35.22, 46.61] | | | |
| Organisational culture | 0.09 | 0.02 | 3.91 | <.001 | [0.05, 0.14] | | | |
| Narcissism | -0.06 | 0.05 | -1.08 | .282 | [-0.16, 0.05] | | | |

Note. DV = Dependent variable; β = Unstandardized coefficient; CI = Confidence interval; MSE = Mean squared error. $**p < .01$. $***p < .001$.

A simple linear regression was conducted to examine whether organisational culture predicts narcissism. The model was statistically significant, $F(1, 247) = 9.36, p = .002$, explaining 3.65% of the variance in narcissism ($R^2 = .0365$). Organisational culture had a significant positive effect on narcissism ($\beta = 0.0867, SE = 0.0283,$

$t = 3.06, p = .002, 95\% CI [0.0309, 0.1426]$). A multiple regression analysis tested whether organisational culture and narcissism predict job performance. The overall model was significant, $F(2, 246) = 7.69, p = .001$, accounting for 5.88% of the variance in job performance ($R^2 = .0588$).

Table 3 Mediation Analysis

| Path | Coefficient | SE | T | P | LLCI | ULCI |
|--|-------------|--------|--------|-------|---------|--------|
| Organisational Culture → Narcissism (a path) | 0.0867 | 0.0283 | 3.059 | .0025 | 0.0309 | 0.1426 |
| Narcissism → Job Performance (b path) | -0.0564 | 0.0523 | -1.078 | .2821 | -0.1595 | 0.0466 |
| Organisational Culture → Job Performance (c') | 0.0928 | 0.0237 | 3.906 | .0001 | 0.0460 | 0.1395 |
| Total Effect (c path) | 0.0879 | 0.0234 | 3.760 | .0002 | 0.0418 | 0.1340 |
| Indirect Effect (a × b) | -0.0049 | 0.0048 | | | -0.0153 | 0.0038 |

Note. SE = Standard Error; LLCI and ULCI = lower and upper limits of the 95% bootstrap confidence interval (5,000 samples)

Results of mediation (Hayes, 2022) showed that organisational culture significantly predicted narcissism, $\beta = 0.09, SE = 0.03, t = 3.06, p = .003$. However, narcissism did not significantly predict job performance, $\beta = -0.06, SE = 0.05, t = -1.08, p = .282$. Organisational culture had a significant direct effect on job performance, $\beta = 0.09, SE = 0.02, t = 3.91, p < .001$. The indirect effect of organisational culture on job performance through narcissism was not statistically significant, $\beta = -0.005, 95\% CI [-0.0153, 0.0038]$.

Discussion

The results revealed positive correlation between organisational culture and narcissism this

supports Strand's (2021) contention that certain organisational structures may inadvertently foster narcissistic traits. This aligns with Upadhyay and Baber's (2023) observation that bureaucratic systems with rigid hierarchies can empower manipulative behaviours. The positive association contrasts with O'Reilly et al.'s (2024) findings of narcissistic leaders undermining psychological safety. This discrepancy may reflect cultural differences in Botswana's public sector, where collectivist values potentially temper narcissistic excesses (Nuzulia et al., 2020). Alternatively, it may support Furnham and Treglown's (2021) dual-impact model where narcissism manifests differently across organisational contexts. The non-significant

correlation between narcissism and performance mirrors Sudha and Shahnawaz's (2020) null findings in India, while contradicting Asrar-ul-Haq and Anjum's (2020) negative associations. This may reflect the multidimensional nature of narcissism (Harms et al., 2023). The results particularly align with Daderman and Kajonius' (2024) finding that grandiose narcissism showed no performance link. The non-significant mediation effect contrasts with Umer et al.'s (2023) findings about organisational citizenship behaviour facilitating positive narcissism effects. Social Exchange Theory (SET) helps explain why narcissism failed to mediate the relationship between organisational culture and job performance (Blau, 1964; Cropanzano & Mitchell, 2005). Trait-Activation Theory (Tett & Burnett, 2003) provides further nuance by demonstrating how Botswana's bureaucratic environment activated narcissistic traits while simultaneously suppressing their behavioural expression in performance contexts. This explains the paradoxical coexistence of heightened narcissism with neutral performance effects.

Conclusion

The findings underscore that while narcissism can manifest as a disruptive force undermining trust, collaboration, and ethical norms its effects on performance remain context dependent. For the Ministry, addressing narcissism is not merely about curbing individual traits but about fostering systemic resilience. By implementing rigorous screening, adaptive training, and robust support systems, the Ministry can cultivate a culture of accountability, collaboration, and sustainable performance. This proactive approach ensures that organisational success is built not on charismatic individualism but on shared integrity and mutual trust prerequisites for effective public service in Botswana and beyond. Ultimately, this study contributes to a nuanced understanding of workplace narcissism, balancing theoretical insights with actionable solutions. Future research should explore longitudinal effects and cultural adaptations, but the current findings affirm that with deliberate policy and leadership commitment, organisations can transform narcissism's challenges into opportunities for growth and ethical renewal.

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Living with Migration: Experiences of Left-Behind Children in Zimbabwe

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Abstract

This study aimed to explore the experiences of left-behind children due to parental migration in Masvingo, Zimbabwe, using the theoretical lens of Life Course Theory. There are numerous studies on children in Zimbabwe, but a paucity of research exists on their relationship to parental migration. This study is grounded in an interpretivist paradigm to understand the relationship between parental migration and children's well-being, drawing on their subjective interpretations of their experiences. This study employed a qualitative approach, utilizing an exploratory research design, to gain a deeper understanding of the phenomenon under investigation. The sample size was made up of 12 participants (8 left-behind children, and 4 key informants – 2 social workers, and two teachers), who were purposively selected for this study. Semi-structured interviews were used to collect data, which was analysed thematically. The study's findings revealed mixed reactions and feelings regarding the experiences of children left behind due to parental migration. The study concluded that experiences of left-behind children are directly linked to their psychological, social, and environmental well-being. Furthermore, to cope with the negative experiences, children have adopted various coping strategies, such as support groups and the use of digital communication.

Keywords: Left-Behind Children; Parental Migration; Poverty; Zimbabwe

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Introduction

There is an increase in global migration. It is estimated that 243 million people, who constitute 3 per cent of the global population, reside outside their country of origin (Hagen-Zanker et al. 2022). Fellmeth et al. (2018) define parental migration as a situation whereby one or both parents move away from the place their children are staying for a period of 6 months. Parental migration gives rise to the phenomenon of left-behind children. Most studies on left-behind children were conducted in Asia and South America, while there are limited studies on the African continent. A study conducted by Fellmeth (2018) stated that migration has led to improved lives for households that were resource-constrained and vulnerable to poverty. In the global South, there is an increase in remittances, which is evidence that poverty is being alleviated as households have a supplementary income to meet needs. In a constant note, studies done by Makondo & Tabane (2023): Yeung & Gu (2016) revealed that migration has a negative effect as it exposes children to emotional neglect, behavioural issues, and various forms of abuse. This shows parental migration influences children's well-being. Studies conducted by Mells (2019): Gao et al. (2010) in Mexico, Croatia, and China pointed out that psychological and behavioural problems affect the lives of children whose parents have migrated. They are subjective experiences of children left by parents who have migrated to the diaspora in search of better opportunities. Studies done by Fellmeth et al. (2018): Makondo & Tabane (2023) reported that children experience both positive and negative outcomes due to migration. Drawing from the assertion above shows that parental migration has effects on child well-being.

In this study, the authors sought to explore the lived experiences of left-behind children in Zimbabwe. This study is significant because it delves into their attainment of holistic well-being of children whose parents have migrated abroad. Gunhidzirai & Patel (2014) elaborated that child well-being encompasses how children's social, health (physical and psychological), and economic needs are met. Furthermore, the attainment of the above needs is influenced by micro, mezzo, and macro factors in the environment. Therefore, this study explores the experiences of left-behind children due to

parental migration. The absence of primary caregivers has implications for the well-being of these children.

Problem Statement

In Zimbabwe, the persistent political and economic crisis has exacerbated parental migration. Muchemwa (2017) denotes that many Zimbabweans have migrated to both the global north and sub-Saharan countries. This shows that cases of parental migration have been escalating in Zimbabwe, and this has a bearing on the well-being of left-behind children. It is estimated that about 3 million Zimbabweans have migrated to South Africa. This situation is a reality under-explored in the

Zimbabwean context, evidenced by the little research on the issue (Jaure & Gregory, 2022: Gumbo et al., 2023). Though in Zimbabwe, there are no actual statistics of left-behind children (Chakombera, 2016). All the efforts to address the needs of children left behind by their emigrating parents face hurdles. Hence, this study sought to explore the challenges faced by left-behind adolescents due to parental migration in Muccheke Township, Masvingo.

Research Objectives

This study was guided by the following research objective:

- To explore the experiences of left-behind children due to parental migration in Masvingo, Zimbabwe?
- To identify the coping strategies employed by the left-behind children in solving their challenges in Masvingo, Zimbabwe?

Methods

This study was conducted in Muccheke Township, Masvingo, Zimbabwe. A qualitative approach, grounded in an exploratory research design, was used in this study because it sought to explore the experiences, attitudes, and behaviours of children whose parents migrated abroad in their natural context, which is Muccheke, Township, Masvingo, Zimbabwe. The sample consisted of 12 purposively selected participants, comprising 8 children, 2 social workers, and 2 teachers. Semi-structured interviews were utilised for both

participants. Thematic analysis was used to analyse the data from the participants (Braun & Clark, 2021).

The researchers obtained an ethical clearance letter from the Midlands State University and a gatekeeper's letter from the Department of Social Development, Masvingo, Zimbabwe. In this study, the caregivers gave consent on behalf of the children because they were under the age of 18 years, classifying them as children. However, the assent of the adolescents involved was required.

Results

The section presented the qualitative data from the children, teachers, and social workers. In reporting the verbatim of the participants, the researchers used the following coding schemes: Teacher (T), Children (C) and Social Workers (SW).

| Key informants | Age | Gender | Level of qualification | Work experience |
|---------------------|-----|--------|------------------------|-----------------|
| Social worker (SW1) | 45 | F | Degree | 12 |
| Social worker (SW2) | 31 | M | Degree | 4 |
| Teacher (T1) | 40 | M | Diploma | 10 |
| Teacher (T2) | 51 | F | Degree | 22 |

The above shows the characteristics of key informants (teachers and social workers) who took part in this study. They consisted of 2 females and 2 males, who hold a diploma and a degree qualification. Their work experience ranges from 4-22 years.

Table 1: Demographics of children (n=8)

| Children (C) | Age | Gender | Caregiver type |
|--------------|-----|--------|----------------|
| C1 | 16 | F | Aunt |
| C2 | 10 | F | Grandmother |
| C3 | 8 | M | Aunt |
| C4 | 12 | F | Mother |
| C5 | 15 | M | Mother |
| C6 | 13 | M | Uncle |
| C7 | 12 | F | Grandmother |
| C8 | 17 | M | Mother |

The table above shows the characteristics of children who took part in this study. Eight children between the ages of 8-17 years took part in this study. These participants consisted of 4 females and 4 males who had been left in the care of their mothers, uncle, aunt and grandmother by their parent/s who migrated abroad.

Table 2: Demographics of key informants

Experiences of the left-behind children due to parental migration

The children who took part in this study elaborated their experiences based on the following categories: psychological, environmental and educational. The above-mentioned domains are grouped into sub-themes.

Psychological experiences

The study findings revealed that left-behind children due to parental migration in Mucheke Township had various psychological experiences. In support of the above findings, participants noted that:

Though I am staying with my Maternal Uncle, who is quite supportive, I can feel the gap created by the separation from my mother, who is in South Africa. I worry more about the stories we hear about the dangers of South Africa. This affects me many times. (C6)

The above was confirmed by (SW1), who noted that:

Feelings of loss and anxiety are common to left-behind adolescents. These feelings affect the adolescents' self-esteem. I have come across some adolescents with high levels of anxiety created by long periods of separation

from their biological parents. This affects their optimum functioning.

In contrast to the above statements:

I was once diagnosed with an anxiety disorder because of excessive worry. Our living conditions at home were not nice, as every month the landlord would chase us out because the rent was not paid. When my father moved to Namibia, a lot of things changed at home, and their relationship with my mother was stable again. (C8)

Educational experiences

Children left behind by migrating parents elaborate on their educational experiences. They reported that:

It is very difficult to stay without your parents. Sometimes you may need support with homework, covering books and guidance on all the issues surrounding schooling, but when you are alone, it's very difficult. It greatly affects how I perform at school, as everything should be done by me, without parental support. It is very stressful. (C1)

(C6), noted that:

I did not see the reason for continuing with school because it was boring. I am just waiting for my mother to process papers for me to join her in the United Kingdom

The key informants added that:

As a primary school teacher, I detect behavioural patterns of school children and can distinguish between those who stay with parents and those with absent parents. Children who do not stay with their parents are most troublesome. I am aware of boys who operate as a clique led by two left-behind children. (T2)

One of the children stated a positive experience:

I used to be chased out of school because of late payment. At home, we used to eat one meal. Since my mother moved to Botswana for work, food is plentiful, and I am attending tutorial lessons. (C7)

At our school, although the pass rate is still low, children are attending school. The parents of learners who are abroad are in constant contact with teachers on WhatsApp to track their academic progress. (T1)

Environmental experience

The findings reported that the children had different experiences in their home, school and community environment. The participants indicated that:

Personally, I have been subjected to bullying at home, where I stay with my aunt. This happens all the time, my aunt's children make me feel unwanted and that I do not belong to their family. What bothers me is that my aunt always supports her own children. (C3)

On this issue, the key informants stated that:

There was a case that came to our District Social Development Office of a young lady who had been assaulted by her Niece with a hot iron after a misunderstanding. It became a Court Case. We eventually realised that the victim was a child left behind by migrating parents. (SW2)

In contrast to the above:

Before my father left for Zambia to work, we used to live in a shack with no electricity or running water, and at night, it was so dark to go outside. But now we are living in Mucheke, and everything I dream of is coming to pass because my father sends us money every month for our household expenses. (C5)

Coping strategies employed by children

The following are the strategies used by children left behind by their parents:

Sibling caring responsibilities

The older children took additional caring responsibilities for their younger siblings. The participants reiterated that:

Since the migration of my mother, I have been staying with my paternal Uncle's family,

and my younger sister looks up to me for emotional support and academic issues. (C5) I am aware of students in my class who are always up to date with their homework. You may never know that their biological parents are not living with them. It's because of the kind of support they get from their siblings. (T2)

Use of digital communication

The use of digital communication emerged as another coping mechanism used by left-behind children. Commenting on this issue, the participants elaborated that:

My father bought me a smartphone from South Africa. I am always in contact with them on Facebook, WhatsApp and TikTok. I don't even miss my parents when I have data in my phone. We talk and laugh daily. (C8)

However, the digital space and free access by children left behind generate new problems.

There is a need for regulation on the time spent on social media spaces by adolescents left behind. I support school policies which limit mobile phone access by school-going adolescents, as we have noted negative influences, for example, drug use coming through these gadgets. (T1)

Peer group activities

The Peer group emerged as both a positive and negative coping strategy for left-behind children in Mucheke Township. The participants indicated that:

I share most of my experiences, fears and low points with my friends. It is much easier for me to talk to them about anything. (C8)

On the contrary note:

Since my parents moved to the United Kingdom two years ago, my friends from the neighbourhood would spend more time with me, even at night. I started smoking and drinking alcohol. (C5)

Discussion

Left-behind children in Mucheke Township have subjective experiences that affect their

psychological, environmental, and educational well-being. The findings are consistent with Zirima (2016), who notes there is an emotional detachment that exists between left-behind adolescents and their parents, anxiety and loneliness, and susceptibility to abuse (Zirima, 2016). The above findings are in line with the Life Course Theory, which notes that past occurrences in a person's life affect their life's trajectory (Elder, 1994).

Furthermore, the study revealed that children are experiencing various forms of victimisation at the hands of school bullies and caregivers. The above findings are similar to a study done by Zhang et.al. (2021); Jaure & Gregory (2021), which reported that children left in the care of other relatives are experiencing physical, emotional and sexual violence. The Life Course Theory stipulates that life changes and transitions have implications for the growth and development of children. Therefore, this theory fits into this study.

The study's findings revealed that parental absence affects the well-being of children. These findings are substantiated by Greenwood et al. (2021), who noted that left-behind children have inadequate supervision from caregivers. Drawing from the assertions above, the course theory is applied to this study.

Conclusion and Recommendations

From the analysis of the findings, it can be concluded that parents who have migrated have subjective experiences that affect their well-being. This drives them to adopt coping mechanisms which either affect them positively or negatively. Those who adopt negative coping strategies are prone to substance misuse and other maladaptive behaviour. However, the children who adopt positive coping strategies take on additional care responsibilities for their siblings and establish relationships with their parents based on digital communication. This is contrary to the widely held belief that left-behind children are victims; the case of Mucheke Township has revealed a unique perspective that shows them as resilient to survive in the absence of their biological parents. The study recommends that teachers, social workers, and caregivers of left-behind children maintain open communication lines to respond to their needs. Lastly, Social Workers in Masvingo District should provide avenues for psycho-support of left-behind children due to parental migration.

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Perceived Spiritual Care Competence and Attitudes in Undergraduate Nursing Students: An Exploratory Factor Analysis

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ABSTRACT

Background: Nurses are expected to demonstrate both competence and compassion in providing spiritual care to patients from the moment they are registered. However, this area remains understudied in Namibia.

Aim: To identify the factors contributing to perceived spiritual care competence and attitudes among undergraduate nursing students at the university campus in Namibia.

Methods: A quantitative descriptive correlational design was employed to collect data from 235 nursing students through purposively and convenient sampling. Data were collected using a Spiritual Care Competence Scale and the Nursing Spiritual Care Perspective Scale between April and September 2024. Exploratory Factor Analysis was used to identify factors related to spiritual care competence and attitudes.

Results: The overall mean for spiritual competence was moderate (3.54 ± 0.63), while the mean for spiritual attitude was negative (3.21 ± 0.79). The factor analysis confirmed that nursing students' competence were affected by eight factors and one attitude factor.

Conclusion: While nursing students perceived their spiritual competence as moderate, they generally have negative attitudes toward providing spiritual care. These results suggest that competence does not always lead to a willingness to provide spiritual care. The study recommends the incorporation of spiritual care curricula in nursing programmes.

Key words: Attitude, Competence, Holistic Care, Nurse, Spirituality

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Introduction

Spirituality has always been present in the history of nursing and has ancient roots (Murgia et al., 2020). Despite inconsistent definitions of spirituality, it is widely recognised for its positive impact on individuals' health and well-being, leading to outcomes like increased resilience to the emotional and physical challenges of illness among patients (Harrad et al., 2019). Studies have shown that spiritual care education helps the healthcare practitioner to avoid being distracted by their fears and prejudices when attending to patients (Hu et al., 2019; Best et al., 2020). Nurses are expected to be both competent and compassionate in providing spiritual care to patients as soon as they are registered (Tüzer et al., 2020). Nurses' attitudes can greatly affect their ability to provide spiritual care effectively to patients (Chang et al., 2020; Guo et al., 2022; Heidari et al., 2022; Mehralian et al., 2023). However, many of these studies were conducted outside Namibian borders and utilised various methodologies, leading to findings that were not consistently reliable.

Recognising the significance of spirituality is important when empathising with others' pain and suffering (Ndaikile et al., 2018; Tüzer et al. 2020). It allows individuals to listen impartially, accept differences, acknowledge diverse human values, reject immoral choices, and understand others deeply. Spiritual well-being has been shown to shorten hospital stays for patients and lower overall healthcare costs (De Diego-Cordero et al., 2022). Research has demonstrated that spiritual care is crucial not only for patients but also for nurses to showcase the nurse's morality and help alleviate profound human suffering (Linda et al., 2020). Syamsiah et al. (2020) suggested that a nurse's ability to provide spiritual care is linked to their overall nursing competence.

Spirituality influences all aspects of life and helps individuals cultivate a positive outlook, often manifesting as inner peace and strength from a perceived connection with God or ultimate reality (Cura, 2020). A study by Tubaishat et al. (2018) found that while students acknowledged the importance of spiritual care, they lacked the competence to integrate it into practice. Addressing spiritual care needs is vital for health and runs parallel to the physiological and psychological needs in Maslow's hierarchy (Guo et al., 2022). However, previous studies have indicated a lack of

Nestor Tomas and Miltrud Nyaku

knowledge and difficulty recognising patients' spiritual care needs among healthcare professionals (Tüzer et al., 2020; Linda et al., 2020).

Nurses have an important role in fostering positive attitudes and providing care for patients facing end-of-life situations, including physical, emotional, psychological, and spiritual aspects (Tüzer et al., 2020). However, it is important to note that attitudes towards spiritual care are influenced by personal belief systems and world views (Cura, 2020), socio-demographic characteristics, and religion (Okuyan et al., 2023).

Spiritual care education during prelicensure programs or in the workplace enhances an individual's self-perceived preparedness and fosters crucial qualities like empathy and compassion (Green et al., 2020), contributing to overall growth and resilience (Fierro, 2020). As student nurses are expected to provide spiritual care (Guo et al., 2022) and holistic care (Linda et al., 2020). Therefore, assessing their spiritual competence is vital for their development and future practice. Despite its importance for patients, a research gap exists regarding student nurses' spiritual care competence (McSherry, 2019), and students often struggle to provide this care, potentially leading to negative patient attitudes.

The importance of spiritual care and its implementation varies globally and within nations (Taylor et al., 2022). Despite Namibia being a country with a majority Christian population, there have been no studies that identify the factors that help student nurses become competent in providing spiritual care. Many studies (Murgia et al., 2020; Hu et al., 2019; Best et al., 2020), were conducted outside the Namibian borders, limiting their applicability. This study identifies the factors contributing to perceived spiritual care competence and attitudes among undergraduate nursing students at the university campus in Namibia.

Methods

Design and setting

This research employed a descriptive quantitative cross-sectional design was employed. Drawing on its success in previous studies, this design is suitable for investigating similar phenomena, such as assessing the attitudes and competencies of healthcare professionals across different domains (Alona et al., 2021; Al Sulayyim et al., 2025). The setting was a university campus situated in

Namibia, which presented a unique research environment. It has a student population of approximately 5000 undergraduates, all actively engaged in their academic pursuits across diverse faculties, including economic and management science, education, and nursing science. This interdisciplinary setting fostered a rich cultural exchange, exposing nursing students to peers from varied backgrounds. The campus's diverse student population, representing a spectrum of religious and cultural perspectives, made it an ideal location for this study. The expected exposure of nursing students to patients from different backgrounds, which is vital for the development of cultural competence and understanding of diverse spiritual needs.

Population and sampling

The target population for this study consisted of 300 second, third, and fourth-year student nurses at the university campus in Namibia. The sample was selected using purposive and convenient sampling to intentionally recruit participants who had knowledge of the curriculum and could offer their perceptions and attitudes toward spiritual care, using accessible and available participants. Due to varying practical shifts and class schedules participants were further selected using convenient sampling method. Sample size of 171 was calculated using the $n = N / (1 + Ne^2)$ formula as described by Sekaran and Bougie (2013), using a 5% confidence limit but the study added 64 (totaling to 235 participants) more participants to increase its statistical power (refer to Figure 1). Kaiser–Meyer–Olkin (KMO) test and Bartlett’s test was used to confirm sample adequacy. To be eligible, participants had to be second- to fourth-year nursing students registered for the 2024 academic year at the university campus in Namibia. The study excluded participants who did not respond positively to the two reminders that were sent.

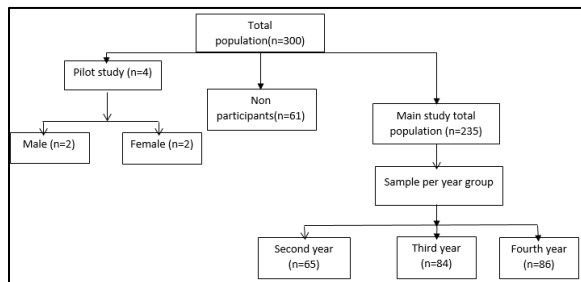


Figure 1: Participant recruitment

Nestor Tomas and Miltrud Nyaku

Measures

Data was collected using a two-part questionnaire. Part 1 measured spiritual care competency using a validated Spiritual Care Competence Scale (SCCS), developed from literature (van Leeuwen et al., 2009; Machul et al., 2022). The tool is free available online for public use. The scale consisted of 27 questions rated on a Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (5). The original tool had a Cronbach's alpha values for the subscales ranged from 0.6 for attitude toward the patient's spirituality to 0.82 for assessment and implementation of spiritual care and professionalisation, as well as improving the quality of spiritual care (van Leeuwen et al. 2009; Machul et al., 2022).

In the current study, we piloted the tool with five nurse educators, who confirmed its content and construct validity. Moreover, we performed reliability and validity of the tool in the current study: assessment and implementation of spiritual care ($\alpha = 0.75$; KMO-MSA=0.81; $\chi^2=266.22$; $p<0.001$), professionalisation and improving the quality of spiritual care ($\alpha = 0.76$, KMO-MSA=0.79; $\chi^2=322.77$; $p<0.001$), personal support and patient counselling ($\alpha = 0.76$; KMO-MSA=0.74; $\chi^2=340.57$; $p<0.001$), referral to professionals, attitude towards the patient's spirituality ($\alpha = 0.60$; KMO-MSA=0.62; $\chi^2=74.15$; $p<0.001$), communication ($\alpha = 0.71$; KMO-MSA=0.50; $\chi^2=83.60$; $p<0.001$) and nurses’ attitude towards providing spiritual care ($\alpha=0.73$; KMO-MSA=0.76; $\chi^2=193.12$; $p<0.001$). Possible scores ranged from a minimum of 27 to a maximum of 135. A score below 64 indicated low spiritual competence, a score between 64 and 98 indicated average spiritual competence, and a score of 99 and above indicated high spiritual competence.

Part II involved using the Nursing Spiritual Care Perspective Scale (NSCPS), which consisted of 11 statements developed by Farahaninia et al. (2018) to assess the participants' attitudes toward providing spiritual care. Attitudes focused on nurses’ attitude towards providing spiritual care ($\alpha=.88$; KMO-MSA=0.88; $\chi^2=1119.59$; $p<0.001$). Participants rated their agreement with each item on a scale of 1 to 5. The total score ranged from 11 to a maximum of 55 score. The mean scores above 3 indicated positive attitudes toward providing spiritual care to patients

(Farahaninia et al., 2018). The alpha coefficient value for attitudes toward providing spiritual care ranged from 0.78 to 0.82 for spiritual practice.

Data collection procedure

After receiving approval, the researcher created a link for the online questionnaire and distributed it in various nursing academic Data was collected between May and June 2024 via academic WhatsApp groups. The online questionnaire was explained with detailed information about the study's purpose and significance. Participants were required to give informed consent before the questionnaire was revealed to them. They were free to withdraw at any time during the process without incurring any penalties. The questionnaire was designed to ensure that no one's identity would be disclosed, allowing participants to choose a comfortable time and place to complete it. Confidentiality and anonymity were maintained by using a survey that did not require personal information such as names or emails, and data from respondents were encrypted and stored on a secure platform. The survey took about 30 minutes to complete.

Data analysis

The collected data were analysed using SPSS® version 29.0. Descriptive statistics, such as participants' demographic characteristics, were analysed using mean, standard deviation, skewness and kurtosis. In accordance with Matore & Khairani's (2020) recommendation, the initial step was to assess for normal distribution by confirming that kurtosis (<10) and skewness (<3) values were within acceptable limits. Subsequently, mean scores were calculated for both competence and attitude to derive overall scores for each construct. The factorability of items was assessed by screening the data in the initial exploratory factor analysis (EFA) phase using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (KMO > 0.5) and Bartlett's Test of Sphericity (p < 0.05), and by retaining factors with an Eigenvalue > 1 (Shrestha, 2021), resulting in a total of nine factors.

Ethical considerations

Ethical approval was granted by the University of [Information redacted for review process] Ethical Committee [Ref no: Information redacted for review process]. All participants provided written *Nestor Tomas and Miltrud Nyaku*

informed consent after being informed of their right to withdraw at any time. The study complied with the revised Declaration of Helsinki guidelines for research involving human subjects.

Results

Demographic characteristics

Table 1 presents frequency statistics on the respondents' gender, education level, and religion. The largest share of participants was aged 22, followed by those aged 23, 24 and 20, respectively. From the total of two hundred and thirty-five (n = 235) completed responses, the relative majority of 55% (n = 130) were male, while 45% (n = 105) were females. With regards to religion, the disproportionate largest majority of 90% (n = 210) were Christians, while 9.4% (n = 22) were reported as being in other religions. The distribution of respondents by the level of education or year of study shows that 36% (n = 86) were in fourth year, 36% (n = 84) were in third year, and the relatively lowest proportion, 28% (n = 65), were in second year.

Table 1: Demographic information of respondents

| | Frequency (n) | Proportion (%) |
|------------------------|---------------|----------------|
| Gender | | |
| Male | 130 | 55% |
| Female | 105 | 45% |
| Education level | | |
| Second year | 65 | 28% |
| Third year | 84 | 36% |
| Fourth year | 86 | 36% |
| Religion | | |
| Christianity | 210 | 90% |
| Muslim | 3 | 1% |
| Other | 22 | 9% |

Mean spiritual care competence and attitude

Table 2 shows that the item distributions were evaluated using averages, standard deviations, skewness, and kurtosis, which revealed a moderate average for spiritual competence (M = 3.54, SD = 0.63; skewness = -0.07, kurtosis = 0.06) and a lower average for spiritual attitude (M = 3.21, SD = 0.79; skewness = -0.16, kurtosis = -0.50), suggesting that both constructs have fairly balanced distributions.

Table 2: Mean spiritual care competence and attitude

| Variables | Overall Mean | Std Deviation | Skewness | Kurtosis |
|----------------------|--------------|---------------|----------|----------|
| Spiritual Competence | 3.54 | 0.63 | -0.06 | 0.07 |
| Spiritual Attitude | 3.21 | 0.79 | -0.16 | -0.50 |

Exploratory factor analysis

Kaiser–Meyer–Olkin test and Bartlett’s test

The KMO-MSA scores in Table 3 are above the needed 0.6 level for five out of six areas measuring "competence" and for "nurses' attitude towards providing spiritual care," showing that the data is good enough for analysis. However, the KMO-

MSA score of 0.5 for "communication between the nurse and the patient" indicates that there may not be enough items to properly measure this area. The bartlett’s test p-values of 0.000 for all the two major constructs confirm the suitability of the items' data for factorability.

Table 3: KMO-MSA and Barlett’s test of sphericity statistics

| Constructs ⇒ sub-constructs | No. of items | Correlation matrix determinant | KMO-MSA value | Barlett’s test of sphericity χ^2 (p-value) |
|---|--------------|--------------------------------|---------------|---|
| Competence | | | | |
| Assessment and implementation of spiritual care | 6 | 0.32 | 0.81 | 266.22 (0.000) |
| Professionalization and improving the quality of health | 6 | 0.25 | 0.79 | 322.77 (0.000) |
| Personal support and patient counselling | 6 | 0.23 | 0.74 | 340.57 (0.000) |
| Referral of patients to professionals | 3 | 0.73 | 0.62 | 74.15 (0.000) |
| Communication between the nurse and the patient | 2 | 0.69 | 0.50 | 83.60 (0.000) |
| Attitude towards the patient’s spirituality | 4 | 0.44 | 0.76 | 193.12 (0.000) |
| Nurses’ attitude towards providing spiritual care | 11 | 0.01 | 0.88 | 1119.59 (0.000) |

Factor structures

The factor loadings results (Table 4) reveal that all constructs for competence and attitudes, loaded meaningfully on single factors. Factor analysis revealed that 'assessment and implementation of spiritual care' accounted for 33.87% of competence variance (item loadings: 0.51-0.74), 'referral of patients to professionals' explained 35.03% (loading = 0.722 for timely referrals, 0.55 for assigning care), and 'communication with patients' accounted for 54.86% (loading = 0.74 for patient interactions and listening). 'Attitude towards the patient’s spirituality' explained 41.95% (loadings: 0.70 for avoiding imposition, 0.68 for openness, 0.67 for acknowledging limitations). Professionalisation and improving the quality of health' had two components, explaining 25.23%

(Factor 1; identifying problems in spiritual care, loadings: 0.51-0.75) and 45.31% (Factor 2; making policy recommendations) of variance. Personal support and patient counselling' also had two components, explaining 24.54% (Factor 1; helping daily spiritual practice, loadings: 0.71-0.73) and 45.46% (Factor 2; attending to patients’ spirituality during care routines, loadings: 0.56-0.66) of variance.

The factor representing nurses’ attitude towards providing spiritual care explained 51.75% of the total variance, with items on advanced nursing practice in spiritual care (loading = 0.74), patients’ spiritual concerns (loading = 0.69), spiritual care as significant in nursing (loading = 0.66), relevance beyond religious individuals (loading = 0.66),

importance of relationships (loading = 0.65), and patients' spiritual needs (loading = 0.65).

Table 4: Factor structures

| Competence: Assessment and implementation of spiritual care – factor matrix^a | | Rotation Loadings | Sums of Squared | |
|---|--------|-------------------|---------------------------|----------------------------|
| | Factor | Eigenvalue | Total Variance explained% | Total Cumulative variance% |
| | 1 | | | |
| I can report in writing on a patient's spiritual functioning | .74 | 2.66 | 33.87 | 33.87 |
| I can record the nursing component of a patient's spiritual care in the nursing plan | .65 | | | |
| I can report orally and/or in writing on a patient's spiritual needs | .61 | | | |
| I can report orally on a patient's spiritual functioning | .51 | | | |
| Extraction Method: Alpha Factoring. a. 1 factors extracted. 5 iterations required. | | | | |
| Competence: Referral of patients to professionals – factor matrix^a | | | | |
| | Factor | | | |
| | 1 | | | |
| At the request of a patient with spiritual needs, I can in a timely and effective manner refer him or her to another care worker (e.g. a chaplain/patient's own priest) | .72 | 1.67 | 35.03 | 35.03 |
| I can effectively assign care for a patient's spiritual needs to another care provider/care worker/care discipline | .55 | | | |
| I know when I should consult a spiritual advisor concerning a patient's spiritual | .48 | | | |
| Extraction Method: Alpha Factoring. a. 1 factors extracted. 11 iterations required. | | | | |
| Competence: Communication between the nurse and the patient – factor matrix^a | | | | |
| | Factor | | | |
| | 1 | | | |
| I have an accepting attitude in my dealings with a patient (concerned, sympathetic, inspiring trust and confidence, empathetic, genuine, sensitive, sincere and personal) | .74 | 1.55 | 54.86 | 54.86 |
| I can listen actively to a patient's life story in relation to his or her illness | .74 | | | |
| Extraction Method: Alpha Factoring. a. 1 factors extracted. 8 iterations required. | | | | |
| Competence: Attitude towards the patient's spirituality – factor matrix^a | | | | |
| | Factor | | | |
| | 1 | | | |
| I do not try to impose my own spiritual/religious beliefs on a patient | .70 | | | |

| | | | | | |
|--|--------|-------|-------|-------|-------|
| I am open to a patient's spiritual/religious beliefs, even if they differ from my own | .68 | | | | |
| I am aware of my personal limitations when dealing with a patient's spiritual/religious beliefs | .67 | 2.245 | 41.95 | 41.95 | |
| I show unprejudiced respect for a patient's spiritual/religious beliefs regardless of his or her spiritual/religious background | .52 | | | | |
| Extraction Method: Alpha Factoring. | | | | | |
| a. 1 factors extracted. 6 iterations required. | | | | | |
| Competence: Professionalization and improving the quality of health – rotated factor matrix^a | | | | | |
| | Factor | | | | |
| | 1 | 2 | | | |
| I can make policy recommendations on aspects of spiritual care to the management of the nursing ward | .75 | .14 | | | |
| I can supervise other students in the area of spiritual care delivery to patients | .61 | .29 | 2.77 | 25.23 | 25.23 |
| I can implement a spiritual care improvement project in the nursing ward | .61 | .24 | | | |
| Within the nursing ward, I can contribute to quality assurance in the area of spiritual care | .26 | .62 | | | |
| Within the nursing ward, I can contribute to professional development in the area of spiritual care | .37 | .62 | 1.05 | 20.08 | 45.31 |
| Within the nursing ward, I can identify problems relating to spiritual care in peer discussion sessions | .09 | .52 | | | |
| Extraction Method: Alpha Factoring. | | | | | |
| Rotation Method: Varimax with Kaiser Normalization. | | | | | |
| a. Rotation converged in 3 iterations. | | | | | |
| Competence: Personal support and patient counselling – rotated factor matrix^a | | | | | |
| | Factor | | | | |
| | 1 | 2 | | | |
| I can attend to a patient's spirituality during the daily care (e.g. physical care) | .66 | .28 | | | |
| I can give a patient information about spiritual facilities within the care institution (including spiritual care, meditation centre, religious services) | .61 | .31 | | | |
| I can help a patient continue his or her daily spiritual practices (including providing opportunities for rituals, prayer, meditation, reading the Bible/listening to music) | .56 | .20 | 2.76 | 24.54 | 24.54 |
| I can refer members of a patient's family to a spiritual advisor/pastor, etc. if they ask me and/or if they express spiritual needs | .49 | .09 | | | |
| I can evaluate the spiritual care that I have provided in consultation with the patient | .28 | .73 | 1.01 | 20.91 | 45.46 |
| I can provide a patient with spiritual care | .20 | .71 | | | |
| Extraction Method: Alpha Factoring. | | | | | |
| Rotation Method: Varimax with Kaiser Normalization. | | | | | |
| a. Rotation converged in 3 iterations. | | | | | |
| Nurses' attitude towards providing spiritual care – factor matrix^a | | | | | |

| | Factor | | | | |
|--|--------|------|------|-------|-------|
| | 1 | 2 | | | |
| The domain of advanced practice nursing includes spiritual care | .74 | .24 | 5.04 | 27.81 | 27.81 |
| A patient's spiritual concerns are of my business | .69 | -.16 | | | |
| Spiritual care is a significant part of advanced nursing practice | .66 | .39 | | | |
| Spiritual care is not only for religious persons | .66 | .23 | | | |
| Relationships with others are important to patient's spiritual health | .65 | .29 | | | |
| In general, my patients have spiritual needs | .65 | .47 | | | |
| Nurse should assist a patient in using his/her religious or spiritual resources to cope with illness | .62 | .02 | | | |
| Only clergy people should not help patients with specific religious activities | .61 | -.46 | | | |
| A person must not believe in a higher being/power to be spiritually healthy | .61 | -.35 | | | |
| Non-believers are spiritually healthy | .59 | -.39 | | | |
| I believe that as a nurse I should share my beliefs with patients | .58 | -.22 | | | |
| Extraction Method: Alpha Factoring. a. 2 factors extracted. 7 iterations required. | | | | | |

Discussion

This study identifies the factors contributing to perceived spiritual care competence and attitudes among undergraduate nursing students at the university campus in Namibia. The study found that students had a moderate overall self-assessed spiritual competence but a negative attitude toward providing spiritual care. The moderate competence suggests students feel they have a basic understanding and some skills, which aligns with Sahebi et al. (2023), who also found satisfactory proficiency among students. This could be due to the integration of spiritual care in their education and clinical environments. However, these findings contradict Guo et al. (2023), who reported that nursing students had superior spiritual care competencies and a deeper understanding of spirituality. However, the overall negative attitude is concerning because nurses with a positive attitude are more likely to address patients' spiritual needs (Özakar Akça et al., 2022). This gap between perceived ability and willingness to provide care presents a potential barrier to incorporating spiritual care into future nursing practice. The study identified eight factors influencing spiritual competence and one factor influencing

attitude. The factors influencing spiritual care competence can vary by setting, which aligns with

international studies that have reported different factor structures (Fang et al., 2022; Machul et al., 2022). Similar to the original tool by Van Leeuwen et al. (2009), this study identified six major factors, contrasting with the three to five factors found in other studies (O'Brien et al., 2019; Fang et al., 2022; Machul et al., 2022). For example, Hsieh et al. (2019) found eight factors influencing spiritual competence among clinical nurses in Taiwan. Assessment and implementation of spiritual care were identified as factors influencing competence, which is consistent with prior studies (O'Brien et al., 2019; Fang et al., 2022; Machul et al., 2022). Curricula that emphasize spiritual assessment effectively equip students with the skills needed to identify and address patients' spiritual concerns. Spirituality often plays a critical role in a patient's coping and recovery (Machul et al., 2022). Other key factors influencing spiritual competence included referring patients to other professionals and nurses' communication skills. To fosters open discussions, nurses must be able to recognize when a patient's spiritual needs require specialized

support, such as from chaplains, social workers, or psychologists (Musa, 2020; Guo et al., 2022; Sahebi et al., 2023).

Nursing students' attitudes also significantly influence their spiritual care. Students with a positive attitude are more willing to acquire the necessary knowledge and skills to provide effective care and improve their competence (Guo et al., 2023). Nurses with a positive attitude are more likely to address the spiritual needs of their patients (Özakar Akça et al., 2022). The factors influencing nursing students' spiritual competence are crucial for the planning for curricula development to foster competence and positive attitudes toward spiritual care.

Limitations of the study

The study was conducted without a theoretical framework, which limited its theoretical contributions. Moreover, the study's focus on a single location required the use of multicenter samples to improve the findings' generalisability. Furthermore, the reliance on self-reporting data made it challenging for the study to directly assess the practical application of spiritual care competencies in clinical settings. Future observational studies are needed to assess students' application of spiritual care competencies.

Conclusion

Despite having moderate spiritual care competence, nursing students had a negative attitude toward it. This suggests that competence does not always lead to a willingness to provide spiritual care, highlighting a key challenge in integrating holistic care. Several factors, including communication, professionalisation, and personal support, influence students' spiritual care competence and attitudes.

The study recommends strengthening spiritual care content in nursing curricula and suggests that further research using mixed-methods is needed to understand these negative attitudes and develop effective educational interventions to bridge the gap between competence and attitude

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Work to Family Conflict and Family to Work Conflict, Performance and Turnover Intention of Working Mothers in Selected Private Organisations in Windhoek, Namibia

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Abstract

The spillovers that occur between the home and work domains or the work and home domain can impact performance and turnover intention of working mothers. This research aimed to investigate the concept of work to family conflict and family to work conflict and its impact on performance and turnover intention of working mothers. A correlation survey design was employed, with a sample of 150 working mothers, who were purposively selected, from private companies in Windhoek, Namibia. A demographic questionnaire, the work to family and family to work conflict scale, the job performance scale and the turnover intention scale were used to collect data. The results uncovered that only work-to-family conflict has a significant relationship with turnover intention of working mothers. The findings provide basis for interventions aimed at reducing the work to family spillovers, thereby enhancing retention of working mothers.

Keywords: Work- family conflict and family to work conflict, turnover intention, performance, working mothers, Namibia

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Introduction

The family to work conflict and work to family conflict is a phenomenon that continues to receive tremendous research attention. This is because negative spillovers from either domain, if not managed effectively, have potential to lower productivity and efficiency in the other (Ribeiro et al., 2023). The Work–family conflict theory shows that when family demands clash with work demands or when work demands interfere with work demands, employees often experience burnout, and their well-being can be negatively impacted. When this imbalance continues without intervention, employees become ineffective in both their work and family lives, leading to a cycle of stress, disengagement, and lowered satisfaction (Murangi & Groenewaldt, 2024). Disengagement and lowered satisfaction, coupled with negative experiences of stress, can erode efficiency and productivity in either role (Tavassoli & Sunyer, 2025).

Of interest to this study, is the working mother, who bears the dual responsibility of being an employee and engaged in child or home rearing, by virtue of being a mother. As such, work and family are vital components of a working mother's identity. It could be argued that negative spillovers, for the working mother, implies that over time, the lines between the two domains, can become blurred, and lead to disengagement in either role. In their quest to achieve and maintain balance, flexibility, family and spousal support, and organisational support, were reported as crucial factors for working mothers (Uddin, 2021).

According to the International Labour Organisation (ILO, 2022), how working hours and rest times are arranged in organisations, can impact both job quality and personal life, and care must be taken that in efforts to meet organizational targets, employees personal remain functional. Owing to the changes in the labour force, such as increased entry of women into the workforce and dual-income parent families, work life balance is essential (Pradhan, 2016).

The benefits of a balanced work and family life (i.e., where each domain does not negatively interfere with functioning in another domain), include, lower turnover, enhanced self-efficacy, which inevitably also reduces re-recruitment costs, commitment and dedication, decreased fatigue and enhanced positive affect (ILO, 2022, Riyono & Rezki, 2022; Brough et al., 2020), which is argued to be necessary for subjective well-being. The value employees place on their work and life indicates that employees are starting to look at components of their well-being from a holistic approach (encompassing dimensions

of self-acceptance, autonomy, positive relationships, meaning and purpose in life, environmental mastery and personal growth), and not only through the lens of career growth and development (Saldarriaga, 2023).

The 21st century world of work therefore presents opportunities and challenges for employers and employees, to creatively rethink workplace practices to ensure that work family conflict and family to work conflicts are minimised, in efforts to actively show appreciation for the components of an employee's life, which are often intertwined (Haar et al., 2019). Empirical evidence reveals that when employees perceive that the organisation is supportive in their quest for work-life balance, their burnout levels reduce (Riyono & Rezki 2022), and their performance is enhanced (Saldarriaga, 2023).

Empirical studies conducted in Namibia on this includes: Exploring work-family conflict and family-work conflict amongst working parents of children with down syndrome in the Khomas region, Namibia (Ndove, 2024); Work-life interference, psychological conditions, work engagement and turnover intention at a Uranium mine in Namibia (Baumann, 2012); and work and family balance among working women (Baligar, 2023). The empirical evidence on studies conducted on the work family conflict or family to work conflict, shows a research gap, as these studies did not focus on working mothers, and did not investigate the construct in relation to performance and turnover intention.

The study investigated the relationship between work family conflict and family to work conflict, and performance and turnover intention for working mothers in Windhoek, Namibia.

Research objective

To investigate how family to work conflict and work to family conflict impact the performance and turnover intention of working mothers in Windhoek, Namibia.

Hypothesis

Hypothesis 1

- H₀: Work to Family conflict has no significant relationship with performance of working mothers in Windhoek, Namibia
- H₀: Work to Family conflict has a significant relationship with performance of working mothers in Windhoek, Namibia

Hypothesis 2

- H_0 : Family to Work conflict has no significant relationship with performance of working mothers in Windhoek, Namibia
- H_1 : Family to Work conflict has a significant relationship with performance of working mothers in Windhoek, Namibia

Hypothesis 3

- H_0 : Work to Family conflict has no significant relationship with turnover intention of working mothers in Windhoek, Namibia
- H_1 : Work to Family conflict has a significant relationship with turnover intention of working mothers in Windhoek, Namibia

Hypothesis 4

- H_0 : Family to Work conflict has no significant relationship with turnover intention of working mothers in Windhoek, Namibia
- H_1 : Family to Work conflict has a significant relationship with turnover intention of working mothers in Windhoek, Namibia

Method

Research design

This study utilised a quantitative approach with a correlational research design. Correlational research is designed to find relationships between variables (Strangor & Walinga, 2019).

Participants

The target population for this study was all mothers (total population unknown), who are employed in Windhoek, Namibia, have at least one child, and are actively working to generate an income. The total sample was $n=150$ working mothers who were recruited using purposive sampling.

Measures

Demographic questionnaire included age, highest qualification, number of dependents and tenure. The Work to Family Conflict Scale (WFC) and the Family to Work Conflict Scale (FWC) scales that were developed by Netemeyer et al. (1996) were

utilised to assess work to family conflict and family to work conflict. The WFC and FWC scales each consisted of five items, rated on a Likert scale ranging from 1 to 5. Cronbach's alpha for these scales ranged from .82 to .90, reflecting high internal consistency. Job performance was assessed using a 4-item questionnaire developed by Kessler et al. (2003). This questionnaire assesses employee job performance by asking participants to rate their work performance on a scale of 0-10. To assess the turnover intention, a three-item Turnover Intention Scale developed by Sjöberg and Sverke (2000) was utilised. All items were scored using a 5-point Likert scale, with 1 being "totally disagree" and 5 being "totally agree".

Procedure

Before the commencement of the study, ethical clearance was obtained from the University of Namibia's (UNAM) ethics committee with ethics number SAHS-PSY02/24. Following ethics clearance issuance, formal permissions were sought and obtained from the management of various corporate organisations involved in the study. This ethical clearance also stipulated informed consent and elucidated the anonymity of the research participants. Once permission was granted, questionnaires were distributed to participating institutions and organisations, on a voluntary basis. A hard copy and a survey link were utilised for data collection.

Findings

Statistical Package for the Social Sciences (version 29) was used to analyse the data. Descriptive statistics of the data were computed, and the hypotheses were examined using Pearson's correlation coefficient (Pearson r).

Descriptive statistics

The work to family conflict scale yielded Cronbach alpha of .92, whilst the family to work conflict scale yielded Cronbach alpha of .88. The work performance scale yielded Cronbach of .91, and the turnover intention scale yielded Cronbach alpha of .89. All scales in the study were reliable for use in the Namibian context.

TABLE 1: *Pearson correlation coefficient results*

| Relationship | Coefficient & p-value | Direction of relation |
|---|-----------------------|-------------------------|
| Work to family conflict to performance | $r = -.09, p > 0.5$ | Negative, insignificant |
| Work family conflict to turnover intention | $r = .24, p < 0.5$ | Positive, significant |
| Family to work conflict to performance | $r = -.14, p > 0.5$ | Negative, insignificant |
| Family to work conflict to turnover intention | $r = .11, p > 0.5$ | Positive, insignificant |

Table 1 depicts that work family conflict has an insignificant negative relationship with performance. However, work to family conflict has a significant positive relationship with turnover intention. This implies that the more there are spillovers from work into the family domain, the more working mothers are inclined to leave their jobs. Furthermore, results of the study showed an insignificant negative relationship between family to work conflict and job performance. Family to work conflict was found to have a positive, yet insignificant relationship with turnover intention.

Discussion

The study uncovered that work family conflict has a statistically significant positive relationship with turnover intention. As such, the higher the work family conflict, the higher the turnover intention. Hatam et al. (2016) uncovered that work family conflict has a positive bearing on turnover intention in nurses and paramedical staff. Similarly, findings from a longitudinal study by (Nohe and Sonntag, 2014) found that compared to family work conflict, work family conflict is correlated to turnover intention.

Drawing from the scale used to assess work family conflict (Netemeyer et al.,1996), it seems, to an extent, for the working mother, that there are work demands that interfere with their home and family life. Additionally, it could be that the amount of time work takes, makes it difficult for the working mother to fulfil family responsibilities. This indicates that work causes a strain, which makes it difficult for the working mother to be functional in their life and family domain. The assertions from (Netemeyer et al.,1996), gives us insight on possible ways in which work family conflict can occur. However, the measure doesn't state what these work demands, and family responsibilities are, speaking to the need for organisations and employees to identify these demands and how they spillover into the family and

life domain. This could lead to interventions tailored towards such demands, such as flexible work arrangements, family-friendly policies, perceived organisational support (Weideman & Hofmeyr, 2020; Radcliffe & Cassell, 2015; Eisenberger et al., 2019; Uwannah, 2023).

It is interesting to note, based on the findings, that neither work family conflict nor family to work conflict have an impact on the performance of working mothers. It could be argued, that working mothers need to perform as per contractual agreements, irrespective of whether there are negative spillovers between the work and home domain. As such, to receive remuneration, work must be done as per the job description that governs an employee's behavior in the workplace. This could explain why, that although performance is not affected (as per the current study's findings), repeated interference of work with the family and life domain, could trigger intention to leave and actual turnover in the same employee who has been performing.

As such, organisational support is important to aid the working mother in managing work demands is needed. The demands in a job also taxes on employees' emotional and psychological resources and thus can lead to burnout (Bakker & Demerouti, 2007). According to Minnotte (2016) emotional and physical pressure in one's work as well as continuous change in the tasks associated with the role (i.e. leading to role ambiguity and role conflict) can be classified as job demands. As such, job demands are defined as those physical, psychological, social or organisational aspect of the job that require sustained physical or psychological effort and are therefore associated with certain physiological or psychological costs (Demerouti et al., 2001). Xanthopoulou et al. (2007) argues that the provision of job resources, irrespective of levels

enhances an employee's level of psychological capital, thereby significantly impacting work engagement and predictably performance.

In the case of the present study, organisations must uncover work demands unique to the work environment of working mothers, which allows for negative spillovers from the work domain to the family domain and create work parameters that limit such spillovers.

Conclusion

The study provides insight on the role of work family conflict on turnover intention of working mothers. To enhance work life balance for the working mother, the study guides organisations on the need to creatively rethink workplace practices and work expectations that have negative spillovers into the working mother's role outside the workplace. This can lead to the development of interventions to enhance retention of working mothers in the workplace. This will inevitably also contribute towards optimal functioning of the working mother in the workplace.

The study also encountered several limitations worth noting. The study was cross-sectional and as such did not obtain participants views on the topic over a long period of time. The study also only studied work to family conflict and family to work conflict and their relationship with performance and turnover intention in working mothers. It is important to note that there might be other factors that could also have a bearing on performance and turnover intention of working mothers, such as supervisor support, organizational climate, co-worker relations, which the present study did not investigate. The study also investigated these constructs quantitatively, and as such did not obtain in-depth qualitative views on the constructs.

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Students' Attitudes and Behavioural Intentions toward Online Learning Systems Adoption in Higher Education

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Abstract

The swift digital transformation of education, intensified by the COVID-19 pandemic, has reshaped higher education toward online learning systems. This study investigates the determinants influencing students' attitudes and behavioural intentions toward adopting such systems in Indian universities. Grounded in the Extended Technology Acceptance Model (TAM), the research integrates elements from the Expectation–Confirmation Model (ECM), self-efficacy, and facilitating conditions, and introduces additional constructs such as digital resilience, institutional trust, cognitive load, cultural adaptability, and continuance intention. Data were collected from 200 students across multiple disciplines and analyzed using Structural Equation Modelling (SEM). Findings reveal that perceived usefulness, ease of use, and satisfaction significantly predict behavioural intention, while self-efficacy and facilitating conditions enhance perceived usefulness and ease of use. Confirmation and institutional trust further strengthen user satisfaction and intention to continue system use. The proposed eTAM-C³ (Cognition–Culture–Continuity) framework provides a comprehensive understanding of both adoption and continuance behaviours in online learning, offering implications for educators and policymakers to promote sustained digital engagement.

Keywords: Higher education, behavioral intentions, Technology Acceptance Model, Technology Acceptance Model (TAM), Online Learning Systems, Expectation-Confirmation Model (ECM), Self-Efficacy, Facilitating Conditions, Attitude Toward Use (ATU), Structural Equation Modeling (SEM), Digital Education Adoption.

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Introduction

Technology has fundamentally changed the prospect of higher education, transformed conventional learning domain and set up online platforms as a leading component of educational life (Zaineldeen et al., 2020). Universities are more and more adopting digital learning systems—not just to enlarge educational access, but also to strengthen the overall studying experience and smoothening management processes. (Park, 2009). Yet, to leverage the advantages and justify the investment in these technologies, it is important to acknowledge the components that affect students' willingness to engage with and make use of these platforms. Without this understanding, even the most cutting-edge or high-tech systems may fall short of their full potential. (Zhang, 2010) (Tao et al., 2022) (Davoodi, Akbarpour, & Hadopour, 2021).

Literature Review

The Technology Acceptance Model (TAM) is one of the most established frameworks for explaining technology adoption. It posits that perceived usefulness (PU) and perceived ease of use (PEOU) shape users' attitudes and ultimately their behavioral intentions (Scherer et al., 2018), (Arianto et al., 2020). In the context of higher education, these two factors have consistently been shown to predict students' willingness to adopt online learning platforms. Several studies have extended TAM to account for additional variables. Rabaa'i (Rabaa'i, 2016) incorporated self-efficacy, satisfaction, and subjective norms to assess Moodle acceptance in Kuwait, while Chang et al. (Chang et al., 2017) validated the GETAMEL model in Azerbaijan, highlighting the positive effects of enjoyment and self-efficacy and the negative role of computer anxiety. Other research during COVID-19 emphasized the influence of system quality and prior experience on e-learning adoption (Mailizar et al., 2021) (Alshammari & Rosli, 2020) (Unal & Uzun, 2021) (Lazim et al., 2021). Almulla (Almulla, 2021) further extended TAM by adding perceived enjoyment and self-efficacy, confirming their significance in shaping intention. Work from developing countries also supports TAM's applicability. Jamil (Jamil, 2017) found PU and PEOU central to LMS adoption in Iraq, while Mastour et al. (Mastour, Yousefi, & Niroumand, 2025) highlighted organizational issues in Iranian health education. Blended learning studies have shown the growing role of AI integration alongside traditional TAM constructs (Mahafdah,

Bouallegue, & Bouallegue, 2024), (Bali, Chen, & Liu, 2025).

Emerging technologies have also been explored through TAM. Kong et al. (Kong, Yang, & Hou, 2024) examined teachers' acceptance of generative AI, Shyr et al. (Shyr, Wei, & Liang, 2024) investigated augmented reality in engineering, and Alshammari and Alkhwaldi (Alshammari & Alkhwaldi, 2025) combined TAM with social support theory to show the role of emotional and educational backing. Similar integrative approaches highlight the influence of trust and sociocultural factors in AI-assisted teaching adoption (Zhang & Hou, 2024). In the regional context, Kalsi and Kaur (Kalsi & Kaur, 2024) found that PU, PEOU, and enjoyment predicted Indian students' m-learning adoption, while Noordin et al. (Noordin, Al-Ali, & Alkhamisi, 2024) reported that self-efficacy and accessibility outweighed PU and PEOU in the UAE. Finally, Wandira et al. (Wandira, Fauzi, & Nurahim, 2024) integrated TAM with the Expectation–Confirmation Model, showing that satisfaction and facilitating conditions are key for sustained system use.

Together, these studies affirm TAM's robustness while underscoring the importance of extending it with post-adoption and contextual factors such as satisfaction, confirmation, trust, and cultural adaptability to better explain online learning acceptance.

Identified Research Gaps

Despite the extensive application of the Technology Acceptance Model (TAM) in education, several important gaps remain:

Lack of Integrated Frameworks in Indian Higher Education

Most prior studies employ either basic TAM or partial extensions (e.g., TAM + self-efficacy, TAM + enjoyment), but few combine TAM with the Expectation–Confirmation Model (ECM) and Attitude Toward Use (ATU). Studies (Rabaa'i, 2016), (Chang et al., 2017), (Mailizar et al., 2021), (Wandira, Fauzi, & Nurahim, 2024) adopt ECM but neglect ATU, a core TAM component. The present research addresses this by proposing a unified framework (TAM + ECM + ATU + self-efficacy + facilitating conditions) to capture both pre- and post-adoption behavior.

Insufficient Focus on Sustained Use

Many works emphasize initial adoption (Lazim et al., 2021), (Jamil, 2017), (Mastour, Yousefi, & Niroumand, 2025), (Kalsi & Kaur, 2024), but

rarely examine long-term continuance. Only (Wandira, Fauzi, & Nurahim, 2024) explicitly considers satisfaction and confirmation as post-adoption factors. This study extends the focus to continuance intention, satisfaction, and confirmation to explain sustained engagement.

Underrepresentation of Indian Higher Education

Although some studies investigate India (Lazim et al., 2021), (Kalsi & Kaur, 2024), they focus on m-learning or specific disciplines and fail to integrate multiple constructs (PU, PEOU, ATU, SE, FC, CM) in a broad post-COVID online learning context. This study addresses that gap by targeting a more comprehensive higher education sample.

Limited Examination of Moderating Variables

Few studies consider moderators such as gender, academic level, digital literacy, or prior experience (Chang et al., 2017), (Mastour, Yousefi, & Niroumand, 2025). This research incorporates these potential moderators to provide richer insights into construct relationships.

Neglect of Learning Outcomes and Engagement

Most TAM-based research emphasizes system-related outcomes (e.g., intention, actual use) and overlooks cognitive engagement and academic performance. This study incorporates these dimensions to link TAM constructs with educational impact.

Focus on Faculty Over Students in Emerging Technologies

Recent TAM extensions on AI and digital tools emphasize teacher adoption (Kong, Yang, & Hou, 2024), (Zhang & Hou, 2024), with limited student-centered studies. This research addresses the imbalance by examining student adoption of emerging e-learning environments.

Research Questions

- *How do perceived ease of use and perceived usefulness influence students' attitudes toward online learning?*
- *What role does satisfaction play in shaping students' attitudes and behavioral intentions?*
- *How do facilitating conditions and self-efficacy affect the perceived ease of use and usefulness of online learning systems?*
- *Does confirmation of expectations influence students' satisfaction with online learning systems?*
- *What are the key predictors of students' behavioral intention to continue using online learning platforms in higher education?*
- *What is the role of digital resilience in moderating the effects of cognitive load and satisfaction?*
- *How does institutional trust shape students' attitudes and willingness to continue e-learning in Indian HEIs?*
- *Does cultural adaptability impact satisfaction and long-term usage beyond initial behavioral intention?*
- *What are the key predictors of continuance intention in e-learning among Indian university students?*

Hypotheses

| No. | Hypothesis |
|-----|--|
| H1 | Perceived Ease of Use positively influences Perceived Usefulness |
| H2 | Perceived Ease of Use positively influences Attitude Toward Use |
| H3 | Perceived Usefulness positively influences Attitude Toward Use |
| H4 | Perceived Usefulness positively influences Behavioral Intention |
| H5 | Attitude Toward Use positively influences Behavioral Intention |
| H6 | Satisfaction positively influences Attitude Toward Use |
| H7 | Satisfaction positively influences Behavioral Intention |
| H8 | Confirmation positively influences Satisfaction |

| No. | Hypothesis |
|-----|--|
| H9 | Self-Efficacy positively influences Perceived Usefulness |
| H10 | Self-Efficacy positively influences Perceived Ease of Use |
| H11 | Facilitating Conditions positively influence Perceived Usefulness |
| H12 | Facilitating Conditions positively influence Perceived Ease of Use |
| H13 | Digital Resilience (DR) positively influences Self-Efficacy (SE) |
| H14 | Digital Resilience (DR) positively influences Satisfaction (SAT) |
| H15 | Digital Resilience (DR) positively influences Behavioral Intention (BI) |
| H16 | Institutional Trust (IT) positively influences Perceived Usefulness (PU) |
| H17 | Institutional Trust (IT) positively influences Attitude Toward Use (ATU) |
| H18 | Cognitive Load (CL) negatively influences Perceived Ease of Use (PEOU) |
| H19 | Cognitive Load (CL) negatively influences Self-Efficacy (SE) |
| H20 | Cultural Adaptability (CA) positively influences Attitude Toward Use |
| H21 | Cultural Adaptability (CA) positively influences Satisfaction (SAT) |
| H22 | Cultural Adaptability (CA) positively influences Behavioral Intention (BI) |
| H23 | Satisfaction (SAT) positively influences Continuance Intention (CI) |
| H24 | Behavioral Intention (BI) positively influences Continuance Intention (CI) |
| H25 | Confirmation (CFM) positively influences Continuance Intention (CI) |

The majority of earlier research focuses exclusively on perceived utility and simplicity of use, frequently leaving out important post-adoption criteria like satisfaction and confirmation, even though the Technology Acceptance Model (TAM) is widely used to assess the adoption of educational technology. While several works have extended TAM using constructs like enjoyment, system quality, or self-efficacy, there remains a notable lack of integrated frameworks that combine TAM with the Expectation-Confirmation Model (ECM) and Attitude toward Use (ATU) in the context of online learning. Additionally, few studies explore these models holistically within the Indian higher

Proposed Extended Technology Acceptance Model (TAM)

This study deals with missing gaps by presenting a more detailed version of the extended TAM model, bringing in key aspects like self-confidence in using technology, available support, user satisfaction, and confirmation. This approach offers a deeper understanding into the behavioral

education context, where infrastructural diversity, digital readiness, and student self-efficacy vary widely. Moreover, little attention has been given to moderating variables such as gender, academic level, or prior technology experience that may affect behavioural intention. This study tackles existing gaps by introducing a comprehensive extended TAM framework that includes components like self-reliance, conducive circumstances, satisfaction, and confirmation. This method gives a profound understanding into the behavioural intentions of students when it comes to embracing digital learning systems in Indian universities.

intentions of students when it comes to embracing e-learning systems in Indian universities. While the original Technology Acceptance Model (TAM) offers a solid foundation for understanding how people adapt technology, over time researchers have recognized the need to enhance it—especially to capture real-world challenges and contextual nuances related to online learning adoption in higher education.

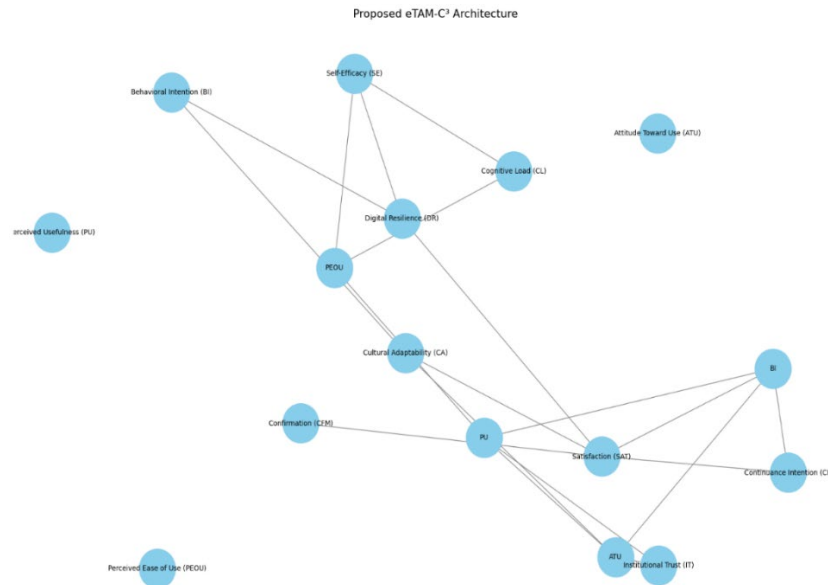


Fig 1 Proposed eTAM-C³ model architecture

To address this, we propose a novel architecture titled eTAM-C³ (Cognition–Culture–Continuity). This model retains the essential TAM constructs—Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Toward Use (ATU), and Behavioral Intention (BI)—alongside validated extensions such as Self-Efficacy (SE), Satisfaction (SAT), Confirmation (CFM), Subjective Norms (SN), and Facilitating Conditions (FC). In addition, it introduces five new constructs aimed at deepening the model’s applicability: Digital Resilience (DR), Institutional Trust (IT), Cognitive Load (CL), Cultural Adaptability (CA), and Continuance Intention (CI). These additions capture emotional, infrastructural, and sociocultural dynamics often overlooked in prior models and are particularly relevant to the diverse realities of Indian higher education.

As shown in Figure 1, the eTAM-C³ model links pre-adoption variables (e.g., SE, PEOU) with both immediate and long-term outcomes such as CI, enabling a more holistic view of digital learning adoption. Constructs like DR and IT account for emotional and institutional trust factors, while CL and CA reflect internal mental effort and sociocultural adaptability, respectively. Together, these interconnected elements help explain not just whether students adopt online platforms, but also whether they persist in using them—making this model a significant step forward in understanding technology acceptance in educational settings. This theory acts as a solid foundation for both exploring theoretical

characteristics and setting technology-focused learning programs into implementation.

Online Learning Systems in Higher Education

Conventional teaching practices are increasingly being transformed by online learning technologies, which now form a central part of higher education. Platforms such as virtual classrooms, learning management systems (LMS), mobile learning applications, and massive open online courses (MOOCs) have expanded access to instruction, streamlined student–teacher interaction, supported assessment management, and fostered collaborative learning. Their rapid growth has been driven by advances in information and communication technology (ICT), rising demand for flexible learning options, and global disruptions such as the COVID-19 pandemic. These systems provide notable benefits, including greater accessibility, opportunities for self-paced study, cost savings, and the ability to customize learning experiences, while also supporting lifelong learning beyond traditional time and location constraints. However, their effectiveness depends largely on how students perceive, adopt, and engage with them. Factors such as technology quality, digital literacy, curriculum design, and student engagement play critical roles, while learners’ attitudes and intentions ultimately determine whether such systems are fully embraced or abandoned. To address this complexity, the present study applies the Extended Technology Acceptance Model (TAM) to examine the factors influencing students’ perceptions and behavioral

intentions, identifying key motivators and barriers to online learning adoption in higher education.

Attitudes and Behavioural Intentions

Understanding students’ perspectives and intentions is central to technology adoption research, particularly through the Technology Acceptance Model (TAM) and its adaptations. In digital learning environments, perspective reflects a learner’s overall evaluation of the system—whether positive or negative—and is shaped by factors such as perceived value, ease of use, enjoyment, prior experiences, and social influence. Behavioral intention, often viewed as a reliable predictor of actual technology use, captures a student’s motivation or likelihood to engage with online platforms; when attitudes are positive, intentions strengthen, increasing the chances of adoption and continued use. In higher education, these perspectives and intentions are influenced by both internal elements, such as self-belief and motivation, and external conditions, including technical support and peer or institutional influence. Examining these dimensions is essential because they affect not only adoption decisions but also the quality and sustainability of learning outcomes. Accordingly, this study applies the Extended TAM framework to analyze how such factors shape students’ perceptions and behavioral intentions toward digital learning, offering insights for institutions seeking to design effective, supportive, and inclusive online education environments.

Factors Influencing Adoption of Online Learning
A blend of institutional, social, technological, and personal factors shapes the way higher education welcomes online learning platforms. To enhance students' adoption, engagement, and ongoing use of these online learning platforms and devices, it is necessary to understand how these influences work. The Extended Technology Acceptance Model (TAM) gives a solid framework for recognizing and analyzing these features.

Key influencing factors include:

Perceived Usefulness (PU): This concerns the extent to which a student thinks that an online learning platform will help improve their grades. Their willingness to try an online learning platform is highly dependent on what benefits they perceive from it.

Perceived Ease of Use (PEOU): This is the student’s perception of the friendliness of the system. Positive perception and acceptance of a platform is often associated with the ease of technical processing it offers.

Self-Efficacy: This is the confidence a student carries with them in using online learning instruments. Self-efficacy enables the student to embrace technology- enhanced learning.

Subjective Norms: This is the influenced friends, classmates, and the school’s culture have on the student’s decision to use online learning. Some amount of social backing and endorsing proves valuable, particularly for the less technologically inclined.

Facilitating Conditions: This has to do with the availability of help, the internet, proper mechanical devices, and an appropriate institutional setting. These conditions greatly assist in the practical and effective implementation of online learning.

Enjoyment and engagement: Has the fun factor! If the students are engaged with the platform, either because it is easy to use, has some gamification, or because it is user friendly, they are more.

These factors do not operate independently; they combine to form how students feel and behave with regard to accepting online learning systems. Using the Extended Technology Acceptance Model (TAM), this study attempts to relatively delve into the elements and how these elements affect the perception students have concerning the decision to use online learning in higher education.

Research Methodology

The current research factors the Extended Technology Acceptance Model (TAM) as its theoretical perspective of inquiry to the perception and behavioural intention of students to online learning systems. A quantitative research approach is applied, and a structured questionnaire is used to interrogate various variables, which will be perceived usefulness, ease of use, self-efficacy, social norms, enabling conditions, and intention to use a system. We to some degree adhered to the literature by capturing validated scales to enhance the dependability of our outcomes. With reference to a data set based on online quizzes, the present research addresses a group of undergraduate and graduate students in various higher education institutions. We utilized convenience sampling for this research survey, and we computed descriptive statistics, reliability analysis (with Cronbach’s alpha), and Structural Equation Modeling (SEM) for our hypothesis testing and to evaluate model fit. The range ensures that there is an able and full-scale examination of the expanded Technology Acceptance Model (TAM) and online education.

Research Design

This report we looked at what drives students' thoughts and which processes they go through regarding online learning in higher education we used descriptive and explanatory research. It is based upon the Extended Technology Acceptance Model (TAM) and utilizes quantitative data collection to establish and analyze relationships among the primary variables. Student data collection via cross-sectional surveys was completed at a single point in time. This method was useful for revealing students' behavioral patterns and future aspirations. Such a framework allows the application of SEM for confirming models and testing hypotheses.

Data Collection and Analysis

The study surveyed 200 undergraduate and postgraduate students from various academic backgrounds at selected higher education institutions, using convenience sampling. Participants were chosen based on their familiarity with online learning platforms to ensure relevance. Demographic information, including age, gender, academic level, and prior experience with online learning systems, was collected for richer analysis. Data were gathered through a structured online questionnaire, incorporating validated scales from prior TAM research and additional constructs from the proposed eTAM-C³ model, such as digital resilience, institutional trust, cognitive load, cultural adaptability, and continuance intention. A 5-point Likert scale measured perceptions, attitudes, and behavioral intentions toward adoption and continuance of online learning. Surveys were distributed via email and academic networks, and participation was voluntary and anonymous. Responses were analyzed using SPSS and AMOS/SmartPLS. Descriptive statistics summarized demographics and key variables, while reliability was assessed using Cronbach's alpha. Exploratory and confirmatory factor analyses validated the construct structure, and Structural Equation Modeling (SEM) tested model fit and the hypothesized relationships within the extended TAM framework.

Measures

Constructs were measured using validated multi-item scales from prior TAM and ECM studies. Items employed a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). The questionnaire included constructs such as perceived usefulness, perceived ease of use, attitude toward use, self-efficacy, satisfaction, confirmation, facilitating conditions, and newly

Ramduarri Upadhayay, Kavita Verma, D N Sharma

introduced factors—digital resilience, institutional trust, cognitive load, cultural adaptability, and continuance intention. A pilot study confirmed content validity and internal consistency (Cronbach's $\alpha > 0.80$).

Results

Descriptive analysis indicated a positive perception of online learning, with high mean scores for perceived usefulness ($M = 4.12$) and ease of use ($M = 4.05$). SEM results demonstrated strong support for the extended TAM structure. Perceived usefulness ($\beta = 0.38, p < .001$) and attitude toward use ($\beta = 0.42, p < .001$) significantly predicted behavioural intention. Self-efficacy and facilitating conditions positively influenced both perceived usefulness and ease of use, while satisfaction mediated the effect of confirmation on behavioural intention. Digital resilience and institutional trust emerged as significant moderators of continuance intention, validating the inclusion of cultural and contextual constructs. Overall, the eTAM-C³ model explained 71% of the variance in behavioural intention and 65% in continuance intention.

Descriptive Statistics

We also did a report on the demographic characteristics and key measures of the sample which we did via descriptive statistics. For each question in the survey we looked at frequency distributions, mean scores, and standard deviations. We looked at important issues like perceived usefulness, perceived ease of use, self efficacy, subjective norms, and behavioral intention which through these stats we were able to report out the main trends and variations in student report on online learning systems. We found out that most respondents have a positive take on the use of online learning in higher education which we present as an over all positive trend.

Extended TAM Constructs Analysis

It was the purpose of this study to investigate the impacts of Extended Technology Acceptance Model (TAM) constructs on the student's attitude as well as their intent to use online learning systems. As we see large scale positive relations between Attitude and both Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) which in turn also play a large role in tech acceptance models. Also Self efficacy played a great role in both Behavioral Intention and PEOU, which in essence is a go at the importance of self-belief in these systems. We also saw the effect of peers' which in the form of Subjective Norms did indeed have a positive effect on attitudes. Also we found

that Facilitating Conditions also to have a direct impact on Behavioral Intention thus at the same time proving that institutional support is a very large factor. In conclusion, these results confirm the validity of Extended TAM in the explanation of the online learning technologies adoption of higher education students.

Regression Analysis

To see how students feel about online learning we ran a regression analysis which looks at the Extended Technology Acceptance Model (TAM) dimensions. What we found is that which elements students’ are going to use online is mainly based on how useful they find it, how easy it is to use, and also their attitude. Also we found out that Self Efficacy and Facilitating Conditions are very much at play as predictive factors. The very strong explanatory power of the regression model we used proved that these elements do in fact greatly play into students’ acceptance of online learning environments.

Hypothesis Testing

In this paper, hypothesis testing was used to examine the relationships between the constructs that are proposed in the Extended Technology Acceptance Model (TAM). The investigators evaluated hypotheses using Structural Equation Modeling (SEM), as well as determined the level of statistical significance of each one of them. All the hypotheses were majorly supported by the findings and this shows that Perceived Usefulness, Perceived Ease of Use, Self-Efficacy, Subjective Norms and Facilitating Conditions have a significant impact on both Attitude and Behavioural Intention. The coefficients of all the paths and respective p-values indicated strong and positive relationships thus, proving that the expanded model was effective in understanding online learning adoption among students.

Discussion

The findings confirm that the Extended TAM remains a powerful explanatory framework for

understanding online learning adoption in higher education. Consistent with earlier studies (Park, 2009; Mailizar et al., 2021), perceived usefulness and ease of use were found to be primary determinants of attitude and intention. However, this study’s inclusion of satisfaction, confirmation, and contextual constructs provides a richer understanding of post-adoption behaviour. Digital resilience, a newly tested variable, significantly enhanced self-efficacy and continuance intention, suggesting that emotional adaptability plays a crucial role in sustained digital engagement. Similarly, institutional trust emerged as a strong driver of perceived usefulness and satisfaction, underscoring the need for transparent, supportive e-learning environments. These insights extend TAM and ECM theories by integrating cognitive, cultural, and institutional dimensions, thereby aligning technology adoption research with the realities of diverse student populations in developing countries.

Interpretation of Findings

The findings indicate that students' readiness to accept online learning systems is determined by their perceived usefulness, ease of use, and their overall attitude towards the essential technology. An important point is the role of Self-Efficacy; confident students tend to jump right into available online resources. In addition, the Facilitating Conditions framework stresses the importance of having adequate organizational backing and the proper resources available to streamline the adoption process. In addition to these factors, Subjective Norms are of particular importance since motivational inputs from other students and faculty greatly affect the students' readiness to use technology. These observations confirm the Extended TAM as a useful framework to understand the implementation and integration of technology in higher learning education.

Comparison with Previous Studies

| Factor | This Study | Previous Research |
|-------------------------|--|--|
| PU & PEOU | Key predictors of attitudes and continued use. | Confirmed in multiple TAM studies (<i>Scherer et al., 2018</i>), (<i>Arianto et al., 2020</i>), (<i>Lazim et al., 2021</i>). |
| Facilitating Conditions | Institutional support enhances adoption. | Similar findings on organizational readiness (<i>Jamil, 2017</i>), (<i>Mastour et al., 2025</i>). |

| | | |
|-----------------------|--|--|
| Subjective Norms | Peer and social influence drive adoption. | Matches prior evidence of social environment effects (Chang et al., 2017),(Unal & Uzun, 2021). |
| Post-Pandemic Context | Digital interaction now central in higher education. | Extends TAM to COVID-era contexts. |

Implications for Theory and Practice

The study features applied results on advancing the theory and is evidence that the research will have practical significance in the academic discipline of higher education. Theoretically, the research confirms the applicability of Extended Technology Acceptance Model (TAM) in the context of online course learning where self-efficacy, the subjective norms, and the facilitating conditions stand out as relevant predictors of a student behaviour. In a practical sense, the results can provide a teacher and a school with practical solutions: (1) to improve the ease of use and value of the platform, (2) to invest in the technical support, and (3) to create a positive environment of learning. Furthermore, the process of instilling digital confidence in learners and encouraging them to engage with their peers and faculty is proved to improve the effectiveness of online learning.

Conclusion

This research validates an integrated model (eTAM-C³) to explain the adoption and continuance of online learning in Indian higher education. The study highlights that students’ behavioural intentions are jointly shaped by perceived usefulness, ease of use, satisfaction, and trust, moderated by resilience and cultural adaptability. The model offers a foundation for institutional policies promoting long-term digital engagement. Future research should test the model longitudinally and across different regions to enhance its generalizability.

Limitations and Future Research

This study offers useful insights into digital learning adoption but has some limitations. Convenience sampling limits its generalizability, and the cross-sectional design captures student perspectives at a single point in time, which may not reflect changing attitudes. Self-reported data may also be influenced by response bias. Additionally, only a few factors from the Extended TAM were considered, leaving out other influences such as environment, emotions, or personal mindset.

Future research could use longitudinal designs to track changes over time and include a wider range of institutions and regions for broader applicability. Incorporating frameworks like TPB or UTAUT may provide deeper understanding, while exploring emerging technologies such as gamification or AI-based learning tools could reveal new insights into digital learning adoption.

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Relationship Between Gratitude and Stress Among University Students

Tabea Kühne and Poonam Dhaka

Abstract

University life is often a period of growth and transition, but it can also be a major source of stress. This study examined the relationship between gratitude and stress among undergraduate psychology students at the University of Namibia (UNAM). A total of 204 students participated, with data collected using the Gratitude Questionnaire-Six Item Form (GQ-6) and the Students' Stress Rating Scale (SSRS). Employing a cross-sectional research design, data was analysed using SPSS version 29. Results indicated a weak, non-significant, positive correlation between gratitude and stress ($r = 0.11$, $p = 0.11$). Overall, students reported low levels of gratitude ($M = 34.77$) and moderate levels of stress ($M = 4.36$). These findings emphasise the importance of university-led initiatives aimed at reducing stress and encouraging gratitude through accessible resources, mindfulness practices, and gratitude-focused workshops. Further research is recommended to explore this relationship in greater depth and to examine additional influencing factors.

Keywords: Gratitude, Stress, University Students

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Introduction

One of the major concerns when it comes to the mental health of university students is stress, which leads to feelings of hopelessness, extreme anxiousness and even depression (Asif et al., 2020). However, gratitude as a potential aid in reducing stress, has only recently become a topic of discussion within psychology and is described as acknowledging and appreciating a positive experience happening to you and being thankful for it (Barbosa Rocha et al., 2019). Being grateful can be linked to having an increased sense of well-being, physical health as well as life satisfaction and has been shown to decrease signs of depression (Layous & Lyubomirsky, 2014). The need for stress to be studied increases, due to findings indicating a rise in levels of stress (Kinman & Wray, 2014). Gratitude has been linked to not only increasing positive outcomes such as happiness and overall health, but it has also been linked to decreasing negative effects such as in neuromuscular diseases, in patients with cancer, early adolescence and college students (Emmons et al., 2019). The main objective of the study is to investigate the relationship between perceived stress and gratitude among undergraduate psychology students at the main campus of UNAM.

This study is essential to the UNAM student body, specifically to those studying psychology, as it has the potential to help address stress levels. A study from UNAM found perceived stress as well as extrinsic motivation and amotivation to be one of the factors negatively affecting academic performance among first year psychology and sociology students, indicating a need for it to be further investigated (Mukonga et al., 2019). The findings of this research may show the importance of cultivating gratefulness in our everyday lives. Using positive psychology interventions has been proven to have favourable effects on mental health among clinical and non-clinical patients (Chakhssi et al., 2018). Overall, this study could potentially help researchers in the future understand the relationship between stress and gratitude better, adding to the scientific body of knowledge.

Literature Review

Stress can be defined as the perception of a threat, whether real or imagined, to one's physical, mental, or spiritual well-being, which usually

Tabea Kühne and Poonam Dhaka

leads to a physiological response or adjustment (Seaward, 2018). Stress has a negative impact on the body by disturbing its homeostasis and leading to serious health complications, especially among those in high-stress environments (Yaribeygi et al., 2017). Chronic stress has been linked to brain atrophy, a loss of neural connections, and even decreased brain mass (Sarahian et al., 2014). Chronic stress diminishes mental health and well-being, increasing vulnerability to depression and anxiety, though self-efficacy and strong social support can buffer these effects (Schönfeld et al., 2016; Sehmi et al., 2019). Prolonged stress can also lead to burnout, emotional, physical, and mental exhaustion (Bayes et al., 2021).

Early research on gratitude suggested that gratitude is not only an emotion, or a concept developed to express thankfulness, but that it may even be a human strength that has the capacity to increase one's personal well-being and benefit society (Emmons et al., 2003). A study in Shiraz, Iran, found that ten gratitude training sessions significantly enhanced healthcare personnel's psychological well-being and happiness, demonstrating gratitude's potential to boost mental health and reinforce positive neural pathways (Behzadipour et al., 2018). Lastly, gratitude is advocated as an educational tool that enhances well-being, concentration, and problem-solving, with teachers encouraged to model it in classrooms (Wilson & Harris, 2015).

Research demonstrated that gratitude helps mediate the relationship between stress, self-esteem, and adjustment to negative emotions, with more grateful participants demonstrating better emotional adaptation (Nezlek et al., 2019). A study based in Korea also found that gratitude had a negative correlation to stress and even indicated that gratitude might serve as a protective factor against stress and burnout (Lee et al., 2018). Lastly, a study on Iranian soldiers revealed that gratitude reduces stress and enhances mental health, which together contribute to a higher quality of life (Valikhani et al., 2019).

Research Methodology

Research Design

This study incorporated a quantitative correlational research design using a deductive

approach. The main aim of a correlational research design is to establish the widespread presence and relationship between variables, which aligns with this study's aim to find the correlation between gratitude and perceived levels of stress (Curtis, 2016). Using a deductive approach, which involves moving from general observations to create specific theories, will allow this study to evaluate existing research and see if it applies to this population (Streefkerk, 2023). This research relies on the self-determination theory, stating that people have the ability to create their reality, implying that one can change their reality if one changes one's mindset (Ryan & Vansteenkiste, 2023).

Population and Sample

The population of this study was limited to the 369 undergraduate psychology students (282

females and 87 males) currently registered at the main campus of UNAM (M. Alweendo, personal communication, 2024). This population was selected because it was pragmatic and the researcher noticed rising levels of stress among these students. Simple random sampling method, a type of probability sampling, was used due to its representativeness and unbiased nature. The simple random sampling method was implemented by handing out physical copies of the questionnaires to voluntary research participants who align with the population of the study and consent to participate. With the assistance of the Qualtrics Sample Size Calculator, the researcher calculated the sample size to be 189 research participants with the confidence level set to 95% and the margin of error consisting of 5%, therefore ensuring data saturation and a representative sample of the targeted population (Qualtrics, 2023).

Research Instruments

The questionnaire that was used for this research consists of three Sections. Section one includes the Biographical Questions section two provides the Gratitude Questionnaire-Six Item Form (GQ6) and section three has the Students' Stress Rating Scale (SSRS). Below is a detailed description of each instrument:

Biographical Questions

The Biographical questions, developed by the researcher, were located at the beginning of each questionnaire and included questions regarding age, gender and year of study.

The Gratitude Questionnaire-Six Item Form

To assess gratitude levels among undergraduate psychology students, the researcher used the GQ6 by McCullough, Emmons, and Tsang (2002), a reliable (Cronbach's alpha 0.82) six-item, seven-point Likert scale (1:strongly disagree to 7:strongly agree), with items 3 and 6 reverse-scored (Jans-Beken et al., 2015). GQ6 scores range from 6–35 (low), 36–40 (moderate), to 41–42 (high) gratitude. Its cross-cultural applicability has been demonstrated in studies from South Africa and Chile (Jackson et al., 2014; Langer et al., 2016).

The Students' Stress Rating Scale

To assess stress levels among undergraduate psychology students, the researcher used the SSRS developed by M. Balamurugan and Dr. D. Kumaran (2008a). It consists of 35 items rated on a seven-point scale (1=every day, 7=never) and covers five domains of stress: physiological, emotional, social, behavioural, and examination stress. The mean score is calculated by averaging responses across all items. Higher scores represent lower levels of stress when using the SSRS (Balamurugan & Kumaran, 2008b). This questionnaire is highly reliable and valid, with a Cronbach's alpha of 0.87 and an intrinsic validity coefficient of 0.93 (Balamurugan & Kumaran, 2008c).

Data Collection Procedure

The researcher received ethical clearance in September 2024 to conduct this research at UNAM. The researcher conducted a pilot test of 5 people, to ensure that the questionnaires were clear and easily understandable, which the pilot test proved to be the case. The researcher handed out the printed questionnaires to any willing and consenting undergraduate psychology students after their classes. The purpose of the study and its objectives was clearly explained to the research participants, ensuring that they understood the nature of the study. The research participants signed an informed consent form, making sure that they understood that their participation was completely voluntary, which was handed back to the researcher, while anonymity was ensured by not asking participants to disclose any personal or identifiable information about themselves, treating this information as confidential. The data collected for this study is safely stored in a locked cupboard, that only the researcher has access to as well as a password-protected file on the

researcher's laptop for any digital information. This data will be safely discarded after the duration of five years. These questionnaires didn't take longer than ten minutes to complete. The researcher additionally converted the questionnaire into an online version, using Google Forms, to make the questionnaire accessible to the second-year students, who's classes were taking place online. Throughout the study, the researcher upheld ethical standards, as well as guaranteed the well-being and rights of the research participants.

Data Analysis

The data was analysed using the Pearsons correlation test and determined the central tendencies and standard deviation. The Pearsons correlation (r) is a parametric statistic that determines the direction and the strength of a relationship between two quantitative variables, which was used to determine the correlation between gratitude and perceived stress (Turney, 2022). The researcher made use of the Statistical Package for the Social Science (SPSS Version 29) software to help organize and analyse the data.

Results And Discussion

Demographic Profile

The total number of participants was 204, which fall between the age range of 18-46 years of age, with the majority of participants being 19-23 years (69.5%, $n=142$). The research participants were divided between female (81.4%, $n=166$) followed by males (17.6%, $n=36$) and people identifying as non-binary encompassed 1.0% of participants ($n=2$). Most of the participants were in their first year (28.9%, $n=59$) and fourth year of study (28.9%, $n=59$), followed closely by third years (27.5%, $n=56$) and second-year students including the least number of participants (14.7%, $n=30$).

Gratitude

One of this studies' objectives was to assess gratitude levels among undergraduate psychology students at the main campus of UNAM. The Cronbach alpha coefficient for the GQ6 is 0.78 showing an acceptable level of reliability. The results of this research found that among psychology students, gratitude levels seem to be low with a mean of 34.77 ($SD= 6.22$). The moderate skewness of -1.45 indicated that the results seem to be negatively skewed meaning that some participants scored lower on the levels

of gratitude. One interesting finding is the low, significant and positive correlation found between gratitude and age ($r=0.15$, $p=0.029$) and the fact that participants aged 40 were the only age group to have scored high levels of gratitude, with the other ages scoring moderate to low levels of gratitude. This is once again revealed, through the descriptive statistics of the years of study and gratitude, where fourth years scored moderate levels of gratitude ($n=59$, $M=36.02$) whereas the other years scored low levels of gratitude. A study with 31206 research participants found a substantial link between aging and an increase in gratitude (Chopik et al., 2017). Based on the GQ6 findings, this study revealed that among undergraduate psychology students, 45.1% ($n=92$) scored low levels of gratitude, 38.2% ($n=78$) had moderate levels of gratitude and only 16.7% ($n=34$) demonstrated high levels of gratitude. These results indicate that gratitude levels in this population range from moderate to low, highlighting a need to increase gratitude among this population. A study using the GQ6 among South African students, with a mean of 30.77, found similarly low levels of gratitude, suggesting that South African and Namibian students may experience comparable levels of gratitude (Mason, 2019).

Stress

The second objective of this study was to assess the levels of perceived stress among undergraduate psychology students at the main campus of UNAM. The Cronbach alpha coefficient for the SSRS is 0.88 also indicating an acceptable level of reliability with each of the subscales similarly reflecting an acceptable level of reliability. This study found that most participants had a moderate level of stress as indicated by the mean of 4.36 ($SD= 0.83$). Social stress, one of the subscales of the SSRS questionnaire, also had moderate amounts of stress ($M=4.29$). Intriguingly physiological stress was on the lower side ($M=5.18$) indicating that this population most likely is not that affected by physiological stress. Among undergraduate psychology students, emotional stress ($M=3.97$), examination stress ($M=3.82$) and behavioural stress ($M=3.70$) appeared to be on the higher side. This was expected, given that examination stress is common in university settings and may contribute to emotional and behavioural stress. Pearson's correlation analysis ($r=0.65$, $p<0.001$) confirmed a strong, positive relationship between examination and emotional stress, helping to

clarify these findings. Unlike a study on Ghanaian undergraduate students, which found significantly higher stress levels among fourth years, this study found stress levels to be moderate and consistent across all years of study, suggesting that environmental factors may influence how stress is perceived by fourth-year students (Opoku-Acheampong et al., 2017).

The Relationship between Gratitude and Stress

The final objective of this study was to investigate the relationship between the levels of perceived stress and gratitude levels among undergraduate psychology students at the main campus of UNAM. The results of the Pearson’s correlation conducted in this research shows that among this sample, contrary to all previous research, there exists a low, positive, non-significant correlation between gratitude and stress ($r=0.11$, $p=0.11$). This is a very unusual finding, it is however impactful, due to the large sample size ($n=204$) of this research. Therefore, gratitude may not effectively reduce stress among undergraduate students due to the low,

positive correlation observed, likely because younger age groups tend to have lower gratitude levels, suggesting they would need to actively cultivate gratitude to experience its stress-reducing effects. To explore this with more depth the subscales of the SSRS were analysed individually to further explore their correlation to gratitude. This included the relationship between gratitude and physiological stress ($r=0.18$, $p=0.01$) and gratitude and social stress ($r=0.20$, $p=0.004$), both Pearson’s coefficients indicating a low, significant positive correlation. This signifies that the higher gratitude levels a student possesses the slightly higher their physiological and social stress is, which is especially impactful since both results are highly significant. This is particularly intriguing, because it means that as physiological and social stress increase, gratitude levels also increase. According to Ford and Mauss (2014), there exists a paradoxical effect that sometimes searching for positive emotions, such as happiness, can lead to decreased wellbeing, which could explain the findings on gratitude, physiological and social stress.

Table 1
Correlation Between Gratitude and the Subscales of Stress

| | Gratitude | Stress | Physiological Stress | Emotional Stress | Social Stress | Examination Stress | Behav Str |
|-----------------------------|-----------|---------|----------------------|------------------|---------------|--------------------|-----------|
| Gratitude | - | | | | | | |
| Stress | 0.11 | - | | | | | |
| Physiological Stress | 0.18** | 0.83** | - | | | | |
| Emotional Stress | 0.04 | 0.85** | 0.62** | - | | | |
| Social Stress | 0.20** | 0.761** | 0.60** | 0.52** | - | | |
| Examination Stress | -0.03 | 0.81** | 0.57** | 0.65** | 0.45** | - | |
| Behavioural Stress | 0.06 | 0.63** | 0.39** | 0.47** | 0.43** | 0.42** | - |

** . Correlation is significant at the 0.01 level (2-tailed).

By briefly looking at the Pearson’s correlation, it is clear to observe that physiological stress and social stress have a strong, significant and

positive correlation ($r=0.60$, $p<0.001$). In other words, physiological and social stress are closely connected and both variables show a small, but

meaningful relationship with gratitude. Gratitude and emotional stress ($r=0.04$, $p=0.56$), gratitude and examination stress ($r=-0.03$, $p=0.63$) and gratitude and behavioural stress ($r=0.06$, $p=0.40$) seem to have no linear or significant relationship. This means that gratitude has no influence on emotional, examination, or behavioural stress. This is an interesting finding, because looking at the results of the SSRS questionnaire, these three subscales seemed to also have scored higher levels of stress compared to the other subscales. This could indicate that these three domains of stress are simply unaffected by gratitude. Unlike the prevailing consensus in literature, this research offers new insight into the relationship between gratitude and stress among undergraduate psychology students, suggesting that as stress increased so did the level of gratitude and conversely, lower stress levels indicated lower gratitude levels. However, due to their correlation only being a weak and positive one with no statistical significance, this relationship was not consistently found among the sample, indicating that other factors could play a more significant role in influencing their results.

Directions for Future Research

A longitudinal research design would provide deeper insights into the relationship between gratitude and stress, particularly across different times in the academic year to account for fluctuations in stress levels due to factors such as assignment deadlines. Future studies could also explore how conscious efforts to cultivate gratitude impact stress and investigate cross-cultural differences in gratitude levels, especially between Namibian and South African students. Further research is needed to determine if there is a threshold of stress that gratitude cannot influence, especially since emotional, examination, and behavioural stress were unaffected by gratitude but had higher average scores. Lastly, examining external factors, such as social support, as mediators of the relationship between gratitude and stress would be valuable.

Limitations and Recommendations of the Study

The data for this study was collected exclusively from undergraduate psychology students at UNAM's main campus in Windhoek, limiting generalizability only to the broader Namibian student population, therefore affecting cross-cultural applicability. Although the sample size

of 204 supports statistical robustness, the reliance on subjective self-report questionnaires and purely quantitative methods restricted deeper qualitative insights and introduced potential bias, affecting reliability and validity. Using Pearson's correlation, the study identified associations between gratitude and stress but could not establish causality.

The findings highlight the need for stress management programs at UNAM, as undergraduate psychology students were found to experience moderate stress levels, though not at the higher end. The researcher recommends that universities provide accessible mental health resources and programs that help students recognize, manage, and build resilience against stress. The observed low gratitude levels suggest a potential area for growth, and it is advised that universities offer workshops on mindfulness techniques, such as meditation and gratitude journaling, to encourage students to cultivate gratitude. The weak positive correlation between gratitude and stress underscores the complexity of these constructs and the need for stress-reduction programs that incorporate a variety of strategies.

Conclusion

Even with the limitations, this research contributes meaningful and interesting knowledge through its findings on the prevalence of gratitude and stress and the relationship between them among undergraduate psychology students at the main campus of UNAM. This research found that psychology students have low levels of gratitude and moderate levels of stress. This study also found a weak, non-significant, positive relationship between gratitude and stress among this population. Therefore, this research has successfully answered the research objectives. This research also added to the existing body of knowledge pertaining to gratitude levels and stress levels among psychology students, as not much literature exists within the Namibian context on these variables. This research has therefore furthered this country's knowledge on how these variables are related. This study's findings offer a valuable starting point for future research and scholarly inquiries on gratitude and stress, as well as encourage more research at UNAM. This study highlights the need for accessible resources and informative programs aimed at reducing stress, based on the findings of this study.

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Association of Childhood and Adolescent IQ, Cognitive Skills and Academic Performance on Suicidal Behaviour Later in Life: A Systematic Review

Samantha Farmer and Poonam Dhaka

Abstract

Introduction: This systematic review examined studies on the relationship between childhood and adolescent IQ, cognitive skills, and academic performance, and their impact on suicidal behaviour. It aimed to determine whether early cognitive deficits increase the risk of suicide attempts or mortality in adulthood at the population level.

Methods: Four main articles comprising eight research studies were reviewed. A systematic database search identified relevant studies, which were analyzed for key characteristics and estimates regarding childhood and adolescent cognitive functioning.

Results: The review found an association between lower childhood cognitive skills and heightened risk of suicidal behavior. However, interpretation was limited by variability in measurement tools, sample sizes, and exclusion criteria. Subgroup analyses indicated stronger associations among males. No significant difference emerged between effect sizes for suicide attempts and suicide mortality.

Discussion/Conclusions: The findings suggest that lower cognitive performance in early life is consistently linked to increased suicide risk in adulthood. Using causal inference across longitudinal datasets, the review highlights early cognitive traits as potential predictors of later mental health outcomes, particularly for males. Although the association was modest, enhancing childhood cognitive skills may contribute to suicide prevention if the relationship proves causal.

Keywords: Suicide, Cognitive abilities, Suicide attempts, IQ, Academic performance

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Introduction

This paper aims to review several articles to identify and report on the relationship between low IQ, cognitive skills and academic performance during childhood and adolescence phases regarding the possible danger of suicidal behaviour later in adulthood. According to Edwards et al. (2021), suicidal behavior includes suicide efforts and death by suicide. He further adds that “Suicide accounts for approximately 800,000 deaths per year worldwide and nonfatal attempts are estimated to be up to 30 times more common than suicide deaths” (Edwards, et al., 2021, p. 1060).

Moreover, Richard-Devantoy et al. (2022) defines a suicide attempt as an act in which an individual harms himself or herself, with the intention to die and survives and further describes suicide as an act resulting in death, due to a suicide attempt. On the other hand, “IQ (the intelligence quotient) is the quantification of an individual’s intelligence relative to peers of a similar age” (Matzel & Sauce, 2017, p. 1). Furthermore, cognitive skills or abilities can be holistically defined as “memorizing and remembering; inhibiting and focusing attention; the speed of information processing; and spatial and causal reasoning” (Robinson, 2012, p. 1).

Also, authors from various fields of study have agreed that “Academic performance is the result of learning, prompted by the teaching activity by the teacher and produced by the student” (Lamas, 2015, p. 353). The significance of this review is to uncover whether childhood and adolescent IQ, cognitive abilities and academic performance contribute to the risk of suicide efforts or fatalities later in adulthood. Furthermore, a study conducted in Sweden revealed that having a lower IQ during childhood was linked to a higher likelihood of suicide during adulthood (Richard-Devantoy et al., 2022). Another study conducted by Sorberg and colleagues proved that a link was found between low intellectual quotient (IQ) at the age of 13 and subsequent suicide attempts in adulthood. This association was entirely accounted for by overall inadequate academic performance at the age of 16, indicating that the relationship between low IQ and suicide attempts is mediated by its impact on school achievement (Orri et al., 2019).

On the contrary, a study conducted in the UK did not find any correlation between intelligence quotient (IQ) and suicide in adults (Richard-

Devantoy et al., 2022). Also, a study involving adolescent males showed that elevated IQ was linked to a heightened risk of experiencing suicidal thoughts (Kosidou, 2014). Hence, this conflicts with the notion introduced by the Swedish studies by Sorberg and colleagues. Secondly, according to Orri et al. (2019), “There is strong and consistent evidence from large prospective studies of an inverse association between measures of cognition in childhood and adolescence (ages 7 to 18), (Sorberg Wallin et al. 2018, Alaraisanen et al. 2006, Osler et al. 2008, Bjorkenstam et al. 2011, Andersson et al. 2008, Gunnell et al. 2011) and early adulthood (ages 18 to 20) (Gravseth et al. 2010) and later suicide outcomes (Alaraisanen et al.

2006, Andersson et al. 2008, Batty et al. 2010, Bjorkenstam et al. 2011, Gunnell et al. 2011, Gunnell et al. 2005, Gravseth et al. 2010, Osler et al. 2008, Sorberg Wallin et al. 2018)” (p. 5).

However, an opposing view supposes that the development of cognitive deficits over the lifespan remains unclear due to limited prospective studies with cognition measured at only one time point. (Orri et al., 2019). Additionally, there has only been one prior study exploring links between general indicators of cognitive development at various ages (such as reports of early speech, alertness at age 7, and intelligence testing at age 15) and later suicide mortality. Thirdly, on the aspect of academic performance, a large Norwegian cohort found that “poorer academic performance at 18 years predicted an increased risk of suicide mortality up to three decades later” (Gravseth et al., 2010, as cited in Orri, 2019, p. 5). Moreover, according to Kosidou et al (2014), recent research indicates a significant correlation between poor academic performance in school and increased risk of both attempted and completed suicide in later life. Another study from Australia corroborates this connection with attempted suicide but not with suicidal ideation among teenagers. However, Kosidou (2014) notes the absence of extensive population-based investigations into the link between academic performance and suicidal thoughts in young adults. In contrast, Kosidou (2014) states that “There are no large population studies on the association between school performance and suicidal thoughts in young adulthood” (p. 1).

A previous investigation utilizing data from the 1958 British Birth Cohort revealed modest correlations between academic performance in reading and mathematics at age 7 and mortality by suicide at age 50. Nonetheless, statistical robustness was hindered by the cohort's low incidence of suicides. (Geoffroy et al., 2014). Moreover, from a humanistic perspective, educational attainment reflects the student's personal development, typically represented by their school grades and academic performance, which is portrayed as a metric reflecting both a person's capacity to learn and their ability to respond to educational or training experiences, serving as an approximate gauge of acquired knowledge or skills (Lamas, 2015). The controversial research on the correlation between suicidal behaviour and different aspects of intelligence, cognition and school performance leaves room to find clarity about this question.

Literature Review

In a comprehensive review, Richard Devantoy et al. (2022) conducted searches across multiple databases to gather articles and extracted data on the relationship between childhood cognitive abilities (such as IQ or academic performance before the age of 18) and subsequent suicide attempts and mortality. This study revealed an association between lower childhood cognitive abilities and an increased risk of suicidal behavior in adulthood, especially among males. Interventions focused on cognitive skills and coping strategies may help reduce suicide risk at a population level. Individuals with psychosis and high cognitive abilities may be more vulnerable, requiring tailored clinical support. Clinicians should consider the mental health awareness of these individuals in treatment planning. Longitudinal research is essential to uncover key factors and guide more effective prevention strategies.

Research by Orri et al. (2019) found that adolescents who later died by suicide showed slower progress in reading skills compared to their peers, despite no early childhood differences. Using data from the 1958 British Birth Cohort, the study analyzed academic and intelligence assessments of 14,505 individuals and recommended further longitudinal research to explore whether cognitive disparities persist or widen over time (Orri et al., 2019). Similarly, Kosidou (2014) identified poor academic

performance as a predictor of suicidal thoughts in young adults, independent of socioeconomic background, psychiatric conditions, or employment status, based on a study of over 10,000 participants in Stockholm County (Kosidou, 2014).

Another investigation by Lannoy et al. (2015) brought fresh insights into the risk of suicide attempts, highlighting the potential causal roles of academic achievement, cognitive performance and educational attainment. The study utilized longitudinal Swedish registry data, encompassing over 2 million individuals with information on school grades, IQ measures and education level. To establish causal inference, two methodologies were employed: instrumental variables analysis, leveraging birth month as a proxy for education and co-relative analysis, which compared genetically related pairs to account for genetic and environmental factors.

Enhancing adolescent education may reduce suicide risk by addressing both cognitive and non-cognitive developmental factors. Key limitations in the existing research include a gender disparity, with findings primarily based on male participants, which limits their applicability to females. Regional and demographic differences across studies also constrain the generalizability of results. Variations in cognitive assessment tools may introduce bias and inconsistency. Lastly, while a link between cognitive skills and suicidal behavior is suggested, causation cannot be confirmed without further research.

Methodology

A total of four primary articles encompassing eight research studies were reviewed through a systematic literature search across databases including Elsevier, Research Gate, Open Access, HHS Public Access, and Science Direct. The search focused on titles, abstracts, and keywords such as "IQ and Suicide," "cognitive skill and suicide," and "academic performance and suicide," with additional sources consulted for term definitions. All selected articles were published between 2014 and 2022.

The review targeted studies specifically addressing childhood and adolescent IQ, cognitive skills, and academic performance in relation to suicidal behavior. Articles lacking focus on these three factors or involving adult-only data were excluded. The reference list was

curated from related literature examining the link between early cognitive development and later suicidal behavior. Both qualitative and quantitative studies were included, provided they featured child and adolescent data.

Exclusion criteria ruled out studies involving familial, clinical, gender-related, or other influences on suicidal behavior. The review also omitted research on suicidal ideation, social

losses (e.g., employment or financial hardship), and hereditary or environmental contributors. A narrative synthesis approach was used to describe and summarize the findings from the selected studies.

The table below includes some of the studies cited in Richard Devantoy's (2022) review, which contributed to the studies and findings included in this review paper.

Table 1: Some of the studies as cited in the review of Richard Devantoy (2022)

| Sample | Population | Age at follow-up | Suicide Outcome | Exposure | IQ | Academic Performance | Result Details |
|--------------------------------------|---|------------------|---------------------------|------------------------------|----|----------------------|---|
| 1958 British birth cohort | N = 14505 (50.7%) General Population | 54 Years | Suicide | IQ at age 11 years. | X | | No significant association between childhood IQ and subsequent suicide in the whole sample. Males only. |
| 1967–1976 Norwegian Birth Cohort | N = 298,503 (51.2 %) Military conscripts | 28–37 years | Suicide | IQ at 18 (men) | X | | Association between decreased IQ and increased risk of suicide in unadjusted models only. |
| Swedish conscripts born in 1949–1952 | 49,321 (100 %) Military conscripts | 57 years | Suicide & Suicide attempt | IQ at age 18 | X | | Association between decreasing IQ and increasing risk of suicide |
| Stockholm Public Health Cohort | N = 6146 (41.4 %) General population | 37–38 years | Suicide attempt | School performance at age 16 | | X | Association between lower school grades and suicide attempt (OR for lowest vs highest grade quartile) |
| 1972–1981 Swedish Birth Cohort | N = 898,342 (51 %) General population | 25–34 years | Suicide* | School performance at age 15 | | X | Higher risk of suicide in individuals with low school grades |

Results

Many of the research findings portrayed strong evidence of a direct association between low IQ, overall poor cognitive abilities and academic performance with suicidal behaviour. Keeping this in mind, one could have argued that intellect, cognition and academic performance were risk factors in suicidal behaviour.

While reviewing the research papers, critics noted that the significance of findings was often overstated, with low IQ or poor academic performance linked to suicidal behavior—but rarely both together. The studies involved children and adolescents of varying ages and were limited in duration. Importantly, they did not account for social factors or mental illness, which are commonly associated with suicidal thoughts and attempts. Clinical conditions like psychosis were underestimated, and some evidence suggested that higher cognitive ability could correlate with increased suicide risk. Therefore, future research should examine environmental stressors alongside cognitive and academic factors to better understand suicide risk.

Additionally, the research had suggested that males exhibited a higher likelihood of both suicide attempts and completed suicides, while females were more prone to suicide attempts alone. However, regardless of the specific behavior, the overall risk of suicidal behavior had remained a significant area of concern. Suicidal behaviour only became apparent later in life, in adulthood. Hence, prevention strategies should have been applied in the childhood or adolescent phases of life and all factors pertaining to the existence of human nature had to be considered.

Discussion

This study has several limitations to consider when interpreting its findings. Primarily, although cognitive skills and school performance are closely linked to IQ, they do not solely measure cognitive abilities; they also include other non-cognitive factors (Richard Devantoy, 2022). In some studies, children's assessments were conducted as early as 7 years old, while in others, such as those involving military conscripts, participants were evaluated at age 18. This means that the data was collected at specific moments rather than over a period.

However, the review relied on a limited number of studies with sporadic data, so caution is advised in interpreting the results. Additionally, the review solely examined suicide attempts and mortality, without exploring associations with other suicide-related outcomes such as suicidal ideation.

The findings suggest that individuals who died by suicide exhibited similar IQ scores and performance in reading and mathematics during childhood and adolescence, as evaluated through age-appropriate school tests, compared to those who remained alive. However, their reading abilities demonstrated a less significant improvement over time. (Orri, 2019).

Moreover, according to Edwards et al. (2021), although suicide deaths are more prevalent among men, women tend to make more suicide attempts and a previous suicide attempt stands out as a significant predictor for future suicide, with a notable percentage of individuals who have engaged in self-harm proceeding to die by suicide within the following 5-9 years (p. 1060). Edwards et al. (2021) further acknowledge that risk factors, such as social isolation and anxiety disorders, also play a significant role in suicide behaviour and certain predictors are associated more strongly with one outcome than the other. In addition, familial clustering and genetic features have been observed in suicidal behavior, with some studies attempting to identify specific genetic variants linked to risk (Edwards et al, 2021).

Conclusions and Recommendations

In conclusion, to gain good insight and clarity from the research developed over the years, it is evident that childhood IQ, cognitive skills/abilities and academic performance (3 main factors) play a significant role in suicidal behaviour in adulthood, however, research has been feeble.

Although some studies have blatantly disproved the phenomenon that the 3 factors contribute to suicidal attempts or fatalities, most of the data is a good indicator of these factors playing a role. However, these factors cannot exist with sole significance; other contributing factors also play parallel roles and have a significant effect on suicidal behaviour. Genetic or hereditary features, environment and social factors must be considered when investigating the risk factors of

suicidal behaviour. It is strongly recommended that further studies be conducted to incorporate all risk factors and study cognitive skills over longer periods (i.e. longitudinal study).

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Understanding the Impact of Black Tax on Black Professionals' Mental Health in Kavango East, Namibia

Faustinus Shikukutu and Alexander Dikuwa

Abstract

This study investigates the pervasive societal expectation of "Black Tax" and its profound impact on the mental health of Black professionals in Namibia's Kavango East Region. Rooted in the cultural principle of Ubuntu, 'Black Tax' obligates financially successful individuals to continually support extended family. However, its mental health consequences remain largely unexplored, particularly in Namibia. Employing a qualitative research approach, we conducted face-to-face individual and focus group interviews with 20 Black professionals aged 25 to 45 to explore their perceptions of Black Tax and its emotional and financial repercussions. Our findings consistently reveal that Black Tax imposes significant financial burdens, leading to heightened stress, anxiety, and substantial challenges to personal financial stability and overall well-being. This research offers critical insights for mental health practitioners, policymakers, and community leaders, underscoring the urgent need for systemic support and interventions to safeguard the well-being of Black professionals. By examining this understudied phenomenon in Namibia, this research expands our knowledge of the socioeconomic and psychosocial difficulties African individuals experience, ultimately supporting the creation of more inclusive and equitable development plans.

Keywords: Black Tax, Mental Health, Black Professionals, Kavango East, Namibia

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Introduction and Background

Namibia experiences one of the world's most profound levels of economic inequality, a reality that persists despite government redistributive policies and social protection programs (World Bank, 2021). This entrenched disparity is a direct legacy of colonial rule and apartheid, which systematically excluded the majority Black population from socio-economic participation and wealth creation. Within this challenging context, the phenomenon of "Black Tax" has emerged as a significant pressure on upwardly mobile Black professionals.

Rooted in the cultural principle of Ubuntu, which emphasizes communal responsibility, Black Tax is the financial obligation placed on successful individuals to support their extended families. While this practice strengthens social bonds, it also has significant economic consequences. As Opper (2021) notes, it is a support dynamic dictated by one's relative socioeconomic standing. This often results in professionals, who are frequently the first in their families to achieve financial stability, living in a persistent state of paycheck-to-paycheck dependency as their income is redistributed to kin (Oliver, 2019). Ndinga-Kanga (2019) further argues that historical systemic forces perpetuated poverty and limited opportunities, making Black Tax a necessary modern-era coping mechanism for many families. Consequently, this obligation can hinder the accumulation of generational wealth for the individual and create considerable financial stress, ultimately impacting their overall quality of life and well-being.

While the financial aspects of Black Tax have been explored, particularly in South Africa, its profound and specific implications for mental health remain a critical, understudied area, especially within the Namibian context.

Problem Statement

Despite its roots in the communal values of Ubuntu, Black Tax functions as a significant financial stressor for Black professionals in Namibia. However, the precise impact of this obligation on their mental health is not well understood. This knowledge gap is particularly acute in regions like Kavango East, which is

currently experiencing a severe and documented public mental health crisis. Official reports cite 4,492 recorded cases of mental health disorders in 2023 and 2024 alone, with noted rises in depression, anxiety, and substance abuse linked directly to financial difficulties and debt (Mwengo, 2025).

This situation creates a critical nexus where the systemic pressure of Black Tax intersects with a growing regional health emergency. It remains unclear how Black professionals in Kavango East perceive this obligation as a cultural duty, a financial burden, or both, and how these perceptions translate into concrete mental health challenges, financial instability, and altered lifestyle choices.

Therefore, this study aims to investigate the impact of Black Tax on the mental health of young Black professionals in the Kavango East Region. It will explore their perceptions of this obligation and its associated emotional and financial repercussions. The findings will provide essential insights for designing targeted interventions and equitable policies to support the well-being of those who carry this dual burden of professional success and familial responsibility.

Aim of the Study

The study aims to explore the effects of Black Tax on the mental health of young Black professionals in Kavango East. Specific objectives include:

- Investigating participants' understanding of Black Tax.
- Evaluating associated mental health challenges.
- Assessing its influence on lifestyle choices.
- Identifying coping strategies employed by professionals.

Significance of Study

This study will contribute to the growing body of knowledge regarding the mental health implications of Black Tax, particularly in the Namibian context. By illuminating the issues faced by Black professionals, it can guide mental health practitioners, policymakers, and organizations in

developing targeted interventions that support mental well-being. Furthermore, it advocates systemic changes that facilitate healthier financial practices within communities.

Literature Review

This review situates the primary constructs of the study within a broader context, integrating existing discussions surrounding 'Black Tax,' its perceptions, and its implications for mental health. This integration serves as the foundational framework for the paper and will shape future research endeavors. Although the primary focus of the research is on Kavango East in Namibia, the scarcity of local literature necessitates the incorporation of studies from South Africa and other regions of Africa.

Understanding Black Tax

The term 'Black Tax' refers to the financial obligations imposed on economically successful Black individuals to provide support for their extended families (Nzau, 2024; Msibi, 2020). This responsibility fosters economic dependency, as those who are financially stable assist relatives who are in poverty (Mangoma & Wilson-Prangley, 2019; Matlala & Shambare, 2017). Russell (2023) emphasizes that this dynamic impedes wealth accumulation when compared to peers who do not face similar pressures. Support often takes the form of funding educational costs, healthcare, or essential living expenses.

This situation presents a dual challenge: it embodies cultural values and community solidarity while simultaneously obstructing individual financial advancement. An emerging discourse raises questions about its long-term viability, prompting discussions regarding policy interventions and structural reforms aimed at alleviating these burdens (Nzau, 2024). Grasping this concept is vital for supporting individuals and guiding policies that seek to rectify systemic inequalities.

Perceptions of Black Tax

The understanding of Black Tax differs significantly, leading to a generational gap. Younger Africans frequently struggle to reconcile traditional expectations with their financial goals, perceiving it as a result of historical injustices and

a lack of privilege (Montle, 2020; Magosha, 2021; Tlholoe, 2020).

Numerous scholars describe it as a "penalty" or a detrimental "tax" imposed by duty (Montle, 2020; Oppel, 2023), highlighting the considerable pressure of managing obligations (Mangoma & Wilson-Prangley, 2019; Matlala & Shambare, 2017). Typically, funds are allocated for educational expenses, groceries, utility bills, medical costs, and contributions for funerals (Magosha, 2021). Personal accounts reveal the emotional burden, including fears of job loss and restrictions on accumulating generational wealth (Sibiya, 2018; Matlala & Shambare, 2017).

On the other hand, Black Tax is also perceived as a matter of dignity and communal responsibility (Ubuntu), offering a sense of purpose (Magubane, 2016; Whitelaw & Branson, 2020). Supporters contend that it promotes poverty reduction and enhances family ties, with individuals deriving satisfaction from their contributions (Magubane, 2016; Mangoma & Wilson-Prangley, 2019). Consequently, the discussion is intricate, reflecting both financial burdens and deep cultural importance.

Impact on Mental Health

An increasing amount of research connects Black Tax to notable mental health issues, emphasizing the psychological burdens associated with these financial responsibilities.

It is mainly associated with feelings of pressure, anxiety, and stress (Mangoma & Wilson-Prangley, 2019; Pillay, 2021). This phenomenon acts as a stressor that elicits both physical and emotional reactions (Ma, Peng and Wu, 2021). Nzau (2024) points out that its negative effects encompass crippling financial pressure, obstructed personal development, and broken dreams, which can lead to a decline in self-worth and overall health.

The persistent stress can worsen conditions such as hypertension, anxiety, depression, alcohol dependency, and insomnia. It frequently leads to chronic anxiety, burnout, social isolation, and strained familial connections. Additionally, it may induce feelings of guilt, self-reproach, and a sense of being overwhelmed.

These observations highlight the importance of tackling the mental health challenges that stem

from this financial strain. Increased awareness is essential for creating focused interventions and support systems for those impacted. Continuous research is crucial to inform future mental health strategies and policies, especially concerning this study in Kavango East, Namibia.

Theoretical frameworks such as Family Stress Theory and Social Exchange Theory provide valuable insights into the ways these pressures emerge and persist.

Theoretical Framework

This study draws on three theories: Family Stress Theory (Hill, 1949), which frames Black Tax as a stressor that families must cope with using their available resources, influenced by their perception of it as either a burden or a duty; Family Systems Theory (Dore, 2008), which views the family as an interconnected system where the stress on one member (the professional) affects the entire family's dynamics and stability; and Social Exchange Theory (Blau, 1964), which posits that individuals weigh the costs (financial strain, stress) and benefits (social approval, familial harmony, cultural fulfillment) of continuing Black Tax obligations.

Research Methodology

Utilizing a generic qualitative design, this research investigated the subjective experiences and beliefs surrounding Black Tax. Kennedy (2016) defines this design as an exploration of people's subjective opinions, attitudes, beliefs, or reflections on their experiences in the external world. This definition aligns with the study's focus on individuals' personal experiences with Black Tax. Although gathering data in qualitative research can be time-consuming, it enables researchers to gain a profound understanding of participants' choices.

To obtain comprehensive and detailed data, the researchers employed purposive sampling, deliberately selecting 20 Black professionals (ages 25-45, encompassing both genders) based on their pertinent knowledge and experiences.

Data was gathered through semi-structured interviews and three focus groups. These methodologies were selected for their capacity to delve into complex issues and capture non-verbal cues and were subsequently recorded and transcribed. The analysis adhered to Braun and

Clarke's (2006) six-phase thematic analysis framework. This process included a thorough review of transcripts to become acquainted with the data, the generation of initial codes, and the development of these codes into broader themes. These themes were then reviewed, interpreted, and defined in relation to the research objectives. This meticulous process, which included detailed transcription that documented verbal nuances, significantly enhanced the study's trustworthiness and credibility.

Results and Findings

The findings from focus groups and individual interviews provide a nuanced perspective on how "Black Tax" affects the mental health and financial well-being of Black professionals in the Kavango East Region of Namibia. This section synthesizes key themes with direct participant perspectives, enriching our comprehension of the complexities involved.

Defining Black Tax

Participants viewed Black Tax as an unplanned financial support system rooted in cultural norms and familial obligations, particularly during times of crisis such as funerals, health emergencies, or educational needs. The concept is often experienced through the lens of "Ubuntu," which emphasizes collective responsibility and community support.

As Participant A articulated: "Contributions that you make to family members or relatives during funerals, parties, or emergencies" (Focus Group 2). A participant from another focus group concurred by stating: "Contributions that you make to family members or relatives when we are required to do so, like during funerals, during parties or family gathering or during emergencies such as sickness."

Another participant reflected on their upbringing by noting: "Aah... to me, Black Tax is Ubuntu. Assisting each other so that we both progress, so that none of us get stuck." (Individual Interview 1). This suggests a deep-rooted cultural acceptance of these financial obligations.

Experiencing Black Tax

For most participants, Black Tax represents a continuous reality that profoundly impacts their financial decisions and lifestyle. They often conveyed the relentless nature of requests from

family members, coinciding with their own financial responsibilities.

One participant (Individual Interview 2) shared insights into this cycle: “Black Tax experience for me is a regular thing. It keeps coming, it disappears when my money is gone and comes back when I have money”. While a participant from focus group 1 had this to say: “Mistress, did you get paid, I need N\$100, I need N\$ 50, others my electricity is finished, just like that.” Another participant described her experience on payday stating: “One will call you that when you get paid, please give me N\$500, another one will ask for N\$100, while someone else will ask to buy something” (Individual Interview 2).

Many participants expressed guilt, and a sense of obligation tied to these cultural norms. A participant from individual interview 1, when asked whether she felt guilty, had this to say: “Yes, because the one I am not giving now will think that I have money and just don’t want to give him/her. It is better for me to give him/her.” Other participants, when asked whether they felt obliged to give money to relatives, had this to say: “For some of us, it is an obligation” (Participant C, Focus Group 3). “Yes, because like now, aah. Unfortunately, my last uncle also passed two years back, now, right now, I am playing that role, I am playing that role of being an elder in the family from maternal side and then an elder from paternal side and to a certain extent to grannies, I am playing that role” (Participant, Individual interview 1).

When participants were asked why they gave money to relatives in the form of Black Tax, one participant from focus group 2 had this to say: “Hmm, Ubuntu, just like what my colleague is saying, like what she is saying that from childhood we are taught to do so by our own parents. If I was brought up by my uncle, who paid for my school fees, who am I to say no to that other cousin? I have to also do the same, so that he can also become somebody like me who they groomed, whose school fees they paid for, so that at the end, better I have minimised the suffering.” This pervasive sense of duty often leads to financial sacrifices, complicating personal aspirations.

Impacts on Financial Planning and Lifestyle

The implications of Black Tax extend beyond financial strain. Participants reported that these

obligations hinder their ability to save, invest, or achieve personal financial goals. One participant illustrated this struggle, saying: “It contributes because how you are giving the money out... where will the other money come from to buy properties?” (Individual Interview 2). Another participant from focus group 2 stated: “In a negative way is hmmn. You have already planned that because, these ones will go there, and these ones there but in the course of the month, how it will be distributed here and there, and those that prompt us to get into debts, things like death, because you did not expect it, so it affects you. You will have to go to the bank or cash loan to take credit to assist, when you get paid, it is gone” (Participant A).

The consensus was clear: familial support often comes at the expense of personal savings, thus perpetuating a cycle of poverty rather than fostering financial independence. Participant B from focus group 1 summed it up by indicating: “To sum it up it is bringing poverty again that is why we are in the cycle of this poverty, and we cannot come out of it.”

Mental Health Concerns

A prevalent theme in the interviews was the link between Black Tax and mental health issues, including anxiety, stress, and feelings of helplessness. Participants described feeling overwhelmed by financial requests, particularly around payday, typically a period fraught with worry: A participant from focus group 1 agreed by saying: “Yes, even in class where you are teaching there is no happiness. It does, it has. Especially on pay day. On pay day you cannot concentrate.” Participant from Individual Interview 2 stated: “It leads to headaches and higher blood pressure.

Discussion

The findings of this study, gathered from the Kavango East Region of Namibia, offer crucial empirical evidence highlighting the profound and detrimental contribution of Black Tax to the mental health and overall well-being of Black professionals. This discussion aims to situate these findings within the existing literature and theoretical frameworks, specifically analyzing how the cultural obligation and associated financial strain of Black Tax manifest as significant psychological stressors.

Black Tax: The Intersection of Cultural Obligation and Financial Burden

The participants' interpretations of Black Tax as an "unplanned financial support system" rooted in Ubuntu affirm its profound cultural importance, aligning with existing scholarship that characterizes it as a communal obligation (Magubane, 2016; Whitelaw & Branson, 2020). A participant's explanation regarding the influence of his uncle on his educational path vividly exemplifies the obligatory and reciprocal nature of this duty. It serves as a vital coping strategy for families historically marginalized from wealth accumulation, a notion previously posited by Ndinga-Kanga (2019) who stated that historical systemic forces contributed to poverty and limited opportunities, making Black Tax a necessary modern-era coping mechanism for many families.

Nevertheless, this cultural obligation is predominantly perceived as an unyielding financial strain. The narratives, such as the cycle of requests that "vanishes when one's money is depleted and resurfaces when one has money," underscore the phenomenon's persistent and exhausting character. This supports the arguments of scholars who depict Black Tax as a "penalty" (Montle, 2020; Oppel, 2023) imposed by obligation, and it validates the considerable stress associated with managing these responsibilities as documented by Mangoma & Wilson-Prangley (2019). The findings indicate that for professionals in Kavango East, the burden significantly overshadows the communal advantages, fostering feelings of guilt and obligation rather than a genuine sense of cultural satisfaction. This internal struggle between cultural satisfaction and personal distress represents a crucial tension highlighted by the research, aligning with the principles of Social Exchange Theory (Blau, 1964), where the perceived costs (financial depletion, stress) are alarmingly close to or even surpassing the perceived benefits (social approval, familial harmony).

The Financial Strain as a Mental Health Stressor

The findings of the study align closely with the existing body of literature (Mangoma & Wilson-Prangley, 2019; Pillay, 2021), which identifies financial pressure as a primary trigger for mental health issues associated with Black Tax.

Participants uniformly described this obligation as an unyielding, ongoing reality, a 'tax' that "keeps coming" and significantly hinders their capacity to save, invest, or achieve personal financial stability. A notable and impactful theme that surfaced was "payday anxiety," where participants explicitly connected the arrival of financial demands on pay day to a tangible decline in happiness, headaches, and a diminished ability to focus, which even impacted their job performance. This observation is consistent with the research conducted by Ma, Peng, and Wu (2021), who propose that Black Tax functions as a chronic stressor that provokes both emotional and physical responses. The incessant requirement to redistribute income obstructs personal financial planning, creating a state of ongoing financial insecurity. As the results clearly illustrate, this frequently drives individuals into debt, encapsulated by the expression, "You will have to go to the bank or cash loan to take credit to assist," which ultimately sustains a harmful cycle that directly contributes to increased anxiety and stress.

Conclusions, Limitations and Future Research

This study explores the notion of Black Tax and its effects on Black professionals in Namibia, building upon earlier research. It reveals that the financial strain significantly obstructs personal investment and career progression, with 95% of respondents indicating that it impedes upward mobility, preventing them from acquiring property or enhancing their quality of life. Additionally, many participants take on debt to fulfill these obligations which at times lead to mental health issues such as stress and higher blood pressure.

In spite of the financial pressure, the majority of participants regarded Black Tax as a fundamental aspect of their African identity and the Ubuntu philosophy, prioritizing empathy and family support over personal achievement. The research recognizes its limitations, such as a limited sample size, the use of convenience sampling, and the potential for social desirability bias in self-reported information. Furthermore, its concentration on Kavango East Region restricts the generalizability of the findings, as the concept differs across various cultural and economic settings. The lack of extensive academic literature on these subject underscores the necessity for further investigation,

especially regarding the reconciliation of the conflicts between Black Tax and Ubuntu.

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Social Media, Everyday Relationships, and Adult Well-Being in Windhoek, Namibia

Adrian Louw and Manfred Janik

Abstract

This study examined relationships between the use of social media (SMU), psychological well-being, and non-romantic interpersonal relationships (friendship quality and family relations) among adults in Windhoek, Namibia. Using a quantitative, cross-sectional design, 159 respondents (age 18 - 50 years) completed research instruments measuring SMU, psychological well-being, friendship quality, and family relations. Overall, levels of psychological well-being and friendship quality were moderate, while family relations were somewhat lower. Within psychological well-being, personal growth was strongest, whereas environmental mastery was weakest. SMU was relatively low overall, with consumption-based use most common. Statistical analyses indicated that SMU was positively associated with well-being, friendship quality, and family relations, even after accounting for demographic factors. Age showed a small positive association with family relations, with older participants reporting slightly stronger family ties. By comparison, gender was not significantly related to family relations, friendship quality, or psychological well-being, indicating that digital socialisation processes may operate similarly across men and women in this sample. These findings suggest that even modest use of social media can help people in this urban African setting feel more connected and supported in their well-being, rather than replacing face-to-face ties as is sometimes reported in Western research. Limitations of this study include a small, male-skewed sample as well as a cross-sectional design, which restricts causal interpretations. Future research could extend these findings by exploring qualitative aspects of online interaction and its role in different demographic groups. Practically, the study highlights opportunities for promoting balanced and meaningful online engagement to strengthen family connectedness, friendship quality, and psychological well-being in Namibia.

Keywords: Social Media, Psychological Well-Being, Friendship, Family Relations, Namibia, Adults

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Introduction

Adrian Louw and Manfred Janik

The use of social media became a normal part of daily life worldwide (Winstone et al., 2021), raising concerns that humans tend to redirect attention to screens and away from face-to-face interaction (Hall, 2022; Stević et al., 2023). Increased engagement with screens may carry costs for interpersonal relationship quality and general psychological well-being (Bonsaksen et al., 2023; Marciano et al., 2024). The use of social media (we treat “use” similar to a composite of common platform activities, including active and passive behaviours) refers to engagement with internet-based applications that enable the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). Non-romantic relationships are close ties other than romantic partners, operationalised here as (a) friendship quality, depicted as voluntary, reciprocal bonds marked by companionship and support (Pezirkianidis et al., 2023), and (b) family relations, outlined by the perceived availability and cohesion of family members (Deng et al., 2022). Psychological well-being is used in the eudaimonic sense of self-realisation across six dimensions (autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance) (Ryff, 2014).

Research findings on social media use and psychological well-being have produced mixed findings. Some studies report small negative effects, particularly when use involves behaviours such as social comparison or problematic engagement (Bonsaksen et al., 2023; Stević et al., 2023). Other studies, however, find little to no overall impact of social media use on well-being, or show that the effects depend significantly on the specific context in which social media is used. For example, some research suggests that outcomes are shaped by factors such as cultural setting, age group, and the purpose of online engagement (Marciano et al., 2024; Orben & Przybylski, 2019). Similarly, evidence on relationship quality and social media use is not consistent, with outcomes varying by the type of relationship and how social media is used (Stević et al., 2023). Notably, much of this evidence derives from adolescent or university samples in high-income settings, with fewer studies examining adult community samples and fewer still separating friendship from family ties (Lin & Lachman, 2024).

Adrian Louw and Manfred Janik

Although many studies on social media use, interpersonal relationship quality, and psychological well-being focus on adolescents and university students, often outside Africa, far less is known about adult populations in Southern Africa, including how social media use relates to friendship quality and family connections in these settings (Desi et al., 2025; Julius et al., 2024; Naslund et al., 2020). Thus, a growing body of international research has examined the effects of social media use on well-being and relationships in North America, Europe, and Asia (Ghai et al., 2022; Hancock et al., 2022). African contexts, and in particular urban centres such as Windhoek, Namibia, remain significantly underrepresented. This lack of representation is noteworthy given the unique socio-cultural conditions of urban African life, including rapid digital adoption, high income inequality, and strong communal and family structures. These conditions may shape how social media functions in relation to interpersonal ties and psychological well-being in ways not captured by studies from the Global North. By focusing on adult users in Windhoek, this study not only extends research geographically but also contributes context-specific evidence that can challenge, refine, or support prevailing assumptions about social media’s role in everyday relationships and well-being.

This study helps to fill that gap by focusing on adults in Windhoek and examining how their social media use relates to friendship quality, family relations, and psychological well-being within a Southern African context. There is insufficient evidence on how everyday social media use relates to non-romantic relationship quality (friendship, family) and psychological well-being among adults in Southern Africa.

Without such evidence, institutions and practitioners in the region lack contextually grounded guidance for digital well-being and relationship-support interventions. As a theoretical basis for this study, we adopt Self-Determination Theory (Ryan & Deci, 2017), proposing that people’s patterns of social media use can support or frustrate the basic psychological needs of relatedness, competence, and autonomy, thereby shaping their eudaimonic well-being.

Objectives

The following objectives were derived for this study:

- Describe levels of social media use, psychological well-being, friendship quality, and family relations in an adult Windhoek sample.
- Test associations between social media use, psychological well-being, friendship quality, and family relations.
- Examine correlations between social media use and the six psychological well-being subscales and the five subscales of friendship quality.
- Assess the unique and combined contributions of social media use, age, and gender to family relations, friendship quality, and psychological well-being using multiple regression analyses.

Hypotheses

- H1. Participants will report moderate levels of social media use, psychological well-being, friendship quality, and family relations.
- H2. Social media use, psychological well-being, friendship quality, and family relations will be positively associated with one another.
- H3. Social media use will show positive correlations with the six psychological well-being subscales as well as with the five family quality subscales.
- H4. It was hypothesised that social media use, age, and gender would each make unique and combined contributions to family relations, friendship quality, and psychological well-being in the regression models.

Methods

Design of the Study

This study employed a deductive, quantitative, cross-sectional design. In a deductive design, theory is used to formulate hypotheses, which are then tested with data (Bryman, 2016). The deductive, theory-oriented approach of this study enables to test certain theories, like testing the finding that friendship quality and family cohesion

are positively related to overall psychological well-being (see Bian et al., 2024; Birgisdóttir et al., 2023; Grevenstein et al., 2019; Pezirkianidis et al., 2023). The cross-sectional, quantitative design in conjunction with the use of validated scales provides a snapshot of adults in Windhoek.

The design allowed us to estimate the relationships between the study variables and to test theory-driven hypotheses with reliable statistics. Our epistemological stance is post-positivist, as knowledge about relations among social media use, non-romantic relationships, and psychological well-being is treated as provisional, assessed through hypothesis testing, attention to measurement reliability, and statistical inference (Creswell & Creswell, 2018). Our ontological stance is critical-realist/objectivist because the variables of this study (e.g., social media use, friendship quality, family cohesion, psychological well-being) are taken to exist as relatively stable properties of persons and relationships, and can only be measured imperfectly via indicators (Bhaskar, 2008).

Participants

The target population comprised adult residents of Windhoek, Namibia who reported being active social media users, aged 18 - 50 years. We focused on this age band because international monitoring shows substantially higher social-media adoption among adults under 50 relative to older cohorts, making it the most informative range for our research questions (Pew Research Center, 2024). At the start of 2025, 64.4% of Namibians were using the internet and 24.6% of the national population were identifiable social-media user identities, situating the study in a rapidly digitising context (Kemp, 2025).

Windhoek's metro population was 494,000 in 2024, underscoring the city's suitability for recruiting adult social-media users (Macrotrends, 2025). We used non-probability convenience sampling, recruiting adults who met the eligibility criteria through online adverts and messaging in community networks. Convenience sampling was chosen for cost-efficiency and rapid access to the defined user group, acknowledging limits to representativeness (Etikan et al., 2016). Using the Cochran approach for large populations (95% confidence, $\pm 5\%$ precision) suggested a minimum

of 384 participants for descriptive estimates. Because of limits in resources and recruitment, the final sample was 159 participants. This number was sufficient for the planned correlation and regression analyses, but it reduces the precision of estimates for the wider population and therefore limits the generalisability of the study findings (Israel, 2012).

Measurement Tools

Alongside a researcher-developed biographic questionnaire (age, gender), four validated scales were administered. Psychological well-being was assessed with the 18-item **Psychological Well-Being Scale** (six 3-item facets; 6-point Likert) (Ryff & Keyes, 1995; total $\alpha = .78$ in this study). Family relations/cohesion was measured with the 6-item **Family Relations/Cohesion Scale** (4-point Likert), which assessed perceived availability/closeness within families (Arthur et al., 1999; $\alpha = .73$ in this study). Social media use was captured with the **Social Media Use Scale (SMUS)** (Everding, 2023), a 17-item composite of common platform activities (e.g., image-, comparison-, belief-, and consumption-based use; $\alpha = .91$ in this study). Items of the SMUS use a frequency Likert-type scale for the past week (e.g., “Never,” “1–2 times per week,” “3–4 times per week,”). Friendship quality was assessed with the **Friendship Qualities Scale** (23 items; 5-point Likert) (Bukowski et al., 1994; $\alpha = .89$ in this study). All instruments demonstrated acceptable to excellent internal consistency in the present Windhoek sample.

Procedure and Ethics

Data were collected via a digital survey distributed to the target population through social media posts and a web link. The landing page presented a brief study overview and an informed-consent checkbox that gated access to the questionnaire. Eligibility (adult resident of Windhoek, 18 to 50 years, active social-media user) was self-reported. Participation was voluntary, with no incentives. Participants could withdraw at any time and skip any item without penalty. Responses were anonymous (no names collected). A study ID was auto-assigned to each completed questionnaire, and IP addresses were not retained in the analytic file. Data were stored in password-protected files accessible only

to the researchers (to ensure confidentiality) and will be retained for three years before secure deletion.

Ethical clearance for the study was obtained from the University of Namibia Department of Psychology and Social Work Research Ethics Committee prior to fieldwork, and procedures complied with standard human-subjects’ guidelines. To minimise risk, the consent page provided referral information for free counselling services (Lifeline/Childline Namibia) in case distress arise with participants. All results were reported for the group as a whole, so that no individual’s answers could be identified, ensuring that individual responses could not be traced back to any participant. These measures adhered to the ethical standards of the University of Namibia’s research ethics guidelines and to internationally recognised principles for data protection in psychological research.

Results

A description of the sample can be seen in Table 1, followed by the descriptive statistics for the study variables, the bivariate associations, and the multivariable models addressing the objectives of the study. Of the 159 participants, most were male ($n = 113, 71\%$), with 46 females (29%). The sample skewed young: the 18–26 group was largest ($n = 103, 65\%$), followed by 27–34 ($n = 32, 20\%$); the 35–42 and 43–50 groups comprised 7% ($n = 11$) and 8% ($n = 13$), respectively. Table 2 indicates the descriptive statistics of the variables.

Table 1: Participant Demographics (N = 159)

| Variable | Category | N | % |
|-------------------|----------|-----|-----|
| Gender | Male | 113 | 71% |
| | Female | 46 | 29% |
| Age Group (Years) | 18 – 26 | 103 | 65% |
| | 27 – 34 | 32 | 20% |
| | 35 – 42 | 11 | 7% |
| | 43 – 50 | 13 | 8% |

Table 2: *Descriptive Statistics of the Variables*

| Variable/Sub-Variable | M | SD | Mean% | Cronbach Alpha |
|--------------------------|-------|-------|-------|----------------|
| Family Relations | 15.60 | 4.75 | 58% | .73 |
| Friendship Quality | 82.20 | 22.95 | 69% | .83 |
| Companionship | 12.84 | 4.46 | 59% | |
| Conflict | 15.00 | 4.92 | 54% | |
| Security | 15.26 | 4.89 | 75% | |
| Closeness | 19.79 | 6.10 | 80% | |
| Help | 19.30 | 6.18 | 77% | |
| Psychological Well-being | 84.69 | 25.10 | 66% | .78 |
| Autonomy | 14.57 | 5.15 | 69% | |
| Environmental Mastery | 12.23 | 4.52 | 55% | |
| Personal Growth | 16.66 | 5.36 | 81% | |
| Positive Relations | 13.26 | 4.96 | 61% | |
| Purpose in Life | 13.69 | 4.81 | 64% | |
| Self-Acceptance | 14.25 | 5.19 | 67% | |
| Social Media Use | 59.64 | 29.14 | 33% | .91 |
| Image-Based | 15.99 | 9.52 | 29% | |
| Comparison-Based | 10.96 | 6.80 | 35% | |
| Belief-Based | 8.38 | 5.98 | 15% | |
| Consumption-Based | 24.30 | 12.14 | 51% | |

Note. M = mean; SD = standard deviation. Mean% represents each mean score as a percentage of the maximum possible score on the scale. Cronbach’s α indicates internal consistency reliability.

Mean scores were calculated by dividing each participant’s mean score on the sub-scales and scales by the maximum possible score on the measure, then multiplying by 100 to yield a percentage. This procedure allowed for a standardised interpretation of sub-scale and scale

levels, alongside the raw means (M) and standard deviations (SD) reported in Table 2. As shown in Table 2, mean levels were moderate for psychological well-being (66%) and friendship quality (69%), and somewhat lower for family relations (58%). Within well-being, personal

growth was highest (81%) and environmental mastery lowest (55%). Within friendship, closeness (80%) and help (77%) were highest, while companionship was lower (59%).

Social media use was comparatively low overall (33%), with consumption-based use highest (51%) and belief-based lowest (15%). Table 3 indicates the associations between the variables.

Table 3: *Pearson correlations among Family Relations, Friendship Quality, Psychological Well-Being, and Social Media Use (N = 159)*

| Variable | N | 1. | 2. | 3. | 4. |
|-----------------------|-----|---------|---------|---------|----|
| 1. Family Relations | 159 | - | - | - | - |
| 2. Friendship Quality | 159 | .715*** | - | - | - |
| 3. Well-Being | 159 | .678*** | .766*** | - | - |
| 4. Social Media Use | 159 | .341*** | .403*** | .338*** | - |

* $p < .05$, ** $p < .01$, *** $p < .001$

As shown in Table 3, all study variables were positively and significantly intercorrelated. The strongest association was between friendship quality and psychological well-being ($r = .77***$), followed by family relations with friendship quality ($r = .72***$), and family relations with well-being ($r = .68***$).

Social media use showed small-to-moderate positive correlations with family relations ($r = .34***$), friendship quality ($r = .40***$), and well-being ($r = .34***$).

To further explore the role of social media use (SMU), bivariate correlations were conducted between SMU and the five dimensions of friendship quality as well as the six dimensions of psychological well-being.

The results showed that SMU was positively correlated with all five friendship quality dimensions, companionship ($r = .39, p < .001$), conflict ($r = .29, p < .001$), security ($r = .35, p < .001$), closeness ($r = .35, p < .001$), and help ($r = .36, p < .001$). Similarly, SMU was positively correlated with all six dimensions of psychological well-being, including autonomy ($r = .26, p < .001$), environmental mastery ($r = .18, p = .019$), personal growth ($r = .41, p < .001$), positive relations ($r = .28, p < .001$), purpose in life ($r = .37, p < .001$), and self-acceptance ($r = .18, p = .019$).

Hierarchical multiple regression analyses were conducted to examine whether social media use (SMU) predicted family relations, friendship quality, and psychological well-being after controlling for gender and age. The results can be seen in Table 4.

For family relations, the final model was significant, explaining 11.3% of the variance, $Adj. R^2 = .102, \Delta R^2 = .108, p < .001$. Age was a significant predictor ($\beta = .20, Sr^2 = .04, p = .013$), whereas gender was not ($\beta = .04, p = .583$). SMU significantly predicted better family relations ($\beta = .34, Sr^2 = .11, p < .001$).

For friendship quality, the model explained 11.1% of the variance, $Adj. R^2 = .111, \Delta R^2 = .109, p < .001$. Neither gender ($\beta = -.07, p = .410$) nor age ($\beta = -.02, p = .810$) were significant predictors. SMU was a significant positive predictor of friendship quality ($\beta = .33, Sr^2 = .11, p < .001$).

For psychological well-being, the final model accounted for 7.1% of the variance, $Adj. R^2 = .071, \Delta R^2 = .087, p < .001$. Gender ($\beta = .00, p = .983$) and age ($\beta = .10, p = .224$) were nonsignificant. SMU significantly predicted greater psychological well-being ($\beta = .30, Sr^2 = .09, p < .001$).

Table 4: Hierarchical Regression Models Predicting Family Relations, Friendship Quality, and Psychological Well-Being from Gender, Age, and Social Media Use

| Predictor | Family Relations β | Sr ² | p | Friendship Quality β | Sr ² | p | Psych. Well-Being β | Sr ² | p |
|-----------------------------------|--------------------------|-----------------|--------|----------------------------|-----------------|--------|---------------------------|-----------------|--------|
| Gender | .04 | .00 | .583 | -.07 | .00 | .410 | .00 | .00 | .983 |
| Age (years) | .20 | .04 | .013 | -.02 | .00 | .810 | .10 | .01 | .224 |
| SMU Total | .34 | .11 | < .001 | .33 | .11 | < .001 | .30 | .09 | < .001 |
| Model Fit | | | | | | | | | |
| R ² (controls only) | .011 | | | .018 | | | .000 | | |
| Δ R ² (add SMU) | .108 | | | .109 | | | .087 | | |
| Adj.R ² (final) | .102 | | | .111 | | | .071 | | |
| N | 159 | | | 159 | | | 159 | | |

Across all three models, SMU emerged as a consistent and robust predictor, explaining unique variance in each outcome above and beyond demographic controls. Collinearity diagnostics were examined for all regression models in JASP (Version 0.18.3). Variance Inflation Factors (VIFs) ranged from 1.003 to 1.104, and tolerance values ranged from 0.906 to 0.997, all well above the recommended cut-offs (tolerance > .20; VIF < 5). These results indicate that multicollinearity was not a concern in the regression analyses (Hair et al., 2019).

Discussion

The present study investigated how social media use (SMU) relates to friendship quality, family relations, and psychological well-being among adults (aged 18–50 years) in Windhoek, Namibia.

Hypothesis 1 predicted that participants would report moderate levels of SMU, psychological well-being, friendship quality, and family relations. Descriptive results showed moderate levels of psychological well-being (66%) and friendship quality (69%), while family relations were somewhat lower (58%). These patterns are broadly consistent with international findings that adult well-being and relationship quality tend to be in the mid-range in community samples, with variations across domains (Bonsaksen et al., 2023; Diener et al., 2018). Interestingly, mean levels of family relations (58%) were significantly lower than

friendship quality (69%). This may reflect the developmental stage of most participants, who were predominantly young adults in the process of establishing independence and prioritising peer relationships (Arnett, 2015). These findings align with prior research indicating that family connectedness can weaken during early adulthood as individuals invest more heavily in friendships and social networks (Seiffge-Krenke, 2010). Social media use was comparatively low overall (33%), with consumption-based use the most common (51%) and belief-based use the least common (15%). These patterns are not unusual: global research shows that “passive” or consumption-based use (e.g., scrolling, viewing posts) is far more frequent than “active” or belief-expressive engagement (e.g., posting opinions) (Meier & Reinecke, 2020; Verduyn et al., 2022).

In this sample, the relatively high consumption-based use may reflect young adults’ preference for monitoring social ties, entertainment, and information, while avoiding the risks or visibility associated with public self-expression. The very low levels of belief-based use may further reflect cultural norms of caution in sharing personal values or opinions publicly, particularly in smaller communities where reputational concerns are high. International studies support this pattern, showing that belief- or ideology-based engagement is typically a niche behaviour compared to entertainment- and communication-oriented use (Smith et al., 2018). Thus, Hypothesis 1 was

largely supported, as psychological well-being, friendship quality, and family relations were within the expected moderate range, whereas social media use was notably lower than predicted.

Within well-being, personal growth (81%) and autonomy (69%) scored relatively high, whereas environmental mastery (55%) was lowest. These findings compare well with previous evidence that young adults often feel optimistic about personal development and identity exploration but may struggle with environmental mastery, which involves effectively managing life's demands and resources (Ryff & Keyes, 1995; Schotanus-Dijkstra et al., 2016).

In the Namibian urban context, challenges such as economic pressures, limited infrastructure, and instability in work opportunities (Hausmann et al., 2022) may further contribute to lower perceptions of mastery. Within friendships, closeness (80%) and help (77%) were stronger dimensions compared to companionship (59%). This aligns with Stević and Matthes (2023), who found that digital communication often sustains intimacy and support, even if opportunities for shared offline activities (companionship) are fewer. In Windhoek, where leisure infrastructure is limited and families may be geographically dispersed, friendships may be valued more for their emotional availability than for frequent physical interaction.

Hypothesis 2 predicted positive associations among SMU, psychological well-being, friendship quality, and family relations. This hypothesis was confirmed: SMU was positively correlated with all indices of friendship quality and psychological well-being, especially for this sample of predominantly young men in Windhoek. These findings align with the growing body of evidence suggesting that social media use, when moderately engaged in and not allowed to disrupt spontaneous relational routines, can function as a facilitator of connectedness and eudaimonic well-being, rather than as a source of displacement or harm (Marciano et al., 2024; Naslund et al., 2020; Winstone et al., 2021).

Hypothesis 3 stated that SMU would show positive correlations with the six psychological well-being subscales and the five family quality subscales. This was supported: the study revealed consistent positive correlations between SMU and Ryff's

(2014) six psychological well-being dimensions. Notably, the strongest associations were with personal growth and purpose in life, indicating that social media use may be related to access to informational and motivational resources that support self-development and goal orientation. These results are consistent with broader evidence showing that social media use is modestly associated with general well-being (Marciano et al., 2024) and suggest that, in this context, SMU may provide informational, motivational, or connective resources that particularly support more growth-oriented dimensions like personal growth and purpose in life. At the same time, the modest associations with environmental mastery and self-acceptance highlight potential vulnerabilities, as these domains are often implicated in problematic or comparison-based use (Bonsaksen et al., 2023). Similarly, SMU was associated with companionship, closeness, security, and help within friendships, and with family cohesion, indicating that online interaction may complement face-to-face connections by providing additional opportunities for support and engagement (Pezirkianidis et al., 2023; Stević & Matthes, 2023; Deng et al., 2022; Grevenstein et al., 2019).

Hypothesis 4 predicted that SMU, age, and gender would each make unique and combined contributions to family relations, friendship quality, and psychological well-being in regression models. Regression analyses indicated that SMU was significantly associated with family relations, friendship quality, and psychological well-being, even after controlling for gender and age. This highlights the unique statistical contribution of online engagement in accounting for variation in adult relational and well-being outcomes in Southern Africa. Similar to our regression findings, Olpin et al. (2023) observed that specific patterns of social media use (for connection and entertainment) predicted better family well-being among parents. Likewise, in a Saudi sample, Alwuqaysi et al. (2024) found that higher social media use predicted less healthy family functioning after controlling for demographic variables. These studies relate to our finding that SMU can make unique contributions to family relational outcomes. Age also showed a modest association with family relations, with older participants reporting slightly stronger family ties, which aligns with life course

perspectives on shifting relational priorities (Bian et al., 2024). Gender, however, was not significantly related to the outcomes, suggesting that digital socialisation processes may operate similarly across male and female experiences in this urban Namibian context. Hypothesis 4 was thus only partially supported.

This study extends international literature in several important ways. First, it contributes data from a non-Western, adult community sample, addressing a gap in the social media and well-being field that remains dominated by adolescent and student cohorts in high-income settings (Desai et al., 2025; Julius et al., 2024). Second, the outcomes of this study show that friendship and family dimensions were positively associated with online engagement in different ways. Finally, by examining links between SMU and eudaimonic well-being rather than only hedonic outcomes, the study illustrates potential avenues through which digital engagement may relate to deeper forms of psychological flourishing. The findings also advance existing knowledge by providing empirical evidence from an African urban context where research remains sparse. Contrary to some Western studies suggesting that social media displaces face-to-face relationships, our results indicate that in Windhoek, even modest social media use was positively associated with friendship quality, family relations, and psychological well-being. This suggests that in contexts characterised by geographical dispersion of families, limited leisure infrastructure, and the growing importance of digital networks, social media may serve a supportive rather than disruptive role. Thus, the study underscores that theories of social media's impact cannot be assumed to apply universally and highlights the importance of context-sensitive investigations. In line with Self-Determination Theory (Ryan & Deci, 2017), the positive associations observed between social media use, friendship quality, family relations and psychological well-being point to the role of digital platforms in fulfilling core needs for relatedness and competence. At the same time, the modest associations with environmental mastery and autonomy remind us that not all needs are equally supported, highlighting areas for further study in the Namibian context.

Adrian Louw and Manfred Janik

Limitations and Recommendations

Several limitations warrant consideration. First, the relatively modest sample size limits the statistical power and the extent to which findings can be generalised beyond the specific urban context of Windhoek. Second, the cross-sectional design prevents drawing causal conclusions regarding the relationship between social media use, well-being, and relationship quality; longitudinal or experimental designs would be needed to establish directionality. Third, the study relied on self-reported measures of social media use, well-being, and relationship satisfaction, which may be influenced by recall biases and social desirability effects. The convenience sampling limits generalisability to the wider Windhoek or Namibian adult population, though the study still offers valuable insights into urban social media users. The study's sample size (N = 159) and demographic profile, with a strong predominance of younger male participants, limit the generalisability of the findings. Despite these limitations, the study provides valuable empirical insight into social media's role in an African urban context, where research on this topic remains sparse. While the results provide valuable insights into social media use among young adults in Windhoek, they may not fully represent the experiences of older individuals or women. Future studies should aim for larger and more demographically diverse samples to provide a more comprehensive picture. Such studies could complement self-report data with qualitative interviews, behavioural measures of online activity, or reports from significant others to triangulate findings and reduce the influence of response bias. Future research should employ longitudinal or experimental designs to allow for data regarding causal pathways, and qualitative approaches to explore the subjective meanings of online engagement. Comparative studies across Southern African contexts would also show the role of culture on these associations.

Conclusion

This study demonstrated that social media use is positively associated with friendship quality, family relations, and psychological well-being among adults in Windhoek, with especially strong links to personal growth and purpose in life. Even

at relatively modest levels of engagement, SMU contributed uniquely to relational and well-being outcomes, highlighting its potential as a supportive tool for connectedness and flourishing.

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Students' Supervision in Namibia: The Perspectives of Social Work Practitioners

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Abstract

Social work training requires mandatory practical placements of students in organisations. This activity relies immensely on social work field supervisors. Despite this, little is known about the experiences of field supervisors in the Namibian context. International studies on field supervision reveal that provision of effective student's supervision depends on adequately prepared and well-supported social work field supervisors. This article explores the perspectives of social work practitioners on student supervision in Namibia. Adopting a qualitative research design, the study engaged twenty purposively selected field supervisors through in-depth interviews, with the data analysed thematically. The findings reveal that while field supervisors play a crucial role in bridging theory and practice, they face several challenges, including limited institutional support, heavy workloads, and inadequate preparation for supervisory responsibilities. Nevertheless, participants highlighted significant rewards, such as professional fulfilment, opportunities for reflective practice, and contributing to the development of future social workers. The study concludes that field supervision constitutes a specialized function within social work that requires structured training, continuous support, and recognition. Strengthening supervisors' skills and resources is essential to enhance students' learning experiences and ensure effective professional socialization.

Keywords: social work education, field supervision, field supervisors, student learning, Namibia

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Introduction

Social work academic training incorporates integration of practical attachments by placing student social workers in real world organisational contexts. This process relies on social work field supervisors as key stakeholders. Field supervisors are defined as social workers employed in an organisation under whose supervision student social workers conduct their field education practice (Schmidt, 2013).

Despite the immense reliance on field supervisors, little is known about the needs and experiences of field supervisors in Southern Africa, including Namibia. Similarly, because field education practice has been described by most scholars as the backbone of social work education and training, it is concerning that the plight of field supervisors and agencies that facilitate this service is not well known in Namibia.

The marginalisation of fieldwork in Africa was noted about 30 decades ago by Kaseke (1991). He observed that there is not much documented on this subject in Africa, and as a result, stakeholders do not have an adequate grasp of the issues involved, which inevitably compromises the quality of students learning in fieldwork. Scholars from South Africa, Botswana and Namibia called for the need to conduct more research in this area, and train agency supervisors to upgrade supervisory skills to maximize the benefits for social work students. (Mokgadi & Maripe, 2020; Poggenpoel, 2018; Muinjangu, 2020).

To date, the situation has improved, but not to the desired extent as reflected by recent authors quoted above. As far as the authors could determine through exploration of various research databases, only a few Namibian based studies made brief references to student supervision. However, there was no study found directly on field supervision practices in Namibia.

Social work in Namibia is still going through metamorphosis, 30 years post-independence. Namibia just gained its independence in 1990 from an apartheid regime spanning from 1884 to 1990 (Wallace, 2014). Namibia's colonization history did not only leave a permanent mark on its people, but also on its social welfare systems, such as the

current fragmented social welfare services spanning across many ministries and sectors. With these fragmentations, there are no clearly unified inter-sectoral coordination and networking among the various ministerial divisions, and the impression is that each sector function in isolation (Mujangu, 2020). With no national guideline on field supervision in the country, one can only wonder, how this function is coordinated across all these sectors? Mujangu (2020) noted that as of 2020, the country had no social policies to guide the delivery of social welfare services in Namibia.

The fact that no comprehensive study has been conducted on field supervision in Namibia, not only reflect a gap in terms of a proper understanding of grounded experiences but also reveal little understanding of the training needs of field supervisors. Given this status quo, it was necessary to conduct grounded research in order to explore how social workers perceived their role as field supervisors. This study's contribution therefore fills the existing gap by situating field supervision overview in relation to the challenges and opportunities associated with an evolving social welfare and social work systems in Namibia today. The primary aim of this study is to explore and describe the lived experiences, needs, and coping mechanisms of social work field supervisors in Namibia across public and private sectors. The study further seeks to assess the nature and extent of institutional, organisational, and professional support provided to field supervisors and to develop a training programme that strengthens their capacity to effectively facilitate field education supervision.

Literature review

Student supervision has received considerable research attention from the perspective of student social workers, and much less attention from the perspectives of field supervisors (Eaton, 2025; Kinni, 2021; Nadesan, 2020; Wynne, 2020; Ross & Ncube, 2018).

Field supervision in social work is a specialised essential task that requires appropriate support to be rendered effectively. Often, student supervision

is a small portion of the many responsibilities that field supervisors have. (Nkosi & Ncube, 2025; Eaton, 2025). The practice of student supervision is faced with many challenges, ranging from inadequate human resources, high workloads and decreasing job satisfaction. All these factors increase the risks of stress and burnout and a threat to effective field supervision (Mokgadi & Maripe, 2020).

Literature reveals that there has never been a study in Namibia on field supervision practices. This prompted a desire to explore how Namibian based field supervisors cope in this role, to describe their needs and experiences of field supervision across the various sectors. Considering these views, the present study strived to address the gap in research literature regarding field supervision practices across various social welfare sectors in Namibia. Although field supervision is recognized globally as the cornerstone of social work education, existing scholarship has predominantly focused on the perspectives of student social workers, with limited attention to those of field supervisors. Within Southern Africa and Namibia in particular there is a notable lack of empirical research examining the realities, challenges, and support needs of field supervisors. A Boolean search revealed that no dedicated study has been conducted on field supervision practices in Namibia, with only brief references in the works of Muinjangu (2020) and Ananias et al. (2023). This gap underscores the need for a context-specific understanding of how Namibian field supervisors navigate their dual professional and educational roles in the absence of formalized national supervision guidelines.

Theoretical framework

Ecosystems theory

The ecosystems theory is a framework that examine how individual units interact with their environment and how they influence each other (Teater, 2014). The social work student supervision process can be compared to a system with interdependent parts, each with its own specific function and interrelated responsibilities. The ecosystems theory was found to be appropriate for this study because it analyses the systems associated with student supervision and the environment in which student supervision learning takes place. These systems are student social workers, field supervisors, legal frameworks,

organisations or agencies where social work students are placed during their field practice attachment, tertiary institutions and professional bodies. A supportive environment with sufficient resources will promote a well-functioning field supervision system. It is also true that the opposite could lead to a dysfunctional and inefficient supervisory system.

Methods

This qualitative study aimed at exploring and describing the experiences of social work field supervisors across the public and private sectors. The study is located within a phenomenological research design. The paper is linked to a need assessment phase of a bigger intervention research that aimed to develop a training programme to empower social work field supervisors. The intervention research is based on modified phases of Rothman and Thomas (1994) intervention research model. This study comprised of approximately a target population of 314 registered practicing social workers in the Khomas region. The target population also included eight (8) welfare organisations that employ social workers in the Khomas region with a high intake of student social workers in the past 10 years.

The study population consisted of 52 social work field supervisors across the public and private sectors in Windhoek, Khomas region of Namibia. The researchers collected data through in-depth interviews with twenty field supervisors. The participating field supervisors were purposefully selected based on their likelihood to have supervised student's social workers.

Ethical approval for this study was obtained from the ethical review committee of the University of Namibia. Furthermore, permission to conduct the study was obtained from the Ministry of Health and Social Services. All the participants voluntarily consented to the interview by means of signing an informed consent form. To ensure confidentiality, the names and identity of the participants are not stated in this paper. A semi-structured interview schedule was used for the interviews, and the interviews were conducted during the Covid-19 era, between November 2020 until 30th November 2021. A lot of challenges were encountered during this time. The process was interrupted terribly by the outbreak of the COVID-19 pandemic, lock downs, remote working and uncertainties and fear related to the transmission of this virus. Due to the risks of

Covid-19 infections, face to face were avoided, and technology options such as Zoom/Teams App were utilised on requests from participants.

All interviews were digitally recorded and transcribed verbatim. The thematic analysis approach was used to analyse the data based on Tesch's (1990) method of qualitative data analysis. Transcriptions were read in a line by line and word by word manner, to identify the preliminary themes and subthemes. The research was guided by three fundamental principles of ethics namely: autonomy, respect for persons, beneficence, non-maleficence and justice (Creswell & Creswell, 2018). Pseudonyms were assigned to participants to ensure confidentiality. The researcher chose to make use of **two data analysis** verification strategies namely, **dependability and credibility**. In addition, the researcher also chose to eliminate biasness during data analysis by making use of a **co-coder**.

Findings

The study revealed four key thematic areas that illuminate the experiences and needs of social work field supervisors in Namibia: role and responsibilities awareness, challenges in supervising students, rewards associated with student placement, and integration of theory into practice.

The first theme—**role and responsibilities awareness**—underscored the limited preparation of most field supervisors for their supervisory duties. While some had received brief orientation sessions, the majority reported a lack of comprehensive training, which contributed to feelings of inadequacy. As echoed by one participant below.

To have a post training or extra training will be a very good idea. Because I personally think, something is lacking in social work supervision. Most of us are now in supervisory positions; we take from our hearts, and our minds and what we got from the university (Anne).

This finding aligns with Ncube (2019) and Call (2020), who argue that field supervision requires

specialised training and a standardised approach to ensure quality learning outcomes. The study responded to this gap through the development of a training programme grounded in Knowles's (1980) andragogical model, emphasising self-directed, experience-based adult learning. The second theme—**challenges in supervising students**—highlighted systemic and contextual constraints, including high workloads, resource shortages, and misalignment between university expectations and organisational priorities. One sample excerpt confirms this:

One of the challenges is high workloads, both cases and administration work, but still having to oversee the intern's work. As an office we are understaffed and having to supervise interns becomes a bit too much and overwhelming. (Sara)

These findings support the ecological systems theory perspective, which situates field supervision within interconnected institutional and environmental systems. When resources and structures are inadequate, supervision becomes fragmented and stressful. Student-related challenges, such as lack of professionalism and ethical awareness, were also prominent, echoing Nadesan's (2020) call for stronger professional socialisation. One participant stated:

I am more interested in student's conduct, how they understand the profession and if they are a good fit for the profession, because we rather assume all students will be a good fit for the profession. I am more concerned about cultural acceptance of diversity, teamwork, creativity, ethics... that is what we are looking at because that is what we are here to do. (Tuli)

Despite these challenges, the third theme—**rewards associated with student placement**—showed that field supervision can be mutually beneficial. Supervisors valued students' creativity, technological skills, and innovative interventions that enhanced service delivery, as reflected below:

Students are creative. We had students who did yoga with the pregnant mothers and the mothers liked it so much. So, they would come early morning to do their yoga before they go in for the Doctor's appointment. The mother

would come early in the morning for their yoga. I was so surprised by how, you know our people, (giggle) you know yoga is not our culture... but our mothers were so much into it, and they loved it, they embraced it very much.
(Reggie)

Such collaborative learning dynamics reflect a developmental approach to supervision (Engelbrecht, 2013; Nkosi & Ncube, 2025), which promotes reciprocal learning and professional growth.

The fourth theme—**integration of theory into practice**—revealed uncertainty among supervisors regarding their effectiveness in helping students apply classroom knowledge to real-world contexts. This mirrors previous findings by Nkosi and Ncube (2025), who identified similar ambiguity in supervisory confidence. A strengths-based supervisory approach, as recommended by Engelbrecht (2013), could address this gap by fostering collaborative learning and reflective engagement.

Overall, the findings confirm that social work field supervision in Namibia operates within a challenging environment marked by limited resources, inconsistent training, and insufficient institutional support. Yet, supervisors demonstrate commitment, adaptability, and creativity. The proposed **training programme** emerging from this study aims to professionalise and strengthen field supervision practice by equipping supervisors with the theoretical, practical, and emotional competencies necessary for effective mentorship.

Conclusion

This study examined the experiences, challenges, and support needs of social work field supervisors in Namibia. The findings underscore that field supervision is a complex and specialized function that extends beyond routine workplace responsibilities. Despite their central role in bridging academic learning and practical experience, most field supervisors reported limited training, high workloads, and inadequate institutional support. These conditions not only undermine the quality of student learning but also

contribute to professional fatigue and diminished supervisory confidence.

Nevertheless, the study also highlighted the rewarding dimensions of supervision, including opportunities for mutual learning, creativity, and professional fulfilment. Supervisors valued students' innovative contributions and the reciprocal growth that occurs through reflective engagement. However, the persistent uncertainty about how best to integrate theory and practice points to the need for structured training and ongoing professional development.

The study concludes that for social work education in Namibia to meet its developmental and professional objectives, a formalized and well-supported field supervision system is essential. The training programme developed from this research provides a context-specific framework for strengthening supervisory competence, promoting reflective practice, and enhancing the overall quality of field education in the country.

Recommendations

Based on the study's findings, several recommendations are proposed to strengthen the practice of social work field supervision in Namibia:

1. **Formalized training for Field Supervisors**
Institutions of higher learning, in collaboration with professional bodies such as the Health Professions Councils of Namibia (HPCNA), should establish structured pre-service and in-service training programmes for field supervisors. These should focus on supervisory roles, adult learning principles, ethics, and assessment of student performance.
2. **Development of National Guidelines**
The HPCNA should develop standardized field education and supervision guidelines to ensure consistency, accountability, and quality assurance across agencies and educational institutions
3. **Institutional support and Workload Management**
Employers should recognize field supervision as a distinct professional function and allocate adequate time, resources, and recognition to supervisors performing this role.
4. **Strengthening University -Agency partnerships**

Universities should maintain regular communication and joint planning with field agencies to align expectations, address challenges, and foster a collaborative learning environment for students and supervisors alike.

Continuous Professional Development (CPD)

Field supervisors should be encouraged and supported to participate in CPD initiatives to enhance their supervisory skills, emotional intelligence, and self-care practices.

Future Research

Further studies should examine the long-term impact of structured supervisory training on student outcomes and explore comparative practices across Southern Africa to inform regional policy harmonization.

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**Suicide Ideation and Depression in Students at a Selected Institution of Higher Learning
in Windhoek, Namibia**

Ashley S. Mwilima & **Elizabeth N. Shino

Abstract

Suicide remains a significant global public health concern, and Namibia is among the African countries with the highest reported suicide rates. Depression and suicidal ideation are well-established psychological risk factors for suicidal behavior. However, empirical research on these issues within the Namibian context remains scant, particularly among undergraduate students. The present study aimed to assess the levels of depression and suicidal ideation in university students. Data were collected from a convenience sample of 212 students enrolled at a selected institution of higher learning in Windhoek. A cross-sectional survey design was employed, incorporating the Beck Depression InventoryII (BDI-II) and four items assessing suicidal thoughts and behaviors. Data were analyzed using JASP and included descriptive statistics, Pearson's correlations, independent-samples *t*-tests, and one-way ANOVA. Overall, approximately 18% of participants reported a history of suicide attempts, while the mean BDI-II score was 17.45, indicating mild depressive symptomatology. Despite the overall mild mean score, a number of students reported current suicidal ideation and previous suicide attempts factors that place them at elevated risk for suicide. The study recommends further research across other tertiary institutions in Namibia and the implementation of psychosocial intervention strategies aimed at promoting the mental well-being of university students.

Keywords: Suicide, Suicide ideation, Depression, Students.

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Introduction

Suicide is one of the leading causes of death globally (World Health Organization, WHO, 2025). According to WHO (2022), an estimated 11.2 individuals per 100,000 population die by suicide in Africa, compared to the global average of 9.0 per 100,000. In 2021, suicide was estimated to have claimed approximately 727,000 lives worldwide (WHO, 2025). Notably, over 73% of all suicides occur in low- and middle-income countries (WHO, 2025). However, fewer than 10% of African countries regularly report suicide data to the WHO (Mars et al., 2014), suggesting that suicide rates in many African contexts are likely underreported and underestimated.

Namibia is reported to have one of the highest suicide rates in Africa (Nakashole, 2023). During the 2023–2024 financial year, approximately 542 deaths by suicide were recorded nationwide, corresponding to an estimated national rate of 17.9 per 100,000 population. Recent reports indicate an increase in both suicide deaths and suicide attempts (Blaauw, 2024). The underlying causes are multifaceted and may include interpersonal difficulties, financial and economic hardship, mental health and psychological problems, as well as cultural factors (Katota, 2016). Suicidal ideation — defined as the planning, intention, or contemplation of ending one's own life (Oginyi et al., 2018) — is recognized as a key risk factor for suicide. It may also be described as the occurrence of active or passive thoughts about wanting to be dead (O'Connor et al., 2013).

In recent years, Namibia has witnessed an increase media report of suicide, including suicide in student populations. Palmier (2011) investigated suicidal ideation among students in sub-Saharan Africa and found varying prevalence rates across countries, ranging from 31.9% in Zambia to 11.2% in Tanzania. This suggests that suicidal thoughts are a significant concern among students in this region. It is estimated that the lifetime prevalence of suicide ideation in college students globally is 22.3%, approximately 2–3 times higher than the general adult population (Mortier et al., 2017).

Statement of the problem

According to Oginyi et al. (2018), evidence indicates a high prevalence of suicidal ideation among undergraduate students in tertiary institutions in Nigeria. Similarly, in the South African context, Makhubela (2021) observed increasing rates of suicidal behavior and suggested that the country may be facing a mental health crisis among university students. In Namibia, a large-scale study of adolescents aged 12–17 years reported that 20.2% experienced suicidal ideation, 25.2% engaged in suicide planning, and 24.5% had attempted suicide (Quarshie et al., 2023). However, comparable studies among Namibian university students are lacking. The present study therefore seeks to assess the prevalence of suicidal ideation and depression among university students in a Namibian higher education context.

Objectives

The overall aim of this study is to describe the level depression and suicide ideation of students at a selected institution of higher learning in Windhoek. The specific objectives of this study are: to describe the levels of depression and suicide ideation; to compare depression levels among males and female students; to compare suicide ideation levels among males and female students.

Methods

This quantitative study used a descriptive cross-sectional research design. The Windhoek-based institution enrolled close to 6000 students registered in various certificate, diploma and undergraduate degree programs. The sample consisted of convenience sample of 212 participants and data was collected in September - October 2022. A paper-and-pencil survey was used, consisted of a socio-demographic questionnaire and the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock & Erbaugh, 1961). The BDI-II is a 21-item self-report designed to measure characteristics and symptoms of depression (Beck et al., 1961), with a range of scores 0 to 63. Scores 0-13 indicate minimal depression, 14-19 indicate mild depression, 20-28 indicate moderate depression and 29-63 indicates severe depression. Four suicide-related items from Korb and Plattner (2014) were included in the survey. These are: *Have you ever wished to die?*;

Have you ever thought what you would write in a suicide note?; Have you ever written a suicide note?; Have you ever attempted to commit suicide? Additionally, presence of suicidal ideation was measured with Item 9 of the BDI-II.

Ethical clearance for the study was obtained from the departmental ethics committee, and permission to collect data at two campuses of the institution was granted by the rector. Lecturers were identified as points of contact for distributing the surveys. The researcher personally distributed the questionnaires, along with participant information sheets, before the start of lectures. Participation was voluntary, anonymous, and confidential, and written informed consent was obtained from all participants. Completed surveys were collected immediately after the lectures.

Data were analyzed using JASP. Descriptive statistics, including frequencies, were used to summarize sociodemographic characteristics and to describe levels of depression and suicidal ideation. Pearson’s correlation was employed to examine relationships between sociodemographic variables (e.g., age) and depression. An independent-samples *t*-test was conducted to compare the depression scores of female and male participants, as well as their levels of suicidal ideation. Additionally, a one-way analysis of variance (ANOVA) was employed to examine differences in depression severity and suicidal ideation across various demographic group.

Results

Socio-demographic: Of the 220 questionnaires distributed, 212 were returned, yielding a response rate of 96.36%. The majority of participants were female (67.5%). The mean age of respondents was 22.86 years (SD = 4.69). Participants were enrolled in a range of academic programs, including Psychology (18.4%), Legal Studies (15.6%), Construction and Engineering (16.5%), and Brown–Forsythe test indicated equal variances for BDI scores, $F(1,180) = 3.50, p = .063$. Shapiro–Wilk suggested non-normality, $W = .965, p < .001$. An independent-samples *t*-test (equal variances assumed) showed no significant difference in depression between males ($M = 17.75, SD = 11.90$) and females ($M = 17.35, SD = 9.36$), $t(180) = 0.246, p > .05$. A one-way analysis of variance

Secretarial and Office Administration Studies (17.0%). Most participants were first-year students enrolled in diploma-level programs. (See Table 1. *Table 1: Socio-demographic data of the sample*

| | Frequency | Percentage (%) |
|----------------------|-----------|----------------|
| Gender | | |
| Male | 68 | 32.1 |
| Female | 143 | 67.5 |
| Missing | 1 | 0.5 |
| Qualification | | |
| Certificate | 11 | 5.2 |
| Diploma | 188 | 88.7 |
| Undergraduate Degree | 13 | 6.1 |
| Year of study | | |
| First year | 119 | 56.1 |
| Second year | 75 | 35.4 |
| Third year | 18 | 8.5 |

Depression: The Beck Depression Inventory-II (BDI-II) demonstrated good internal consistency, with a reported Cronbach’s alpha of 0.86. The mean depression score among students was 17.45 (SD = 10.22), with scores ranging from 0 to 53. Regarding depression severity, 35.5% of students scored in the minimal range, 27.9% in the mild range, 23% in the moderate range, and 13.7% in the severe range (See Figure 1).

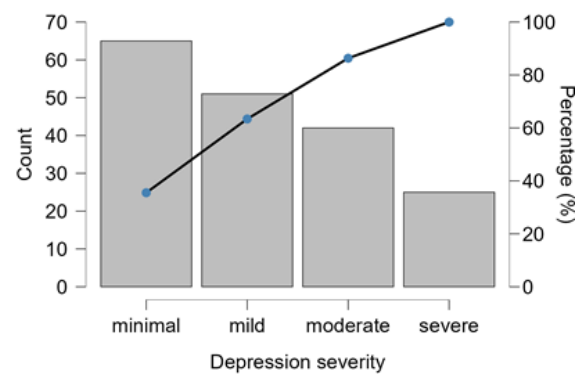


Figure 1: Depression severity

(ANOVA) was conducted to examine whether Beck Depression Inventory total scores differed across years. The results indicated that there was no statistically significant effect of year on the BDI-II scores, $F(2, 180) = 2.30, p = .103$. This suggests that participants’ depression levels did not differ meaningfully across the three years analyzed.

BDI-II suicide ideation item and depression: Item 9 of the BDI-II is specifically used to assess the presence and severity of suicidal ideation and is often used as a screening indicator for suicide risk within the BDI-II total score. Most participants (73.9%) reported no suicidal thoughts (score = 0), while 26.1% (scores 1–3 combined) reported some degree of suicidal ideation. (see Table 2). A Pearson correlation revealed a significant moderate positive correlation between Item 9 (i.e. suicide item) of the BDI-II and the Total score for Depression, $r(183) = 0.388, p < .001$. A one-way ANOVA revealed a significant difference in suicide ideation across the different levels/severities of depression, $F(3, 179) = 10.72, p = .001$, with the mean being highest in the severe category of depression.

Suicide ideation-related item: These items were used by Korb and Plattner (2014) to determine the presence of suicide related behaviours. For item *Have you ever wished to die?* while 49.5% reported never having had a wish to die, 42 % indicated sometimes and 8.2% indicated having experienced a wish to die often. For *Have you ever thought what you would write in a suicide note?* - 68.4% have never thought of what they would write in a suicide note. For *Have you ever written a suicide note?* About 85% never wrote a suicide note, while 14.1% have written a suicide note at least once. For *Have you ever attempted to commit suicide?* Approximately 38 participants (17.9%) attempted suicide at least once.

Table 2: Response to suicide ideation-related item

| Item | Frequency | Percentage (%) |
|--|-----------|----------------|
| Suicide Ideation (BDI-II, Item 9) | | |
| 0 I don't have any thoughts of killing myself. | 156 | 73.6 |
| 1 I have thoughts of killing myself, but I would not carry them out. | 43 | 20.3 |
| 2 I would like to kill myself. | 3 | 1.4 |
| 3 I would kill myself if I had the chance. | 8 | 3.8 |
| Missing | 2 | 1 |
| Have you ever wished to die? | | |
| Never | 105 | 49.5 |
| Sometimes | 89 | 42.0 |
| Often | 18 | 8.5 |
| Have you ever thought what you would write in a suicide note? | | |
| Never | 145 | 68.4 |
| Sometimes | 52 | 24.5 |
| Often | 15 | 7.1 |
| Have you ever written a suicide note? | | |
| Never | 180 | 84.9 |
| Once | 24 | 11.3 |
| More than once | 6 | 2.8 |
| Missing | 2 | 0.94 |
| Have you ever attempted to commit suicide? | | |
| Never | 174 | 82.1 |
| Once | 28 | 13.2 |
| More than once | 10 | 4.7 |

Correlations There was no significant relationship between depression and age. A chi-square test of independence was performed to examine the relation between depression severity and whether the participant has ever attempted suicide. The relation between these variables was not significant, $\chi^2(6, N = 183) = 6.780, p = .342$.

Discussion

The BDI-II was a reliable scale of measure to this study with a Cronbach alpha coefficient of .86, this shows good internal consistency. The main aim of the study was to describe the levels of depression and suicide ideation among students at a selected institution of higher learning. The results show a mean depression of 17.45 – which indicates an overall mild level of depression for this sample. This average is lower when compared to 19.14 from a Botswana study by Korb and Plattner (2014). However, this result is higher compared to those obtained in South African samples (Rousseau et al., 2021). In terms of depression severity, although about 36% fell in the moderate and severe categories in Namibia and approximately 33% in Botswana – fewer Namibian participants scored in the severe category compared to the sample from Botswana (Korb & Plattner, 2014) (13.7% vs 23.8%). Although the mean depression score falls within the mild range, it is noteworthy that approximately 36% of participants scored in the moderate to severe range. Consequently, an exclusive focus on the average score may overlook a substantial subset of students who are experiencing elevated levels of depression.

While the majority of participants (74%) did not have suicidal ideation, nearly 25% indicated a level of current suicidal ideation (e.g. *I have thought of killing myself but would not carry them out*, or *I would kill myself if I had a chance* on Item 9 of the BDI-II). These could potentially be individuals at risk or probable future risk. Prospective intervention could be targeted towards reducing this existing potential suicidal ideation and hence reduction in this potential risk factor in at-risk students. Compared to Korb & Plattner (2014) sample, fewer participants in this study reported suicidal ideation. In Rousseau et al., 2021's study, the proportion of students without suicidal ideation decreased from 84.13% in 2016 to 39.28% in 2019 – highlighting potential mental health challenges of university students.

Thirty-eight participants (n=38, approximately 18%) indicated at least one previous suicide attempt – with 10 participants having attempted suicide on more than one occasion. This rate is slightly higher than that in a Ghanaian study which was 15.2% (Owusu-Ansah et al, 2020), but lower than the rates in a Ugandan study which reported 22.3% (Kaggwa et al, 2022). Previous suicidal attempts heighten the risk for suicide. It is thus a concern that needs to be addressed at this institution of higher learning.

As expected, suicidal ideation correlated with total depression scores. However, the correlation in the current study was much lower than that in the Botswana study (Korn & Plattner, 2014). This potentially suggest that other challenges, other than depression, could contribute to suicidal ideation in this group of young adults.

Conclusion

The findings from this study show that suicide ideation and depression do exist among tertiary-level students, albeit at low levels in comparison with some of the studies in the region. About 17.9% attempted suicide at least once. In addition, 13.7% of the study's population reported severe levels of depression. Although the majority of participants did not have high levels of depression and suicidal ideation – it is important to not overlook those (although in the minority) that might be at risk by virtue of the presence of potential risk factors such as severe levels of depression, some suicidal ideation, and previous suicidal attempts. In the context of other challenges faced by many university students in Namibia (e.g. academic pressure, family pressure, socio-economic challenges, coping difficulties), such students with already existing risks factors might become victims of suicide. Hence psychosocial intervention and support provided at higher learning institutions must also target such students, to enhance the overall psychological well-being of students.

A limitation of this study is that data was collected only at one institution of higher learning based in Windhoek. Thus, results cannot be generalized to all tertiary level students at other institutions and in all regions of the country. Additionally, the study focused only on suicide ideation and depression, and thus neglected other factors such as other mental health challenges, physical health, socio-

economic factors that could also be important. It is thus recommended that future studies include tertiary-level students from a variety of educational institutions and also include other important variables that were not included in this study.

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Exploring Factors Predisposing Patients to Parasuicide Among Patient Admitted at a Hospital Namibia

Petrus M. Haingura, Hilma N. J Katangolo and Filippine N. Nakakuwa

Abstract

Parasuicide is a significant mental health concern. To manage this issue effectively, nurses must understand the underlying predisposing factors. The study aimed at exploring the factors predisposing patients to parasuicide among patients admitted at hospital in Namibia. The exploratory, descriptive qualitative research design was employed. Data were collected from all patients admitted with a history of para-suicide in the general wards and four social workers, between June and August 2024. Data were collected through individual in-depth face-to-face interviews using an interview guide. The data was analysed using thematic analysis. The study revealed factors predisposing to parasuicide: Sociodemographic influences, relationship and family-related stress, mental health challenges, social and environmental triggers, access to lethal means of suicide and impulsive nature of para suicide attempts. In conclusion, the factors determined in this study are essential for the prevention of parasuicide and the enhancement of mental health. Family and community involvement is vital in diminishing recurrences by offering emotional and psychological support to patients. It is imperative for the Ministry of Health and Social Services, Education, and relevant stakeholders to collaborate in mitigating youth parasuicide incidents.

Keywords: Investigating, Predisposing Factors, Para Suicide, Patients

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Introduction

Para suicide refers to non-fatal self-harming behaviours that vary in intent and signify a complex, significant public health issue globally (Pieterse et al., 2020; Mugisha, 2021) and. The WHO (2021) and numerous scholars regard para suicide as a serious global public health concern, which is on the increase (Abraham & Sher, 2019; Pathirathna et al, 2022). Suicide attempts represent a significant public health concern that impacts individuals and communities at various levels, including local, regional, and national scales (Fallah et al., 2023). According to the WHO (2018), "Mental health is both intrinsic and instrumental to the lives of all individuals. It supports our capacity to make decisions, form relationships, and shape our environment. Furthermore, mental health is recognised as a fundamental human right. It is essential for personal, community, and socio-economic development, and it remains an integral aspect of our existence, regardless of our awareness of it' (WHO, 2018).

Research conducted globally has identified several risk factors associated with parasuicide. These include mental health disorders such as depression, anxiety and substance abuse, additionally, experiences of trauma, interpersonal conflicts, social isolation, and academic-related stress have been found to contribute to the risk of parasuicidal behaviours (Bentley et al., 2016; Brådvik, 2018; Rodríguez-Cintas et al., 2018; Zohn and Hovis, 2024).

In African context, para-suicide rates are alarmingly high, particularly among young people (Bongongo et al., 2020; Masilani, 2024). Para-suicide is a significant public health challenge, placing a burden on public health systems in African countries (Akinyemi et al., 2022). A multitude of socio-economic and cultural factors contribute to the high rate of parasuicide in these nations. Limited access to healthcare and the stigmatization surrounding mental health hinder timely diagnosis and treatment of psychological disorders, exacerbating the risk of parasuicide. Furthermore, inadequate mental health infrastructure, such as a lack of mental healthcare professionals and facilities, poses a significant challenge in the African context. In addition to these barriers to care, poverty, unemployment, and social isolation are known risk factors for para-suicide in Africa (Merga et al., 2020). These factors lead to increased stress and hopelessness; limited access to resources, as well as

religious beliefs, may affect help-seeking behaviours, with stigma surrounding mental health issues prompting individuals to be reluctant to seek care or support (Docrat et al., 2019).

Namibia also reported higher cases of parasuicide, and Kavango East is among the top regions with higher cases (MOHSS, 2018), with various factors contributing to this alarming trend. These include mental issues and lifestyle factors. Loneliness, alcohol use, and cannabis use are all related to suicidal behaviours. Along with bullying and family-related factors (Quarshie et al., 2023). Addressing this issue demands a multidimensional approach that extends beyond the clinical realm to explore the intricate web of factors influencing such behaviours. Suicide and para suicide are pressing concern that touches the lives of individuals and communities irrespective of their location (Williams et.al, 2022). By exploring the determinants of parasuicide, this study aims to shed light on the root causes of alarming increasing cases of para suicides, and offers insights into the psychological distress and coping mechanisms, enabling the development of more effective prevention strategies and improved support systems. This research seeks to improve assessment protocols and treatment plans for health professional.

Objectives

To explore and describe the factors predisposing patients to parasuicide at a Hospital in Namibia.

Method

Study design

The study employed an exploratory, descriptive qualitative research design.

Participants

Purposive sampling techniques, specifically the total population sampling method, were used to select the participants. Seven patients admitted with para-suicide and four social workers consented to participate in the study. To ensure rich and comprehensive data, both patients and social workers were interviewed. The participants chosen for the study were heterosexual who all parasuicide victims aged 18 years and above who were willing to participate, irrespective of their stage of recovery. Additionally, all social workers employed during data collection expressed a willingness to participate in the research study.

Procedure

Data were collected through individual in-depth face-to-face interviews using an interview guide. All interviews sessions were face-to-face and lasted 30-45 minutes in a private room within the general wards where the patients were admitted, while social workers were interviewed in their offices. Interviews were audio-recorded, and field notes were taken during each interview to aid in data interpretation. The participants' non-verbal responses were also noted. Recruitment and data collection took place from June to August 2024. Data were collected until sufficiency was achieved, addressing the research question due to the rarity of the population.

Data analysis

The researchers undertook verbatim transcription. The accuracy was verified by comparing transcripts with the audio recordings before the data was analysed manually. The six-step process of thematic analysis, by Braun and Clarke (2022) was used to analyze the data. The Consolidated Criteria for Reporting Qualitative Research checklist (COREQ) was used for reporting.

Trustworthiness of data

This study employed four criteria to enhance the rigour of the research, which include credibility, confirmability, dependability, and transferability.

Ethical considerations

This study will adhere to the World Medical Association (WMA) research ethical principles outlined in the Declaration of Helsinki (World Medical Association [WMA], 2013). This study adhered to the ethical principles of beneficence, respect for human dignity and justice. The Human Research Ethics Committee of the University of Namibia (Reference number: SON 33/2024) and the Ministry of Health and Social Services approved the study.

Results

The seven parasuicide patients age ranged from 18 to 34 years (mean = 23 years); four were female and three were male, with the majority being learners and students living in an urban area. Additionally, the social workers were aged between 28 and 46 years, and all were female.

The study revealed described factors predisposing to parasuicide in six themes: Sociodemographic influences, Relationship and Family-Related Stress, Mental Health Challenges, Social and Environmental

Triggers, access to lethal means of suicide and impulsive nature of suicide attempts. SP =Social worker participant. PP= Patient participants.

Sociodemographic influences

Sociodemographic factors refer to the characteristics of a population related to social and demographic aspects that influence parasuicide. Participants in this study identified gender differences and age as influencing factors for parasuicide.

Gender differences

Gender differences refer to the variations in suicidal thoughts, behaviors and attempts between different genders. Result of this study revealed that more females attempt suicide than males.

Social workers narrated that most of the para suicide patients that are treated at Hospital in Namibia are females, and they are worried, as there is a disturbing trend toward a younger female engaging in para suicide. This indicates that young women are particularly vulnerable to suicide attempts.

"Most Para suicide cases are females and it is worrisome as most of them are young female" SP3.

"We noticed more female cases compared to male, maybe because the Kavango east is dominated by female too," SP4.

Age distribution

Age distribution refers to how the population is spread across different age groups. This study revealed that parasuicide is occurring in a younger generation, with cases beginning from the age of 12. However, younger patients are increasingly being seen, and their parasuicidal responses often reflect confusion and emotional pain. This indicates both the emotional challenges faced by young people and, perhaps, the growing social or family pressures they encounter. Participants narrated as follows:

"So, the majority are in the 18-20 age group. However, there are cases as young as 12 years. The younger generation seems confused and have emotional pain and they tend to attempt suicide as the only solution left for them" SP2.

"Previously, we used to get cases ranging from 18 to 35 years old, but now we're even getting those younger ones, 12-17 years old," SP3.

Relationship and Family-Related Stress

Relationships and family related stress refers to the emotional and psychological strain that can arise from interactions and differences within personal relationships and family structures. The intimate relationship conflicts and family discord are the most significant factors that stem from this study.

Intimate Relationship Conflicts

Intimate relationships conflicts refer to the misunderstanding, disagreement, or emotional disturbances that arise between individuals involved in a close romantic or emotional partnerships.

This study has highlighted that intimate relationships conflicts such as break up, infidelity, unmet needs, jealousy and communications styles are some of the reason to parasuicide among most patients. During conflict times, many individuals perceive their lives as hopeless and devoid of worth, struggling to cope with the emotional pain that arises, leading them to act impulsively to end their lives. Below is what social workers and patients mentioned.

"With intimate relationships, it's mostly when they break up, they feel like maybe they can't continue without their partners or some tend to say no I've wasted my time wanting to be with this partner. Denial is the one that leads them to that act of wanting to try to commit suicide."(SP3)

"I was so jealousy because he stopped communicating with me and I thought there was no point in living without him. I could not see my future anymore; I invested a lot in the relationship." (while shedding tears) (PP2)

Family Discord

Family discord refers to conflicts, disagreements or tensions that arises among family members.

The conflicts within families, especially the misunderstandings between parents and teenagers, have also been identified as major factors predispose youth to parasuicide. Social workers noted that they observed patients expressing suicidal thoughts due to family conflict. They feel that family problems become overwhelming, leading them to attempt suicide to escape.

"Recently, we have also noticed an increase in attempts from young people- especially teenagers. Most of the time, this involves conflicts with their parents and family issues. Sometimes, teenagers are

forced to address financial burdens or manage household affairs."(SP1)

"My parents do not treat me well; it feels as though they hate me. I sense that I am merely a burden to them. They also do not support me financially, yet they expect me to do everything at home" (while shaking her head) PP7

Mental Health Challenges

Mental health challenges refer to a range of conditions that impact how someone feels, thinks and interacts with others. Patients mentioned that mental health challenges contribute to parasuicide. Patients attribute their feelings to hallucinations they experience, which demand that they engage in the act. Social workers stated that patients with parasuicidal thoughts have either undiagnosed or previously diagnosed mental health conditions.

Mental health Conditions

Mental health conditions refer to the disorders that affects the feelings, mood and emotions. Most patients were diagnosed with underlying mental health disorders, which impair their emotional regulation and perception of reality, thereby increasing their vulnerability to suicidal ideation. Furthermore, social workers reported that individuals suffering from these mental health conditions are at a higher risk of attempting suicide.

"Those known, mentally ill patients, some with psychosis or schizophrenia, who attempt. Usually give reasons such as I heard voices in my head, someone was telling me they don't want me here or I should just die."(SP1).

"Some of these patients have undiagnosed mental health conditions, and as a result, they might be hearing voices or suffering from clinical mental disorders due to a lack of proper mental health care, as patients are not receiving regular treatment". (SP3)

Auditory Hallucination

Auditory hallucinations refer to hearing unreal voices. Among patients experiencing para-suicidal behaviors, auditory hallucinations are frequently cited as the primary precipitating factor. These voices often command individuals to engage in self-harming or suicidal actions. Patients describe these auditory phenomena as demanding, exerting a compelling influence that compels compliance with the voices' instructions. The following are quotations from both

social workers and patients that illustrate these dynamics.

"Some with psychosis or schizophrenia. They said they heard voices in their head as if somebody was telling them they don't want me here, or I should just die."(SP1).

"They were voices telling me to kill myself, and they sounded like a real person. At that moment I feel like that was the only solution to end all the suffering I was experiencing voices that sound real, and they do not stop, they will follow you all the way, and I feel like this is something that a person cannot control" (PP2)

Social and Environmental Triggers

Social and environmental triggers refer to external influences or factors that can provoke emotional or behavioural responses in individuals. This study identified some of the triggers that contribute to suicidal thoughts and actions, such as social stigma, isolation, grief, and loss.

Social Stigma and Isolation

Social stigma expressed in this study involves negative attitudes and beliefs that society holds towards mental illness, leading to discrimination against those who exhibit signs and symptoms of mental illness, such as self-harm and parasuicide behaviours. This type of discrimination often occurs after the first suicide attempt and results in social isolation, where individuals may withdraw from relationships or community activities due to fear of judgment or rejection. Social workers also noted that people who attempt suicide are sometimes regarded as demonic by society, which can contribute to the social stigma and isolation.

"I was diagnosed with Tuberculosis, and people were simply ignoring me. I started drinking and taking weed, which was my only hope by then, which even made it worse. What do you do when you feel ignored? You distance yourself from others". (PP4)

"When I first attempted to commit suicide and was discharged home, no one wanted to talk or associate with me at home, even my close friend kept their distance. I feel so lonely that I have no one to talk to. And all was left was voices again" (PP7)

"People don't believe-in parasuicide, they see this as demons, a demonic way. When a person attempts to commit suicide, they believe that God does not accept

a person who tries to commit suicide. The person feels unwanted."(SP2)

Grief and Loss

The other critical factor for suicide is the loss of a close relationship, particularly that of a parent or intimate partner. Losing a close relationship is emotionally draining, and a lack of emotional support leaves one feeling deserted and hopeless, thereby increasing the risk of suicidal ideation. others shared grief after the death of their loved one, the reason for committing suicide, as they struggled with sadness, anger, confusion, and despair. Social workers also affirmed the experiences of the patients. Below are quotes from both patients and social workers.

"I have struggled to move on as our memories together have been stuck in my mind. I gave him everything, and now he is in a new relationship. I don't know how to move on without him." (While crying) (PP5)

"It all started after my mother passed away. I am the eldest of the other two siblings, and after the funeral of my mum, I was left alone to care for my siblings without any support, and I was still grieving the loss of my mum. I felt lonely and hopeless." (PP6)

"Losing someone in life creates a deep emotional vacuum in most people, mostly in teenagers, which leads to parasuicide as an escape from such pain". (SP1).

Access to lethal means of suicide

Social workers noted that the availability of medications and chemicals can raise the risk of parasuicide. In this study, medication overdose remains the most common method of parasuicide, mainly because of how easy it is to access these substances.

"The method that they normally use mostly is tablets and car batteries acid. Tablets they are all over here, they can take 20 paracetamol or more at once." (SP1)

"I took tablets because they were available in the house and the voices were directing me to take the tablets" PP6

The impulsive nature of Para suicidal behaviors

Patients characterised their efforts as driven by impulsivity, irrespective of preparation of the consequences. Impulsivity often occurs as a prompt response to stimuli or as a defense mechanism to relieve the distress.

Prompt Responses to Stimuli

Patients characterise their suicide attempts as impulsive, suggesting they act quickly following triggering events, lacking adequate judgment or consideration of future consequences. They express that their suicidal actions stem from anger, viewing it as a resolution to their issues.

“I acted in anger, believing it would put an end to all the thoughts occupying my mind immediately” PP5

“Sometimes you just don’t know what to do anymore; your mind has tried everything, and no solution seems to exist, leading one to believe that committing suicide is the only option” PP4

Projection defense mechanism

Patients attempt suicide because of other people’s actions toward them. This allows them to avoid confronting their own shortcomings or negative qualities by instead viewing them as characteristics of someone else. Patients believed that by committing suicide, they would resolve their problems and assumed that their absence would bring happiness to those they left behind. Below is what participants expressed.

“I just wanted to see what they can do without me” PP2

“I thought I was the problem in the family, and ending my life will help them to have a happy life” PP4

Discussion

Based on the results presented above, parasuicide occurs because of sociodemographic influences, Relationship and Family-Related Stress, Mental Health Challenges, and Social and Environmental Triggers. The social workers involved in this study noted a trend among Para suicide cases: most incidents involved female patients, a finding supported by global trends. International research shows that females face a heightened risk of para suicide due to their susceptibility to various social, emotional, and relational stressors (Bennett et al., 2023). The wider literature indicates that relational conflicts, particularly those with romantic partners, frequently trigger parasuicide in women (Qu et al., 2024; Geith et al., 2024). Research shows that, on average, women often internalise stress, making them more prone to self-harm during relational turmoil (Díaz-Mosquera, 2025). Additionally, most studies suggest that females demonstrate emotional distress more frequently than

males through self-injurious behaviours, such as parasuicide, as a means of coping with stress (Lutz et al., 2023). In contrast to men, who may externalize stress through different actions, women might resort to parasuicide to express their emotional difficulties to others (Belfort, 2017). Some researchers contend that parasuicide among women acts as a distress signal in the context of troubled relationships, serving as a plea for assistance from significant others (Soomro & Kakhi, 2015).

Another disturbing trend emanating from this study is parasuicide attempts among the younger age group, including both adolescents and even preteens. The rise of parasuicide cases among youth correlates with findings from several studies showing that younger generations are more prone to psychiatric problems such as depression and anxiety (Nnubia & Emmanuel, 2024; Choi & DiNitto, 2016). This trend highlights the increase in academic pressure, the impact of social media, and unstable family dynamics for many individuals. The social media pressures faced by this generation are distinct; these platforms often amplify feelings of isolation, envy, and self-criticism (Biernesser et al., 2020).

This study identified relationship and family conflicts as contributors to parasuicide. Relationship issues such as infidelity or breakups are among the main causes; these factors were also found to be relevant in other studies conducted internationally (Rokach & Chan, 2023; Peleg & Peleg, 2025). Family conflicts, especially between adolescents and their parents, increase vulnerability to self-harm among young people in this study. A similar study indicates that adolescents who experience misunderstandings and lack parental support are more likely to engage in self-harm (Störkel et al., 2023). Such conflicts lead to feelings of alienation and hinder healthy emotional expression (Suzuki & Umemuro, 2018). Recognising these risk factors can help guide targeted interventions to strengthen family support and improve conflict resolution skills among youth.

Mental health and psychological factors such as schizophrenia, psychosis, and bipolar disorders, along with hearing voices and hallucinations, can lead to impairments in an individual's ability to modulate emotions or perceive reality, increasing susceptibility to suicidal ideation. Other researchers have also identified these factors as contributing threats to self-injurious behaviours (Serrano-Serrano, et al, 2021; Anderson et al., 2017). Feelings of extreme

hopelessness during depressive episodes and impulsive decisions with poor judgment during manic or mixed states can occur. According to Moselli et al (2021), this emotional instability has been shown to raise susceptibility to para-suicidal behaviour.

Environmental and Social Triggers emerge from this study as additional predisposing factors to suicide. The interaction of poverty, insufficient support, and social isolation forms a foundation for deep-seated mental health crises, impacting both youth and the broader community. The findings of Sakurai et al. (2019) align with the assertion made by McManus et al. (2016), which indicates that insufficient social networks contribute to adverse mental health outcomes, particularly among vulnerable populations. The existing literature suggests that the combination of these factors creates a fertile environment for feelings of worthlessness and hopelessness, which are significant precursors to suicidal thoughts and behaviours.

Social workers highlight the crucial impact of family dynamics on individual mental health. Ki et al. (2024) and Darvishi et.al (2024) backed this claim by investigating suicidal behaviour and found that a supportive family acts as a protective factor against suicide, whereas dysfunctional family interactions significantly increase the risk.

Furthermore, participants pointed out that social stigma and isolation are issues related to suicide; the more individuals feel isolated and judged, the less likely they are to reach out for help, which further alienates them (Hazelton-Boyle & Wellman, 2022). Stigmatising views on mental health and suicidal behaviors create distance between affected individuals and society; greater stigma means less societal integration. (Rongate et al, 2022). Kadhim and Jabur (2024) emphasise that stigma affects not just mental health but also hinders recovery by fostering an isolating environment that discourages individuals from seeking help. This dynamic is particularly intriguing when considering younger populations, for whom social connections and acceptance are vital during their formative years (Hughes et al, 2023).

Community-led initiatives are essential to enhance understanding and compassion for individuals experiencing suicidal thoughts, breaking the harmful cycle (Cohen, 2019). Complementary educational programs that provide insights into debunking mental health myths and highlight the importance of

supportive networks can foster a reduction in stigmatising views and promote a more accepting environment (Wu, Sánchez, & Perry, 2022). Namibia needs to embark on creating programmes that target youth to prevent and recognise the early signs of mental health issues and seek help early.

The methods of para-suicide observed in this study reflect broader trends identified in the literature regarding access and impulsivity surrounding such actions. Drug overdose, particularly with easily accessible drugs like paracetamol, is cited most frequently as the method used for self-harm. According to Capps et al. (2019) and Vieira & Ribeiro (2023), access to lethal means is a significant determinant of method choice in suicidal behaviour. The easy availability of drugs provides a ready means for impulsive acts of para-suicide. Indeed, it is documented that the phenomenon of impulsivity is prevalent, as most studies indicate that individuals who attempt to take their lives do so during acute moments of distress rather than after prolonged deliberation (Woike & Kanngiesser, 2019). It has been established that individuals tend to choose methods that are immediately available to them without considering the consequences (Kasapovic et al., 2019).

The impulsivity typically present in para-suicide attempts is a crucial factor influencing the action, as well as the emotional consequences that follow, including regret and shame, which were prominent in the findings of this study. Reardon et al. (2019) stated that impulsivity in suicide attempts is commonly related to situational stressors; individuals often do not carefully plan or consider the consequences before acting. This study identified feelings of regret and shame as common outcomes of impulsive actions. People who engage in impulsive self-harm experience cognitive dissonance after the attempt, demonstrating negative feelings toward their actions, which supports the phenomena studied (Robson, 2022). Suicide attempts often lead to regret, as individuals realise the impulsiveness of their decision and the pain caused to themselves and their loved ones. Such regret can significantly impact future behaviour. Some individuals experience overwhelming feelings of shame, accentuating feelings of worthlessness and despair that drive further attempts (Emory, 2022). However, regret can serve as both a driving force in recovery and a blockade to healing, revealing the complexity of emotions following the act (Jikia et al., 2023). This study identified the predisposing factors

for suicide among the patients admitted with parasuicide at hospital in Namibia.

Implications for Nursing Practice

Nurses should be trained to conduct thorough assessments of individuals at risk of suicide, emphasizing the evaluation of mental health conditions, environmental factors, and family dynamics. Nurses can facilitate family interventions and educate families about their role in providing emotional support to individuals at risk. Hospitals should implement comprehensive suicide prevention programs that include training for all healthcare staff on recognizing and managing suicidal ideation and behaviours. The mental health system should adopt integrated care models that combine mental health services with primary care to address the comprehensive needs of individuals, focusing on early identification, prevention of mental health issues and advocating for mental health policies.

Limitations

The study used a small or non-diverse sample, which may limit how broadly the results apply. The findings are based on self-reported data, which can be biased. Participants might underreport or over report their experiences with suicidal thoughts or behaviour due to stigma or fear of judgment, leading to potential inaccuracies. Therefore, we suggest that future research explore how cultural norms and societal attitudes influence Para suicidal behaviours.

Conclusion

This study explored factors predisposing to an increase in para suicide cases amongst patients admitted at hospital in Namibia and the methods utilised by para suicide patients. Factors predisposing patients to the rise in para-suicide cases include gender, relationship problems, mental health issues, access to a lethal method and impulsivity. The methods used, especially drug overdoses and toxic substance ingestion, highlight the urgent need for prevention by limiting access to these harmful means and improving mental health services. Moreover, the involvement of families and communities is essential in reducing recurrences, as they provide the emotional and psychological support most patients currently lack. The Ministry of Health and Social Services, Education, and other stakeholders need to work together and collaborate to ensure smooth facilitation of reducing parasuicides

among youth. Furthermore, there is a need for studies on strategies to minimise parasuicide cases.

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Prevalence and Patterns of Alcohol Consumption and Tobacco Use Among Undergraduate Students at a Namibian University Campus

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Abstract:

Background: Alcohol and tobacco use among university students contributes to preventable morbidity and academic harms, yet campus-specific Namibian data are limited. **Aim:** To estimate prevalence and patterns of alcohol and tobacco use and examine sociodemographic and psychosocial correlates of current alcohol use. **Setting:** University of Namibia, Katima Mulilo Campus (Zambezi Region). **Methods:** A cross-sectional online survey (March–July 2023) of undergraduates aged 18–35 years (N = 231) collected data on demographics, alcohol/tobacco (including vaping), co-use, contexts, and motivations. Descriptives summarized patterns; chi-square tests and multivariable logistic regression modeled current alcohol use. **Results:** Ever-alcohol use was 64.9%; ever-tobacco was 39.0%. Daily drinking (28.1%) and prior intoxication (48.1%) were common. Among tobacco users, vapes (45.5%) predominated, followed by hubbly/bubbly (38.5%) and hand-rolled products (38.1%); co-use with alcohol was 22.9%. Adjusted predictors of current alcohol use included off-campus residence (aOR = 1.92, 95% CI [1.14, 3.26]), age 24–26 (vs. 18–20; aOR = 1.61, [1.01, 2.71]), cohabitation (vs. single; aOR = 1.73, [1.02, 2.95]), and ever-smoking (aOR = 2.34, [1.36, 4.03]). **Conclusions:** Alcohol and tobacco use, particularly vaping and co-use, are common and shaped by social context and living arrangements. Universities should implement peer-anchored prevention, strengthen access controls near campus, expand low-barrier cessation services, and deliver ENDS-specific risk communication.

Keywords: Alcohol use; Tobacco use; Risky behaviours; University students; Health promotion; Zambezi Region; Namibia

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Introduction

Alcohol and tobacco remain leading modifiable risks among young adults, with university settings characterized by new independence, academic stressors, and strong peer norms that can elevate use (Amakali et al., 2013; Odejide, 2006). National indicators show substantial adult alcohol consumption and measurable tobacco use in Namibia, but campus-level data are scarce (Ministry of Health and Social Services [MoHSS], 2014). The rapid diffusion of electronic nicotine delivery systems (ENDS) complicates prevention and policy (Besaratina & Tommasi, 2019; World Health Organization [WHO], 2021). Regional literature highlights peer modeling, household exposure, product availability, and residence patterns as consistent determinants of use (Blows & Isaacs, 2022; Morojele et al., 2021). This study provides campus-specific estimates from a Namibian setting, characterizes the product mix (including vaping) and co-use, and examines correlates of current alcohol use.

Objectives

- Estimate prevalence and patterns of alcohol and tobacco use among undergraduates.
- Describe product types, contexts, and co-use.
- Examine correlates of current alcohol use.

Methods

Study design and setting

A descriptive cross-sectional survey was conducted at the University of Namibia’s Katima Mulilo Campus (Zambezi Region) from March to July 2023.

Participants and sampling

Registered undergraduates aged 18–35 years. Convenience/voluntary recruitment via campus mailing lists and student social-media. Final sample N=231.

Measurement tools

A structured English questionnaire, expert-reviewed and pre-tested with 10–15 students, captured demographics; alcohol/tobacco behaviors (including vapes/hubbly/hand-rolled), frequency, contexts, co-use; motivations and initiation sources; household exposure; cessation attempts; and help-seeking attitudes.

Procedure and data quality:

Data were collected via single-use online links with range/logic checks; routine data cleaning was performed prior to analysis.

Data analysis

Descriptive statistics summarized prevalence and patterns. Chi-square/Fisher’s exact tests examined group differences. Multivariable binary logistic regression estimated adjusted odds ratios (aOR, 95% CIs) for current alcohol use. Predictors included sex, age group, year of study, residence, marital status, and ever-smoking (reference = first listed category for each variable). Analyses were conducted in SPSS.

Results

Sample description

A total of 231 students participated (55.4% female; most aged 18–26). Second-year students were the largest academic group (29.9%). Most resided off-campus (74.5%). The detailed sociodemographic profile of the participants is presented in Table 1.

Table 1: Demographic profile of respondents (N = 231)

| Variable | Character | n (%) |
|---------------|----------------------|------------|
| Gender | Female | 128 (55.4) |
| | Male | 103 (44.6) |
| Age | 18-20 years | 55 (23.8) |
| | 21-23 years | 67 (29.0) |
| | 24-26 years | 85 (36.8) |
| | 27-30 years | 14 (6.1) |
| | 31+ years | 10 (4.3) |
| Year of Study | 1 st year | 59 (25.5) |

| | | |
|-----------------------------------|-----------------------------------|------------|
| | 2 nd year | 69 (29.9) |
| | 3 rd year | 48 (20.8) |
| | 4 th year | 55 (23.8) |
| | | |
| Current place of residence | On campus (Hostel) | 59 (25.5) |
| | Off Campus | 172 (74.5) |
| | | |
| Marital status | Single (not in a relationship) | 85 (36.8) |
| | Single (In a relationship/dating) | 90 (39.0) |
| | Married | 20 (8.7) |
| | Divorced | 3 (1.3) |
| | Co-habiting | 33 (14.3) |
| | | |
| Where did you grow up? | Urban | 85 (36.8) |
| | Rural | 68 (36.8) |
| | Urban and Rural | 78 (33.8) |
| | | |
| With whom did you grow up? | Biological mother and father | 73 (31.6) |
| | Biological father | 28 (12.1) |
| | Biological mother | 65 (28.1) |
| | Other (extended family) | 65 (28.1) |
| | | |
| Area (Constituency) | Kabbe South | 17 (7.4) |
| | Kabbe North | 14 (6.1) |
| | Linyanti | 29 (12.6) |
| | Judea Lyamboloma | 22 (9.5) |
| | Sibbinda | 20 (8.7) |
| | Katima Mulilo Urban | 65 (28.1) |
| | Katima Mulilo Rural | 19 (8.2) |
| | Kongola | 13 (5.6) |
| | Other regions in Namibia | 32 (13.9) |

Overall, 39.0% had ever used tobacco, with 6.9% smoking within 10 minutes of waking. Vaping (45.5%) was most common, followed by hubbly/bubbly (38.5%) and hand-rolled cigarettes (38.1%). Use was mainly linked to socialising and alcohol, while few reported household second-hand smoke exposure (Table 2).

Table 2: Characteristics of tobacco use among UNAM students (N = 231)

| Variable | Character | n (%) |
|---|------------------------|--------------|
| Have you ever smoked cigarettes/tobacco? | Yes | 90 (39) |
| | No | 141 (61) |
| | | |
| How soon after you wake do you smoke? | Within 10 minutes | 16 (6.9) |
| | After 10-30 minutes | 21 (9.1) |
| | After 30 min to 1 hour | 24 (10.4) |

| | | |
|---|-------------------------------------|------------|
| | After an hour or more | 29 (12.6) |
| | I do not smoke | 141 (61) |
| How often do you currently use smokeless tobacco? | Daily | 19 (8.2) |
| | Weekly | 71 (30.7) |
| | I do not smoke | 141 (61) |
| How often does anyone smoke inside your home? | Daily | 18 (7.8) |
| | Weekly | 25 (10.8) |
| | Fortnight | 22 (9.5) |
| | Monthly | 14 (6.1) |
| | Not at all | 152 (65.8) |
| How much do you enjoy smoking? | Not at all | 25 (10.8) |
| | A little bit | 52 (22.6) |
| | A lot | 27 (11.7) |
| | I am not sure | 16 (6.9) |
| | I do not smoke | 141 (61.0) |
| Where do you mostly get the cigarettes/tobacco you smoke? | I do not smoke | 141 (61.0) |
| | I buy them myself | 52 (22.5) |
| | Buy from friends | 4 (1.7) |
| | Buy from unknown people | 10 (4.3) |
| | Someone else buys for me | 10 (12.6) |
| | My siblings buy for me | 2 (0.9) |
| | My father/mother gives them to me | 4 (1.7) |
| | I get them for free from my friends | 15 (6.5) |
| In the last year, how many cigarettes did you usually buy at once? | I do not smoke | 121 (53.3) |
| | I did not buy in the last 12 months | 27 (11.7) |
| | A single cigarette | 48 (20.8) |
| | A pack of 20 cigarettes | 15 (6.5) |
| | A pack of 25 cigarettes | 13 (5.6) |
| | Loose tobacco | 3 (1.3) |
| In the last 12 months have you used the following products? | Chewing tobacco | 65 (28.1) |
| | Snuff | 87 (37.7) |
| | Snus | 87 (37.7) |

| | | |
|------------------------------|------------------------|------------|
| | Hubbly/Bubbly | 89 (38.5) |
| | Hand-rolled | 88 (38.1) |
| | Battery operated vapes | 105 (45.5) |
| I mostly smoke when I | I am socialising | 106 (45.9) |
| | Consume alcohol | 93 (40.3) |
| | When I have a meal | 92 (39.8) |
| | I smoke everyday | 92 (39.8) |
| | Other reasons | 101 (43.7) |

Alcohol use was reported by 64.9% of students; 28.1% used daily, and 48.1% had experienced intoxication. Ciders, beer, and spirits were most common, with 22.9% reporting tobacco co-use.

Peer influence, pleasure, and availability near campus were key drivers. Full item-level frequencies are shown in Table 3.

Table 3: Drinking behaviours of undergraduate participants (N = 231)

| Variable | Character | n (%) |
|---|--------------------------|------------|
| Have you ever consumed alcohol? | Yes | 150 (64.9) |
| | No | 81 (35.1) |
| How soon after you wake up do you drink alcohol? | Within 10 minutes | 30 (13.0) |
| | After 10-30 minutes | 26 (11.3) |
| | After 30 min to 1 hour | 13 (5.6) |
| | After an hour or more | 22 (9.5) |
| | I do not know | 59 (25.5) |
| Which alcoholic products have you used in the last 12 months | Ciders | 133 (57.6) |
| | Beers | 100 (43.3) |
| | Hot stuff | 94 (40.7) |
| | Traditional brew | 70 (30.3) |
| How often does anyone drink alcohol inside your home? | Daily | 124 (53.7) |
| | Weekly | 36 (15.6) |
| | Monthly | 26 (11.3) |
| | Never | 45 (19.5) |
| I mostly consume alcohol when I am? | Socializing with people | 18 (7.8) |
| | When I am smoking | 53 (22.9) |
| | I just drink daily | 65 (28.1) |
| | I drink after my meals | 73 (31.6) |
| What is the main reason for alcohol consumption? | To get personal pleasure | 49 (21.2) |

| | | |
|---|---|------------|
| | To increase academic performance | 33 (14.3) |
| | Substance is easily available on campus | 40 (17.3) |
| | Increase sexual pleasure | 36 (15.6) |
| | Gain acceptance from peers | 66 (28.6) |
| | Due to peer influence | 7 (3.0) |
| Who initiated you to substance use? | | |
| | Family members | 57 (24.7) |
| | Friends | 83 (35.9) |
| Do you have a close relationship with someone who struggled with substance abuse? | | |
| | Yes, I do | 164 (71.0) |
| | No, I do not have | 64 (29.0) |
| Have you ever gotten drunk? | | |
| | Yes, I have gotten drunk | 111 (48.1) |
| | No, I have not gotten drunk | 120 (51.9) |
| Have you tried to stop taking alcohol/substance? | | |
| | Yes | 100 (43.3) |
| | No | 50 (21.6) |
| If I ever needed help for substance use, I would be comfortable Talking with my doctor or counsellor for assistance. | | |
| | I strongly agree | 92 (39.8) |
| | I strongly disagree | 24 (10.4) |
| Have you ever used the following medications/stimulants (diet, stay awake, cold/cough) for non-medical reasons Or to get high? | | |
| | No, I have never used them | 64 (27.7) |
| | Yes, I used them in last 12 months | 125 (54.1) |
| | Yes, but not last 12 months | 42 (18.2) |
| | Just smoke everyday | 92 (39.8) |

In multivariable analysis, off-campus residence (aOR = 1.92; 95% CI [1.14, 3.26]), age 24–26 (1.61; [1.01, 2.71]), co-habitation (1.73; [1.02, 2.95]), and ever smoking (2.34; [1.36, 4.03]) predicted current alcohol use ($p < .05$).

Table 4. Multivariable logistic regression predicting current alcohol use

| Predictor | Category | Odds Ratio | 95% CI | p |
|---------------|------------------------|------------|-----------|--------|
| Sex | Female (ref) | - | - | - |
| | Male | 1.28 | 0.79-2.07 | 0.315 |
| Age group | 18-20 years (Ref) | - | - | - |
| | 21-23 years | 1.22 | 0.73-2.04 | 0.443 |
| | 24-26 years | 1.61 | 1.01-2.71 | 0.047* |
| | 27-30 years | 1.39 | 0.61-3.15 | 0.430 |
| | 31+ years | 1.94 | 0.71-5.28 | 0.195 |
| Year of study | 1st year (Ref) | - | - | - |
| | 2nd year | 1.18 | 0.68-2.05 | 0.554 |
| | 3rd year | 0.91 | 0.49-1.70 | 0.770 |
| | 4th year | 1.07 | 0.59-1.93 | 0.816 |
| Residence | On campus/Hostel (Ref) | - | - | - |
| | Off Campus | 1.92 | 1.14-3.26 | 0.014* |

| | | | | |
|---|------------------------------------|------|-----------|--------|
| Marital status | Single/not in a relationship (Ref) | - | - | - |
| | Single (In a relationship/dating) | 1.32 | 0.80-2.19 | 0.279 |
| | Married | 0.88 | 0.35-2.16 | 0.776 |
| | Divorced | 1.41 | 0.23-8.62 | 0.709 |
| | Co-habiting | 1.73 | 1.02-2.95 | 0.041* |
| Have you ever smoked cigarettes/tobacco? | NO (Ref) | - | - | - |
| | YES | 2.34 | 1.36-4.03 | 0.002* |

* *p*-value less than .05 was considered statistically significant

Discussion:

This campus-level study found higher ever-alcohol (64.9%) and ever-tobacco (39.0%) prevalence than national adult estimates, consistent with the distinct risk profile of university cohorts (MoHSS, 2014; Odejide, 2006). ENDS predominated among tobacco products, echoing regional/global concerns about vaping among youth and young adults (Besaratinia & Tommasi, 2019; WHO, 2021). Co-use patterns align with Sub-Saharan evidence linking polysubstance use to shared psychosocial drivers (Morojele et al., 2021). Adjusted associations underscore environmental and relational influences: off-campus residence, co-habitation, and smoking history increased the odds of current alcohol use, consistent with social learning/norms and ecological perspectives (Blows & Isaacs, 2022; Wang et al., 2017). The study’s unique contribution is a Namibian, campus-specific product profile, including ENDS, and actionable correlates relevant to campus health planning.

Strengths and limitations:

Strengths include a focused campus lens and granular profiling of products, contexts, and co-use. Limitations include convenience sampling, single-site scope, self-report, and cross-sectional design, which preclude causal inference. Multi-campus longitudinal and intervention studies in Namibia are warranted (Blows & Isaacs, 2022; Morojele et al., 2021).

Implications for practice and policy:

Implement peer-anchored prevention; engage vendors and enforce age checks/no single-stick sales near campus; embed ENDS-specific risk communication in tobacco-free policies; expand low-barrier cessation (counselling, digital supports, pharmacotherapy) with outreach to off-campus students.

Conclusion:

Alcohol and tobacco use, including vaping and co-use, are common and shaped by living arrangements, peer ties, and household exposure. Policy: enforce comprehensive smoke-/vape-free campus rules (explicit ENDS coverage); formalize vendor MoUs (age checks, no single-stick sales, compliance audits); fund alcohol-free programming and publish a semesterly wellness dashboard. Student health services: implement routine SBIRT; expand confidential, multi-channel cessation (including pharmacotherapy); train peer educators; extend clinic hours with anonymous booking; deliver ENDS-specific risk education. Research: test peer and retail-compliance interventions (cluster or stepped-wedge designs), build multi-campus surveillance with equity analyses, and evaluate cost-effectiveness and implementation fidelity.

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An Investigation on the Relationship Between Mental Health, Psychological Empowerment and Workplace Agility: The Case of Namibian High School Teachers

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Abstract

The article examines how mental health connects with psychological empowerment and workplace agility in Namibian high school teachers as evidence from literature affirms that the well-being of teachers plays a crucial role in determining their professional effectiveness and ability to adapt to workplace demands. The study employed a quantitative research method through the means of questionnaires. Data was collected from 325 teachers from the Khomas, Omusati and Ohangwena regions. The results indicated that mental health has a statistically significant positive correlation to psychological empowerment ($\beta = 0.207, p = 0.020$) and workplace agility ($\beta = 0.212, p = 0.212$). These results indicate that teachers require mental health support to empower themselves and effectively handle classroom changes like new technologies and teaching methods. The study demonstrates the urgent need for mental health-focused interventions for teachers who must be supported to enhance their ability to improve the educational system, resilience and adaptability. The results led to the development of a holistic framework of well-being which places mental health support at its foundation. The study recommends that schools implement mental health support programs for teachers, creates professional development programs focused on empowerment and implement a holistic well-being framework to name a few.

Keywords: Educational outcomes, mental health, Namibia, psychological empowerment, teacher well-being, workplace agility

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Introduction

The performance of the educational system depends greatly on teachers (Jimerson & Haddock, 2015). High school teachers in Namibia face multiple challenges such as large class sizes, inadequate resources, lack of qualified teachers and limited resources (Kyriacou, 2001; Moses et al., 2022). The stress faced by teachers has been found to harm their mental health and well-being and this subsequently reduces their ability to succeed in the ever-changing educational sector (Kovess-Maféty et al., 2007). Teachers who experience poor mental health have been found to be emotionally exhausted and burnt-out, which creates a sense of helplessness and diminishes their ability to perform well at work and manage their classrooms effectively (Kovess-Masféty et al., 2007; Jimerson & Haddock, 2015). This leads to a loss of productivity emotional involvement (Zekaj, 2015). Contrarily, individuals who maintain good mental health show greater levels of resilience and workplace agility when faced with challenges (Ghodrati & Zargarzadeh, 2013).

Psychological empowerment is described as how employees perceive their work autonomy, competence and their ability to make an impact (Spreitzer, 1995). Teachers who experience psychological empowerment have been found to have greater control within their classrooms, while demonstrating increased levels of motivation when interacting with students and an improved ability to participate in school decision-making (Seibert et al., 2011; Tshabalala & Potgieter, 2021). The empowerment of teachers leads to increased levels of job satisfaction and improved teaching performance while equipping teachers with skills which make them more adaptable to workplace changes (Tshabalala & Potgieter, 2021).

Workplace agility can be described as how well employees can adjust to workplace changes which include changes in their job roles, restructuring and organisational goals (Axtell et al., 2008). Teachers require workplace agility in order to effectively handle the challenges found in the school environment. It allows teachers to effectively alter their teaching strategies in order to meet various learning needs while adapting to the curriculum updates and addressing different student needs (Axtell et al., 2008). Teachers who demonstrate workplace agility can sustain their

levels of engagement and performance even when confronted with challenging situations. The researchers’ conceptual model for a holistic well-being framework for teachers within Namibia with a directional relationship between the variables, positions mental health the centre to influence both psychological empowerment and workplace agility, while it is also shaped by psychological empowerment. Similarly, psychological empowerment is hypothesized to be influenced by mental health, but affects workplace agility. Workplace agility is conceptualised as an outcome variable influenced by both mental health and psychological empowerment without equal effects on both variables. A holistic well-being approach is required to ensure that teachers are able to adapt to changes, keep motivated, foster a positive learning environment while thriving personally (Ozturk et al., 2024).

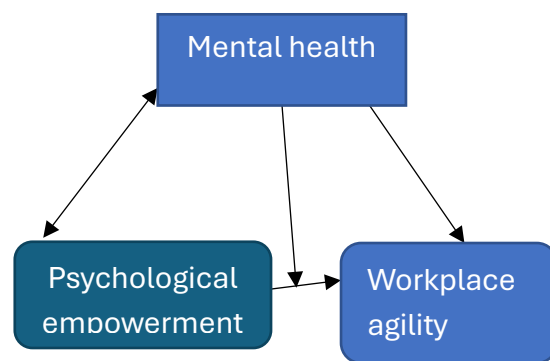


Figure 1: *Conceptual Model for Teacher Holistic Well-being*

Globally, teachers face mental health issues such as stress and burnout, with Namibia particularly being affected, which negatively affects their productivity, performance and overall well-being (Kyriacou, 2001; Moses et al., 2022). Little research exists on the relationship between mental health and workplace agility within Namibia, subsequently this research was aimed at addressing the lack of understanding on how psychological empowerment and workplace agility among Namibian high school teachers are affected by their mental health. The study also proposes a well-being model which serves as a foundation for educational policy design to boost teacher performance and resilience.

Objectives

The study aimed to meet the following objectives:

- To determine the relationship between mental health, psychological empowerment and workplace agility
- To assess the mediating effect of mental health on psychological empowerment and workplace agility
- To examine the mediating effect of psychological empowerment on mental health and workplace agility
- To develop a well-being model for Namibian high school teachers

Methods

This study employed a quantitative non-experimental, correlational and cross-sectional research design to investigate the influence of mental health on the psychological empowerment and workplace agility of high school teachers within Namibia. The population of the study consisted of +2490 Namibian high school teachers. Purposive sampling was selected to carry out this study as participants who were high school teachers who taught grades 8 to 12 were selected (Rai & Thapa, 2015). The sample population of 333 was selected for the sake of reliability and calculated using the sample size calculator for a confidence level of 95%, a margin error of 5% and a response distribution of 50%. A total of 400 questionnaires were distributed to Namibian high school teachers from the Khomas, Ohangwena and Omusati regions and 325 were returned. The data was collected through self-administered questionnaires comprising of: the Psychological Empowerment Instrument developed by Spreitzer (2007) which consists of 12 items, including 4 sub-dimensions namely; meaning, competence, self-determination and impact; the Organisational Agility Profiler Survey (OAPS) developed by Worley (Worley & Lawler, 2010) which contains 19 items, including 4 dimensions namely; dynamic strategy/strategising, perceiving, testing and implementing; and the Teacher Subjective Wellbeing Questionnaire (TSWQ) developed by Renshaw (Biagi et al., 2018) which consists of 8 items with 3 subscales namely, teaching efficacy, school connectedness and teacher wellbeing. No alterations were made to the original questionnaires and they were combined to formulate one questionnaire. The reliability of the scales was measured using

Cronbach's alpha coefficients. The Psychological Empowerment Scale showed great internal consistency with a Cronbach's alpha of $\alpha = .932$ and $\alpha = .935$ based on standardised items across 12 items. The meaning subscale had a Cronbach's alpha value of $\alpha = .847$ and $\alpha = .847$ based on standardised items across 2 items. The self-determination subscale had a Cronbach's alpha of $\alpha = .594$ and $\alpha = .623$ based on standardised items across 2 items. The impact subscale had a Cronbach's alpha of $\alpha = .812$ and $\alpha = .814$ based on standardised items for 4 items. The OAPS also showed great reliability yielding a Cronbach's alpha value of $\alpha = .927$ and $\alpha = .929$ for standardised items across 20 items. The strategy/strategising subscale had a Cronbach's alpha of $\alpha = .831$ and $\alpha = .842$ based on standardised items for 8 items. The perceiving subscale had a Cronbach's alpha of $\alpha = .576$ and $\alpha = .599$ based on standardised items for 3 items. The testing subscale had a Cronbach's alpha of $\alpha = .616$ and $\alpha = .615$ based on standardised items for 3 items. The implementing subscale had a Cronbach's alpha of $\alpha = .845$ and $\alpha = .844$ based on standardised items for 6 items. Lastly, the TSWQ demonstrated good internal consistency with a Cronbach's alpha value of $\alpha = .824$ and $\alpha = .823$ based on standardised items across 8 items. The teaching efficacy subscale had a Cronbach's alpha of $\alpha = .729$ and $\alpha = .731$ based on standardised items for 4 items. The school connectedness subscale had a Cronbach's alpha of $\alpha = .551$ and $\alpha = .552$ based on the standardised items of 2 items, while the competence subscale had a Cronbach's alpha of $\alpha = .773$ and $\alpha = .780$ based on standardised items for 3 items. Finally, the teacher well-being subscale had a Cronbach's alpha of $\alpha = .767$ and $\alpha = .771$ based on standardised items for 2 items.

SPSS 29.0 was used to analyse the descriptive statistics, the mean and standard deviation of the study and SmartPLS 4 software was used to further test the reliability. Structural equation modeling (SEM) approach was used to analyse the direct and indirect connections between mental health, psychological empowerment and workplace agility. The researchers also used the two-step procedure to evaluate the suggested model (Sardeshmukh & Vandenberg, 2017) which assess the measurement model with an emphasis on the reliability and validity of the assessments and then explores the path coefficients between the variables for the structural model. The statistical analysis

evaluated the path coefficient between mental health, psychological empowerment and workplace agility using the t-statistic and p-value to determine significance.

Results

Correlation

Pearson correlation coefficients among psychological empowerment, organisational agility, and mental health indicated that all variables were positively and significantly correlated at the 0.01 level (two-tailed). Specifically, psychological empowerment demonstrated a moderate positive correlation with organisational agility ($r = .340, p < .01$) and a stronger positive correlation with mental health ($r = .418, p < .01$). Similarly, organisational agility was moderately and positively associated with mental health ($r = .337, p < .01$). These findings suggest that higher levels of psychological empowerment are linked to greater perceptions of organisational agility and enhanced mental health among employees. Overall, the results highlight the interrelated nature of empowerment, agility, and psychological well-being within the organisational context.

Measurement Model Evaluation

The analysis confirmed that every latent construct met acceptable standards for both

reliability and convergent validity. The reliability of mental health indicators proved adequate because they ranged between .75 and .87 which surpassed the minimum .70 threshold set by Hair et al. (2019). The psychological empowerment factor loadings were between .74 and .88. Workplace agility constructs demonstrated factor loadings that ranged from .68 to .83, while the lowest loading of .68 remained within the acceptable convergent validity limits according to Fornell & Larcker (1981). These findings demonstrate that the measurement model achieved both reliability and validity.

Structural Model Evaluation

Analysis of the structural model demonstrated multiple significant connections between the research variables. The analysis demonstrated a significant positive influence of psychological empowerment on mental health ($\beta = 0.258, t \approx 2.11, p < .05$) with mental health variance explained at 6.6% ($R^2 = .066$). The study found a positive connection between psychological empowerment and workplace agility with statistical metrics $\beta = 0.289, t = 2.75, p < .01$. The research findings indicate that mental health showed a significant positive impact on workplace agility ($\beta = 0.394, t = 3.42, p < .001$) and together psychological empowerment and mental health explained 31.8% of the variance in workplace agility ($R^2 = .318$).

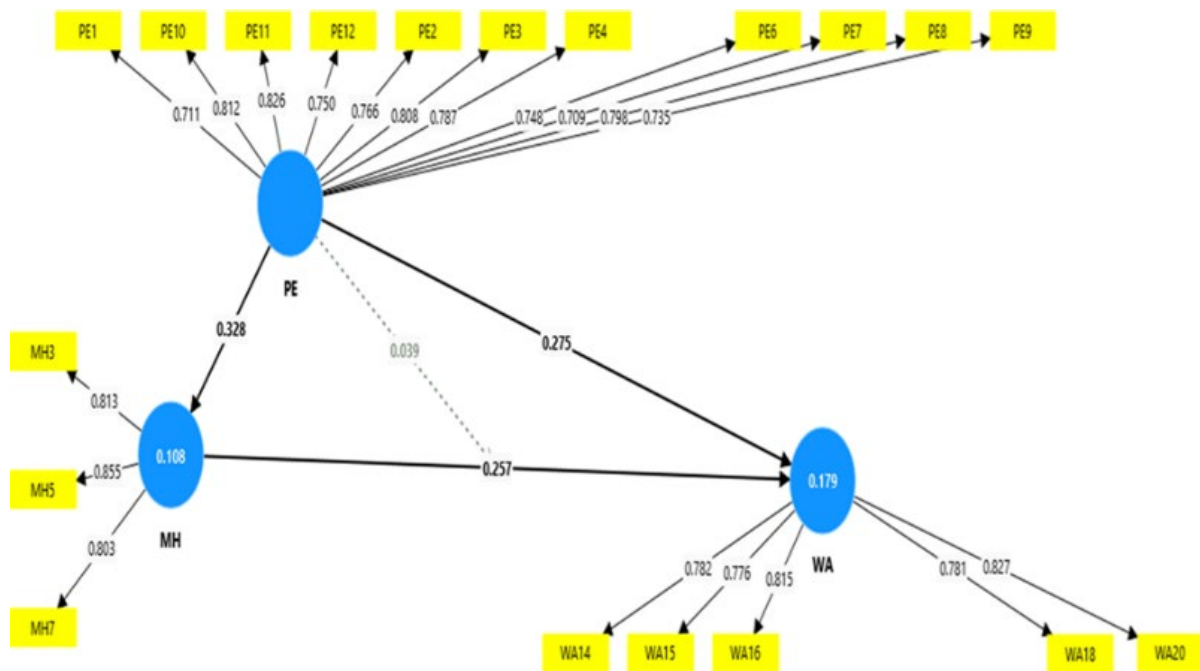


Figure 2: Model on the relationship between mental health (MH), psychological empowerment (PE) and workplace agility (WA)

Mediation Analysis

The study demonstrated that psychological empowerment generates workplace agility through both direct pathways and mediatory channels. Psychological empowerment influenced workplace agility directly with a coefficient of $\beta = 0.289$ and indirectly through mental health with a coefficient of $\beta = 0.102$. The cumulative impact of psychological empowerment on workplace agility reached a value of $\beta = 0.391$. The findings demonstrate that psychological empowerment boosts workplace agility through direct effects as well as through intermediary processes. Teachers with higher psychological empowerment scores demonstrated improved mental health outcomes ($\beta = 0.258$) that subsequently enhanced their workplace agility performance ($\beta = 0.394$). Psychological empowerment explained only a small part of the mental health variance (6.6%) yet its joint effect with mental health significantly predicted workplace agility by explaining 31.8% of its variance. The results demonstrate that mental health serves as a vital mediator between psychological empowerment and workplace agility which validates the tested conceptual model.

Discussion

The research examined how mental health and psychological empowerment interact to affect workplace agility among Namibian high school teachers while focusing on mental health as a mediating factor. The study reveals important information about the psychological processes enabling teachers to adjust to changing school environments. The study revealed that mental health significantly workplace agility which aligns with studies underlining psychological well-being as essential for adaptive and proactive behaviors (Robertson & Cooper, 2011; Ryan & Deci, 2001). Educators who maintain strong mental health demonstrate greater emotional resilience and adaptability to change while also remaining open to continuous learning, which are crucial components of workplace agility (Muduli, 2017). The results further confirmed that mental health serves as a mediator on the relationship between psychological empowerment and workplace agility, which ultimately reaffirms that psychological empowerment boosts workplace agility partly by enhancing well-being (Bakker & Demerouti, 2017). This is consistent with the Job Demands–

Resources (JD-R) model (Bakker & Demerouti 2007) stating that workplace and personal resources including empowerment led to improved well-being and performance.

Development of the teacher well-being model



Figure 3: Model on teacher well-being

A key achievement of this study is the development of an integrated model of teacher well-being which connects mental health, psychological empowerment and workplace agility within a holistic framework. This expands on the existing literature by linking individual psychological resources with organisational adaptability, which is an unexplored area within the Namibian context. This model is significant for several reasons. This model integrates three crucial variables into an empirically testable integrated framework instead of examining teacher well-being through separate variables as done in previous studies. The relationship between psychological empowerment and teacher well-being establishes that work environments need to nurture autonomy alongside competence and meaningful impact. The current educational environment requires teachers to manage complex challenges and uncertain situations while meeting various performance expectations (Tshabalala & Potgieter, 2021), making this integrated model especially applicable.

Conclusion

The study investigated how psychological empowerment connects with mental health and workplace agility among high school teachers in Namibia. The research results demonstrate that mental health serves as a fundamental factor for improving both teachers' psychological empowerment and their ability to adapt at work. The study revealed that teachers who felt

empowered experienced improved mental health which helped them to better adapt to educational changes. Workplace agility benefits from psychological empowerment through direct influence and mental health mediation. The promotion of mental health along with psychological empowerment support serves as key strategies to boost teacher effectiveness and resilience. School leaders along with policymakers should create supportive educational environments and establish specific mental health support systems to develop strong and adaptable teaching staff.

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Evaluating the role of Psychological Ownership and Organisational Justice on Turnover Intention of Police Officers in Windhoek, Namibia

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Abstract

The working environment of Police officers is characterised by stress, life-or-death situations and high expectations from society. The public, at times, perceives police officers as ineffective and a threat to the safety of civilians. This study examined the relationship between psychological ownership, organisational justice and turnover intention of police officers. This study made use of a cross-sectional survey design. The sample consisted of police officers from the Khomas region at Katatura, Wanaheda, Klein Windhoek, Central Windhoek, and Otjomuise police stations (n=117). The positive aspects of psychological ownership are negatively related to turnover intention ($r = -.15, p < 0.05$, statistically significant). Organisational justice was negatively related to turnover intention ($r = -.16, p < 0.05$, statistically significant). Enhancing the psychological ownership and organisational justice of police officer may reduce their intent to leave. The results of this study contribute to the understanding of what enhances employees' attitudes and behaviours in vital roles such as the police force, and how it can enhance not only the organisational effectiveness but also improve national security. It may open the door for future studies and guide employers and leaders to develop interventions that prevent employees from wanting to leave the organisation.

Keywords: Psychological ownership (PO); Organisational justice (OJ); Turnover intention (TI); Police offices; Namibia

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Introduction

Working in a police force is known to be stressful and characterised by long working hours, having a huge responsibility and being the centre of law enforcement. These different challenges could potentially harm mental and physical health and lead to turnover intention (Kulachai & Amaraphibal, 2017). Employee attitudes and behaviour within and toward an organisation are influenced by their perception of whether they are being treated fairly or justly. This perception is referred to as organisational justice. Organisational justice is defined as a personal assessment of the ethical and moral conditions of administrative behaviours (Saraswati et al., 2019). Organisational justice is a critical factor for improving the overall performance of employees, as it leads to employees becoming more inclined to do their jobs fairly, follow instructions, be engaged, and work collectively to achieve goals (Pieters, 2018).

Furthermore, psychological ownership affects feelings, thoughts, and behaviour in relation to one's job and the organisation (McConville et al., 2016). McConville et al. (2016) defined psychological ownership as the feeling of being psychologically tied to an object (material or immaterial), where possessions feel like extensions of the self (i.e., it is not only mine, it is part of me).

Understanding psychological ownership may allow the organisation to develop interventions and take responsibility for its employees' attitudes and behaviour (VanDyne & Pierce, 2004). There is little research about the factors affecting police officers' intention to leave the organisation. The police force's efficacy might be greatly improved by lowering the turnover of officers. When organisations, such as the Namibian Police, can understand and predict factors affecting turnover intention, it may improve the public's sense of security.

Therefore, this study aims to explore how the perception of psychological ownership and organisational justice relates to turnover intention among police officers in Windhoek, Namibia.

Literature review

Turnover intention

Turnover intention is defined as an individual's intent to leave an organisation (Kulachai & Amaraphibal, 2017). The intention to leave an organisation is often a result of negative work-related attitudes (Lu et al., 2017). The reasons for leaving are inclusive of, but not limited to, role conflict, personal conflict, professional advancement, or finance (Alhashmi et al., 2017). Empirical research has shown that turnover intention and actual turnover (actual behaviour) are positively correlated (Bothma & Roodt, 2013). Employee turnover is one of the main problems for any business and has long-lasting consequences (Belete, 2018). In addition, organisations experience a variety of negative effects as a result of employee turnover, such as financial expenses in searching for a replacement, and disruptions in achieving goals (Mashuna & Pieters, 2016).

Psychological ownership

Psychological ownership is defined as a mental state in which people feel as though the object of ownership or a portion of that object is theirs (Olckers, 2013). The concept at the centre of this definition is a sense of possession toward a particular target, and it reflects a strong relationship between an individual and the target (Lu et al., 2017). Psychological ownership is made up of negative and positive aspects. Territoriality is the negative element of psychological ownership, and the positive aspect comprises four dimensions: self-efficacy, accountability, sense of belongingness, and self-identity (Avey et al., 2009; Olckers, 2013; Olckers & Enslin, 2016).

Territoriality is defined as the actions or behaviours conducted to mark and defend those objects that one feels cognitive ownership over, and to establish what is 'mine' and not 'yours' (Lu et al., 2017; Olckers, 2013). Individuals who experience territoriality are more likely to exhibit behaviours such as defending what's theirs, preventing other people's access to objects, and controlling access (Zhang et al., 2021).

Furthermore, the fear of losing one's territory may promote politicking and prohibit transparency, collaboration, and information sharing (Avey et al., 2009; Lu et al., 2017).

Self-efficacy refers to people's conviction that they can carry out actions successfully and accomplish a certain task (Avey et al., 2009; Lu et al., 2017; Olckers, 2013). Since self-efficacy has been demonstrated to lower stress, psychological ownership can lessen a worker's negative effects at work by fostering self-efficacy (Zhang et al., 2021). An individual's understanding and feelings of ownership may be closely related to one's drive for effect (Avey et al., 2009; Olckers & Enslin, 2016).

Higher psychological ownership inclinations come with an expectation that the owner may be able to call others to account for effects on the object of their ownership (Avey et al., 2009; Lu et al., 2017). According to Avey et al. (2009), consequences of this anticipated power to hold others accountable include the expectation of sharing information and authorisation to guide the target in a particular direction. Secondly, people have expected obligations for themselves, which are sometimes referred to as a sense of burden sharing (Avey et al., 2009). These responsibilities go beyond the rights people have to hold others accountable. When ownership objectives are seen as an extension of the self, accountability for what happens to and with them has an impact on what happens to and with the self (Avey et al., 2009; Olckers, 2013; Olckers & Enslin, 2016).

Humans have a fundamental desire for a place to live that goes beyond basic physical needs and meets the intense psychological need to belong (Avey et al., 2009; Lu et al., 2017). Employees who feel like they belong in a company build a psychological attachment to that company (Olckers & Enslin, 2016). Psychological attachments make a location or thing feel like a person's home (Olckers, 2013; Pierce et al., 2001). A person's 'home' is not just four walls where you lie to sleep; it can also be a place they feel comfortable, happy, and secure in (Van Dyne & Pierce, 2004). The greatest way to understand psychological ownership in organisations is as a sense of belonging. According to research, *Maletzky, A. K., Haidula, L.O.N., & Pieters, W.R.*

employees would be driven to reciprocate and improve their performance and teamwork once organisations provide them with a sense of belonging (Van Dyne & Pierce, 2004).

An individual develops a sense of importance and connection when they internalise the organisation's identity as a definition of themselves (Avey et al., 2009; Lu et al., 2017). Targets of ownership are frequently used or employed as identity descriptors (Avey et al., 2009). When a person's psychological ownership of a target fulfils their sense of self, they may be inspired to act proactively to safeguard that ownership (Zhang et al., 2021). When certain goals are recognised as extensions of the self, they become fundamental to one's self-identity to the point where people define themselves in relation to them as they grow and learn (Avey et al., 2009; Lu et al., 2017; Olckers, 2013). These goals also provide individuals with a means of demonstrating their own effectiveness and holding both parties responsible for their actions (Avey et al., 2009).

Positive attitude and behavioural outcomes, such as work satisfaction and loyalty to remain in the organisation, are linked to psychological ownership (Olckers, 2013; Olckers & Enslin, 2016). Research states that individuals who stay in their jobs are satisfied with their jobs and therefore have a positive identity with the organisation (Lu et al., 2017).

A sense of psychological ownership results in commitment towards the organisation and minimising intentions to leave (Goreses et al., 2024; Lu et al., 2017). It is suggested that when individuals become psychologically intertwined with an organisation, their behaviours and attitudes change positively due to a sense of increased responsibility (Lu et al., 2017).

Based on the literature discussed, the following hypothesis is developed:

H1: There is a negative relationship between psychological ownership and turnover intention of employees.

Organisational justice

Organisational justice is claimed to be “the glue that holds people together, allowing them to work effectively, whereas injustice tears individuals apart” (Qureshi et al., 2020, p. 446). Instead of focusing on a normative understanding of justice, organisational justice is more interested in the subjective impressions of fairness conveyed by individuals within the company (Van Praet, 2022). Organisational justice is concerned with how individuals in positions of authority treat others; it specifically focuses on how managers and leaders interact with their subordinates (Herrington & Karl, 2013). It is important for organisations to understand the different dimensions of organisational justice to understand the benefits and negative impacts thereof (Bilal et al., 2015). This study defined organisational justice based on two forms of justice, distributive justice and procedural justice. Mohammad et al. (2018) suggest that the concept of being treated fairly, and how it influences attitudes and behaviour, can be better understood when focusing on the whole perception of fairness within an organisation.

Distributive justice is based on the concept that people are not treated differently based on their contribution, referred to as equity. It is also based on the perception that individuals are all treated equally regardless of their contribution to the organisation (Qureshi et al., 2020). That means that when benefits or punishment are distributed, it should be done fairly and not based on the individual who should receive these outcomes.

Procedural justice refers to the processes used to reach just and fair outcomes (Qureshi et al., 2020). Procedural justice is the sense of the fairness of company practices and decision-making (Galván-Vela et al., 2022). It refers to how employees feel about the fairness of the procedures and processes utilised to decide employee outcomes, such as workload distribution or promotions. This kind of justice implies equity in organisational procedures and enhances workers' psychological health, work environment, and performance (Galván-Vela et al., 2022). Organisations can motivate employees to exhibit excellent work behaviours by establishing fair decisions, communicating these decisions clearly,

Maletzky, A. K., Haidula, L.O.N., & Pieters, W.R.

and treating people with respect (Herrington & Karl, 2013). Pieters (2018) noted that in order to enhance the perception of fairness, organisations should communicate their decisions and educate employees about the policies and procedures. An informed employee is more likely to identify with a decision when educated or informed. Organisational justice reported a positive relationship with affective commitment (Pieters & Auanga, 2018). These employees identify with the organisation and choose to work towards the goals and objectives of the organisation.

Based on the literature discussed, the following hypothesis is developed: *H2: There is a negative relationship between organisational justice and turnover intention of employees.*

Method

A cross-sectional quantitative research approach was utilised to gather information on police officers' biographical details, psychological ownership, organisational justice, and turnover intention. The study made use of the positivist paradigm to explore the relationship between the variables. The Positivist paradigm aims at gathering information from participants, trying to reduce bias and remain neutral throughout the investigative process. No manipulation of variables took place. A questionnaire (survey research) was used to collect the data. A cross-sectional study is relatively easy, time-saving and assesses multiple outcomes in a relatively short period of time (Bilal et al., 2015).

Participants

The Namibian police force is made up of 16 493 individuals employed across the country. This study was conducted on police officers selected from the different head offices of NAMPOL in the Khomas region, in the city of Windhoek. Participants were selected from the NAMPOL headquarters and police head offices in Katutura, Wanaheda, Otjomuise, Klein Windhoek and the Central police station. Making use of availability sampling, due to the nature of the project (undergraduate project), the researchers obtained a sample consisting of n=117 participants. Table 1 presents the rest of the biographical information.

Table 1 Biographical Details of Sample

| Category: | Item: | Frequency: | Percentage: | |
|-----------------------|-------------------|-------------------|--------------------|------|
| Sex: | Male: | 57 | 48.7 | |
| | Female: | 60 | 51.3 | |
| Age: | Below 24 | 2 | 1.7 | |
| | 24-28 | 6 | 5.1 | |
| | 29-31 | 9 | 7.7 | |
| | 32-35 | 31 | 26.5 | |
| | 36-40 | 17 | 14.5 | |
| | 46-50 | 22 | 18.8 | |
| | 41-45 | 19 | 16.2 | |
| | 51 and older | 9 | 7.7 | |
| | Missing responses | 2 | 1.7 | |
| | Tenure: | Less than 1 year | 2 | 1.7 |
| | | 1-2 | 3 | 2.6 |
| | | 3-4 | 7 | 6.0 |
| 5-6 | | 13 | 11.1 | |
| 7-8 | | 10 | 8.5 | |
| 9-10 | | 8 | 6.8 | |
| 11-15 | | 32 | 27.4 | |
| 16 and more | | 41 | 35.0 | |
| Missing responses | | 1 | 0.9 | |
| Qualifications: | | Grade 12 | 20 | 17.1 |
| | Certificate | 18 | 15.4 | |
| | Diploma | 23 | 19.7 | |
| | Degree | 24 | 20.5 | |
| | Honours Degree | 22 | 18.8 | |
| | Master's Degree | 7 | 6.0 | |
| | PHD | 0 | 0 | |
| | Missing responses | 3 | 2.6 | |
| Number of dependants: | None | 10 | 8.5 | |
| | 1-2 | 40 | 34.2 | |
| | 3-4 | 36 | 30.8 | |

| | | | |
|-----------------|---|-----|------|
| | 5-6 | 14 | 12.0 |
| | 7-9 | 5 | 4.3 |
| | 10 and more | 6 | 5.1 |
| | Missing responses | 6 | 5.1 |
| Marital status: | Single | 48 | 41.0 |
| | Married | 57 | 48.7 |
| | Divorced | 6 | 5.1 |
| | Widowed | 2 | 1.7 |
| | Missing responses | 4 | 3.4 |
| Rank | Constable | 15 | 12.8 |
| | Sergeant ½ | 28 | 23.9 |
| | Warrant ½ | 30 | 25.6 |
| | Inspector/Chief inspector | 42 | 35.9 |
| | Dep. Commissioner/ Commissioner | 1 | .9 |
| | Dep. Inspector General/ Inspector General | 1 | .9 |
| Total | | 117 | 100 |

Measuring instrument

A biographical questionnaire was used to collect information regarding police officers' age, sex, marital status, tenure, educational qualification, number of dependents and rank. Data on turnover intention were gathered and measured using a 3-item questionnaire on intention to leave the work developed by Michaels and Spector (1982). This scale evaluated police officers' intent to quit using a five-point Likert scale of 1 to 5, where 1 represented strongly disagree and 5 represented strongly agree. Matues et al. (2024) found acceptable reliability of .97 within the Namibian context.

Psychological ownership was measured using the *Psychological Ownership Questionnaire (POQ)* developed by Avey and Avolio (2007). This scale of measurement consisted of 16 items, rating five types of psychological ownership using a Likert-type scale of 1 to 6, where 1 represents strongly disagree and 6 represents strongly agree. Items were used to measure territoriality, accountability, Maletzky, A. K., Haidula, L.O.N., & Pieters, W.R.

sense of belonging, self-efficacy and self-identity. Goreses et al. (2024) found acceptable reliability within the Namibian context, ranging from .73 to .83, respectively.

Data was collected using the *Organisational Justice Questionnaire (OJQ)* developed by Colquitt (2001). OJQ is a self-reporting measure that uses a Likert-scale response range of 1 to 5, with 1 denoting "a very small extent" and 5 denoting "a very large extent". Cronbach alphas were recorded for procedural justice, .88 and distributive justice, .90, and interactional justice, .93 (Pieters & Auanga, 2018), indicating the reliability of the instrument within the Namibian context.

Procedure

Ethical approval was obtained from the University of Namibia's Decentralised Ethics Committee (DEC), human research. Permission to carry out this study was obtained from the Ministry of Home Affairs, Immigration, Safety and Security. Permission to carry out the study was obtained

from all chief officers at each police station. Thereafter, all participants received a brief explanation of the study's objectives as well as questionnaires containing a consent form and the relevant measuring instrument.

Analysis

In order to assess the internal consistency (Cronbach's alpha) of each instrument, data were run through Statistical Package for Social Sciences (version 27), with a minimum reliability of .7 being utilised for each variable, as well as the mean and standard deviation of the variables. To determine the frequency and percentage of biographical information, descriptive statistics were used. The correlations between the variables were established using inferential statistics (Pearson correlation).

Ethical considerations

The Ministry of Home Affairs, Immigration, Safety, and Security approved the study to be conducted. The anonymity and confidentiality of participants in the study were respected. It is unlikely to identify the specific respondents because the data is presented in a summary format. No information on an individual's participation or potential responses will be made available to anyone who is not part of the research. Participation was completely voluntary, and there were no consequences for declining. The ability to withdraw from the study at any time

was disclosed to all participating police officers. Every piece of information was kept confidential and stored away in a secure location after data analysis was completed.

Results

Descriptive statistics and correlations

The means, standard deviation, Cronbach's alpha and correlations were recorded and analysed in Tables 2 and 3 below.

Psychological ownership and Turnover intention

The following mean scores were recorded: 11.03 for territoriality (PO-TE), 14.70 for self-efficacy (PO-SE), 8.93 for accountability (PO-ACC), 17.78 for sense of belonging (PO-SOB) and 13.96 for self-identity (PO-SI). A mean of 55.31 for all the dimensions of positive psychological ownership (PAPO) and 7.86 for turnover intention (TI).

A Cronbach alpha of .81 was recorded for territoriality. Self-efficacy reported a Cronbach alpha of .96, .80 for accountability, and .86 for sense of belonging, .85 for self-identity and .94 for the positive aspects of psychological ownership as a whole. Turnover intention recorded a Cronbach alpha of .93. All variables meet the value of .70, indicating acceptable internal consistency.

Table 2 Mean, Standard Deviation (SD), Cronbach's alpha (α) and Correlations between Psychological Ownership and Turnover Intention

| Item: | Mean | SD | α | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------|-------|-------|-----|------|-------------------|-------------------|-------------------|-------------------|-------|---|
| 1. PO-TE | 11.03 | 4.87 | .81 | - | | | | | | |
| 2. PO-SE | 14.70 | 3.97 | .96 | .03 | - | | | | | |
| 3. PO-ACC | 8.93 | 2.47 | .80 | .12* | .67 ⁺⁺ | - | | | | |
| 4. PO-SOB | 17.78 | 4.68 | .86 | .24* | .56 ⁺⁺ | .65 ⁺⁺ | - | | | |
| 5. PO-SI | 13.96 | 3.63 | .85 | .17* | .56 ⁺⁺ | .50 ⁺⁺ | .78 ⁺⁺ | - | | |
| 6. PAPO | 55.31 | 12.74 | .94 | .16* | .83 ⁺⁺ | .81 ⁺⁺ | .90 ⁺⁺ | .86 ⁺⁺ | - | |
| 7. TI | 7.86 | 5.07 | .93 | .17* | .03 | .01 | .22* | -.19* | -.15* | - |

* Statistically significant: $p \leq 0,05$

+ Practically significant correlation (medium effect): $0,30 \leq r \leq 0,49$

++ Practically significant correlation (large effect): $r \geq 0,50$

Maletzky, A. K., Haidula, L.O.N., & Pieters, W.R.

Using Pearson correlation, territoriality recorded a positive correlation with self-efficacy ($r = 0.03, p < 0.05$; statistically insignificant), with accountability ($r = 0.12, p < 0.05$; statistically significant), with sense of belonging ($r = 0.24, p < 0.05$; statistically significant), with self-identity ($r = 0.17, p < 0.05$; statistically significant), with positive aspects of psychological ownership ($r = 0.16, p < 0.05$; statistically significant) and with turnover intention ($r = 0.17, p < 0.05$; statistically significant).

Self-efficacy recorded a positive correlation with accountability ($r = 0.67, p < 0.05$; large effect), with sense of belonging ($r = 0.56, p < 0.05$; large effect), self-identity ($r = 0.56, p < 0.05$; large effect), positive aspects of psychological ownership ($r = 0.83, p < 0.05$; large effect) and with turnover intention ($r = 0.03, p < 0.05$; statistically insignificant).

Accountability had a positive correlation with sense of belonging ($r = 0.65, p < 0.05$; large effect), self-identity ($r = 0.50, p < 0.05$; large effect), positive aspects of psychological ownership ($r = 0.81, p < 0.05$; large effect) and with turnover intention ($r = 0.01, p < 0.05$; statistically insignificant).

Sense of belonging had a positive correlation with self-identity ($r = 0.78, p < 0.05$; large effect),

positive aspects of psychological ownership ($r = 0.90, p < 0.05$; large effect) and with turnover intention ($r = 0.22, p < 0.05$; statistically significant).

Self-identity had a positive correlation with the positive aspects of psychological ownership ($r = 0.86, p < 0.05$; large effect) and a negative correlation with turnover intention ($r = -0.19, p < 0.05$; statistically significant).

Positive aspects of psychological ownership had a negative correlation with turnover intention ($r = -0.15, p < 0.05$; statistically significant).

Organisational justice and Turnover intention

In Table 3 below, the means, standard deviation and Cronbach alpha, as well as correlations for organisational justice and turnover intention are recorded.

The following mean scores were recorded:

Procedural justice (21.94; OJ-PJ), Distributive justice (12.11; OJ-DJ), organisational justice (34.19; OJ), and turnover intention (7.86; TI). A Cronbach alpha of .86 was recorded for procedural justice, .92 for distributive justice, .91 for organisational justice, and .93 for turnover intention. All the variables are meeting the value of .70, indicating that all instruments used were reliable.

Table 3 Mean, Standard Deviation (SD), Cronbach’s alpha (a) and Correlations between Organisational Justice and Turnover Intention

| Item: | Mean | SD | A | 1 | 2 | 3 | 4 |
|-------|-------|-------|-----|-------------------|-------------------|-------|---|
| OJ-PJ | 21.94 | 6.30 | .86 | - | | | |
| OJ-DJ | 12.11 | 4.68 | .92 | .66 ⁺⁺ | - | | |
| OJ | 34.19 | 10.03 | .91 | .94 ⁺⁺ | .88 ⁺⁺ | - | |
| TI | 7.86 | 5.07 | .93 | -.16* | -.08* | -.16* | - |

*Statistically significant: $p \leq 0,05$

+ Practically significant correlation (medium effect): $0,30 \leq r \leq 0,49$

++ Practically significant correlation (large effect): $r \geq 0,50$

Procedural justice recorded a positive correlation with distributive justice ($r = 0.66, p < 0.05$; large effect), and organisational justice ($r = 0.94, p < 0.05$; large effect). However, a negative correlation was recorded between procedural justice and turnover intention ($r = -0.16, p < 0.05$; statistically significant).

Distributive justice recorded a positive correlation with organisational justice ($r = 0.88, p < 0.05$; large effect) and a negative correlation with turnover intention ($r = -0.08, p < 0.05$; statistically significant).

Organisational justice recorded a negative correlation with turnover intention ($r = -0.16, p < 0.05$; statistically significant).

Discussion and Recommendations

The degree to which employees experience psychological ownership is negatively related to employees' intention to leave. The result suggests that greater perceptions of psychological ownership, such as one's sense of self-identity and the combined aspects of positive psychological ownership, may lessen an employee's desire to leave the organisation. These findings support Hypothesis 1, indicating that psychological ownership is negatively related to turnover intention. Territoriality and sense of belonging (statistically significant), self-efficacy, and accountability (insignificant) reported a positive relationship with turnover intention. It is hypothesised that this positive association could be linked to police officers identifying with the force but also being disappointed with some of the aspects of the work (benefits, salary, working conditions, promotion, supervisory relations, nature of work). Pieters and Hasheela (2018) found that when police officers experience high levels of workload, they are likely to become exhausted and experience lower levels of work engagement.

Psychological ownership is a crucial component of employees' association with the organisation. The more territorial an employee is, the more likely it is that they may intend to leave their work and/or company. Being more linked to the organisation may make employees desire to retain their relationship with the organisation, which Maletzky, A. K., Haidula, L.O.N., & Pieters, W.R.

may lead to employees staying with their organisation (Olckers & Enslin, 2016). These findings concur with those made by Avey et al. (2009), Olckers (2013), and Van Dyne and Pierce (2004). It is thus recommended that organisations enhance the psychological ownership of employees by fostering an inclusive working environment where employees are included in decision-making and the governance of the organisation. The interaction between supervisory staff and other employees may also act as an antecedent of psychological ownership. Supervisors are thus advised to facilitate healthy collegial interactions at work.

Organisational justice is recognised as a psychological and cognitive predictor of numerous organisational factors, such as intention to leave an organisation (Tourani et al., 2016). The relationship between organisational justice in all of its dimensions and turnover intention was examined in this study. This study found a significant negative link between organisational justice and intention to leave.

Results are consistent with Hypothesis 2, which assessed a negative relationship between organisational justice and the intention to leave. This means that when one variable decreases, the other one increases. Overall, there was a negative correlation between turnover intention and organisational justice (procedural and distributive justice).

As a result, when policies are enforced consistently and fairly, and when rewards and punishments are given out equally and fairly, the likelihood that employees may desire to leave the company may be reduced. Employees are more likely to want to remain with a company that treats them fairly and works toward accomplishing the goals of that company if they believe that their interactions with the company are fair (Gelens et al., 2014). It is thus recommended that organisations publish and educate their employees about the different procedures and policies at work. When employees have access to these documents and are educated about these procedures, their levels of organisational justice may be enhanced. It is also recommended that supervisors engage in fair and

transparent interactions with all employees. No favouritism or discrimination should be practised within the workplace. When all employees are treated equally, employees would respect supervisors more and experience higher levels of organisational justice and in turn want to remain at the organisation.

Limitations and recommendations for future studies

Some of the limitations experienced when conducting this study were that the study only focused on police officers within Windhoek in the Khomas region; therefore, the information obtained cannot be generalised to the rest of the police officers in Namibia. The researchers had to visit the NAMPOL head offices multiple times in order to obtain the desired data. Multiple questionnaires were thrown out due to police officers failing to complete them.

It is advised that NAMPOL establishes a foundation for their employees' satisfaction and tries to maintain it through interventions that focus on organisational justice and psychological ownership. This may, in turn, benefit employees and the organisation. It is advised that further research be conducted in order to broaden the sample's focus and provide additional outcomes. Future research might also consider additional indicators of turnover intention in the police force, for example, job satisfaction.

Conclusion

With the findings of this study, NAMPOL can determine what influence of employees' attitudes and behaviour. It can help them develop interventions to lower total turnover. The organisation should continue to offer employees fair performance reviews, as well as general procedural and distributive justice, to reduce employee turnover. A positive perception of organisational justice in police officers has a positive effect on turnover intention, which essentially means that the intention to leave the organisation decreases. The findings of this study further indicated that psychological ownership should be advanced in the organisation in order to reduce turnover intention. The NAMPOL and all of its units may benefit from a deeper

understanding of psychological ownership and organisational justice. If organisations can measure turnover intention, it may assist them in predicting the chances of employees quitting and assist them in identifying areas where overall turnover can be reduced. In essence, favourable circumstances can lessen intentions to leave. These findings are meant to provide a starting point for more empirical investigation into PO and OJ and their relationship with TI. Additionally, these findings may indirectly influence the effectiveness of the organisation and its members.

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Towards Empowerment and Flourishing of South African Indian Women: 165 Years After Crossing the Kala Pani (Dark Water)

Vedhna Dayanand-Lalla and Chrizanne Van Eeden

Abstract

South African Indian women are no strangers to cultural and socio-economic adversity, and they have come a long way since the era of indenture. Their historical experiences have profoundly impacted not only their social, political, and economic standing within South African society, but this historical narrative has also become a crucial part of the Indian woman's identity. The historical narratives of the adversities experienced on board ships crossing the Kala Pani (dark water) and the strong bonds and sisterhood within their families and with other women contribute to the makeup of South African Indian women. Revisiting these women's cultural narratives is crucial and urgent for understanding Indian family dynamics, societal expectations, and the identity of Indian women in present-day South Africa. This qualitative study explored the reflective experiences of South African Indian women (n = 14) regarding their perceptions of empowerment and flourishing, utilising semi-structured interviews and drawing methods. Data were systematically coded and analysed thematically. Six primary themes emerged: (1) culture as a disempowering influence, (2) religion as an empowering force, (3) overcoming cultural barriers, (4) attaining a sense of purpose and strength, (5) resources and strategies for empowerment, and (6) expressions of languishing. The findings suggest that while cultural norms significantly shape these women's experiences, they often pose barriers to empowerment and flourishing. Conversely, religion and other supportive resources play a crucial role in fostering agency and well-being. The study concludes with recommendations for supporting empowerment initiatives and discusses the limitations inherent in the research design.

Keywords: Empowerment; Flourishing; Cultural Norms; Religion; South African Indian Women; Identity; Languishing; Qualitative Research; Thematic Analysis

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Introduction

The history of South African Indian women (SAIW) is marked by migration and resilience, stemming from their ancestors' journey across the Kala Pani (Dark Water) Bates and Carter (2021) during the indenture era. This dark water symbolises a treacherous voyage and a life of exile. This term pertains explicitly to indentured labourers within the British Empire. For many, it embodied a one-way journey into a life filled with harsh conditions and forced labour in distant lands, such as South Africa, from which they were unable or unwilling to return home (Desai & Vahed, 2010). Over the course of 165 years, they have navigated colonial legacies, traditional norms, and socio-political shifts, experiencing adversity, emancipation, and moments of agency. Nevertheless, pathways to empowerment remain constrained by patriarchal, religious, and cultural forces. This study explores how these women perceive their journeys toward empowerment, emphasising factors that facilitate or hinder their flourishing. Recognising their narratives enriches academic discourse on marginalised communities and informs culturally sensitive social interventions. By centring their voices, the research highlights the intersection of culture, religion, and resilience that shapes their realities.

Empowerment, Culture, and Religion

Empowerment, per Kabeer (2001, 2021), is expanding individuals' capacity to make deliberate choices within cultural and systemic contexts, varying by setting and tied to social relations and structures (Bhattarai & Pant, 2013; Nussbaum & Sen, 1993; Riger, 2002, 2014). South African society remains largely patriarchal (Beall, 1990; Mpunzana & Mofokeng, 2023). For Indian women in SA, barriers rooted in patriarchy, apartheid legacies, and traditional gender roles have limited opportunities (Vangarajaloo, 2011; Diesel, 2003, 2005).

Post-apartheid progress continues, but cultural conditioning persists (Hickey, 2006; Mukherjee et al., 2024). Socialisation reinforces hierarchical gender norms from Indian traditions and migration challenges (Jaga et al., 2018; Rutherford, 2007). However, some women draw on faith, resilience, and external resources to pursue empowerment, showing heritage, adversity, and agency at work. The Kala Pani crossings and strong bonds among women shape SAIW's identity, with individuals embodying both past and present connections (Rutherford, 2007). These narratives illuminate evolving gender and identity dynamics in the

South African Indian community (Seedat-Khan, 2013; Patel & Uys, 2013).

Religion

Religious landscapes during the indenture period were dominated by Hinduism, Islam, and Christianity (Desai & Vahed, 2010b). Although none inherently endorses oppression, textual interpretations such as The Laws of Manu historically restricted Hindu women's roles, framing subservience as sacred (Hickey, 2006; Meer, 1972). In South Africa, Hindu and Islamic legal principles have shaped women's social positions, while karma, emphasising collective justice and natural consequences, offers a moral framework distinct from Western divine judgment (Larson, 2020). Higher levels of religiosity among women can bolster resilience and well-being amid adversity (Ozorak, 1996; Spilka et al., 2003; Worell & Remer, 2003).

Religion functions as an orienting force in society, helping individuals define identity and navigate life (Geertz, 1973; Wormley et al., 2025). Religious rituals and beliefs can provide support after conflict or trauma (Astin et al., 1993), and people often turn to religion to cope with difficult experiences (Anastasova, 2014). However, research on flourishing and religion is largely Christian-dominant (Wormley et al., 2025), while others argue that concepts of flourishing and well-being in Indian traditions have been shaped by ancient Indian doctrinal frameworks (Singh & Shukla, 2023). Overall, religious and cultural paradigms continue to influence agency and empowerment.

Flourishing and Culture

Well-being has gained global traction among individuals, organisations, and policymakers, shifting focus from solely mental health to positive functioning and strengths (Butler & Kern, 2016; Seligman et al., 2004). Seligman (1998) urged psychology to examine both positive and negative aspects of behaviour to foster lasting happiness. Keyes (2002, 2006) defines flourishing as a peak state of well-being linked to eudaimonia, the Aristotelian idea that the aim of action is the pursuit of happiness.

In the Indian context, Hiralal (2003) notes that women's roles were confined mainly to being wives and mothers, with deviations facing strong resistance. Men often hold authority, and women are frequently seen as subordinate and primarily domestic, with limited engagement beyond the home.

These patterns reflect structural disempowerment, unfreedoms that constrain authentic self-expression and restrict socio-economic, cultural, and political options (Sen, 2001, 2003).

Eudaimonic and Hedonic Aspects of Flourishing

Eudaimonia and hedonia are central to the study of happiness. Eudaimonia focuses on realising one's highest potentials in line with personal values, while hedonia centres on pleasure and comfort (Waterman, 1993; Huta, 2013; Huta & Ryan, 2010). Aristotle posited that true happiness combines virtue, objective welfare, and subjective well-being (Huta & Ryan, 2010). Although material markers (e.g., a stable home, loving family) matter, fulfilment is not guaranteed, and some individuals with fewer external assets report deep satisfaction (Snow, 2008). Definitions of virtue and flourishing vary across scholars (Fowers, 2012; Huta & Ryan, 2010; Keyes & Haidt, 2003; Ryff et al., 2021; Seligman, 2011; Willen et al., 2022). Seligman & Pawelski (2003) tie flourishing to culture, highlighting relational strength and the freedom to realise capabilities. Nussbaum (2014) emphasises dignity and empowerment, particularly for women, as essential to flourishing.

Methodology

This study reports the qualitative findings from a PhD project using an exploratory, descriptive design. It complied with North-West University Health Sciences Research Ethics Committee, guidelines (approval NWU-00064-22-A1) and ethical principles of trust, respect for diversity, sensitivity, voluntary participation, anonymity, privacy, dignity, non-maleficence, and confidentiality (Fouche & Roestenburg, 2021; Creswell, 2014). Data were collected via semi-structured interviews and projective drawing techniques to explore the lived experiences of South African Indigenous Women (SAIW) aged 19–65 from Gauteng and KwaZulu-Natal (De Vos et al., 2011). Each participant completed an interview and a draw-and-talk activity (Rose, 2022; Theron et

al., 2011). The study aimed to understand participants' perceptions of empowerment, capabilities, and well-being, allowing them to share perspectives in a manner that suited them (Creswell, 2014). This population shares a unique interface of its history of indenture and its interwoven culture and traditions.

Sampling

This article describes the qualitative sampling and recruitment in a social constructivist study. Extreme deviant case sampling (Fouche & Roestenburg, 2021) targeted two age groups (19–35 and 36–65) to maximise variation and illuminate the phenomenon (Seawright, 2016). Participants were recruited from the three major religious groups: Hinduism, Islam, and Christianity, through voluntary enrolment. Ultimately, only Hindu and Muslim individuals volunteered, and Christian participants did not enrol. The study adopts a social constructivist lens (Clark, 2018; Creswell & Creswell, 2017), treating empowerment as a socially embedded construct (Shibina & Vijayalakshmi, 2022).

Recruitment used online advertisements and social media targeted at South African Indian women born in South Africa, aged 19–65, residing in Gauteng or KwaZulu-Natal, who consented to participate. The plan was to recruit two groups of six to eight volunteers. Initial interest came from six women; an independent contact facilitated snowball sampling to recruit eight more. Prospective participants had two days to express interest. Consent was obtained prior to participation, and meetings were held at convenient venues, with travel reimbursements and refreshments provided. A single paid counselling session was offered to those who felt distressed, ensuring voluntary, non-coercive participation.

Data Collection

This passage describes the qualitative data collection and trustworthiness practices of a study on empowerment and flourishing among South African Indigenous Women (SAIW).

Data collection: Semi-structured interviews conducted in English, paired with projective drawing tasks to elicit non-verbal insights. Interviews explored empowerment, capability, flourishing, and the influence of culture, society, and family.

Instrument development: An interview schedule grounded in relevant literature, designed to guide but not constrain the interview flow (De Vos et al., 2011). Drawings were used to supplement verbal data; participants could describe drawings (Mitchell, 2011).

Credibility and rigour: An independent contact facilitated initial contact to minimise coercion.

Interviews were audio-recorded with field notes; drawing content was retained with consent. Debriefings, member checks, triangulation,

reflexivity, and an audit trail per (Creswell & Clark, 2017; Lincoln & Guba, 1985) were employed to strengthen trustworthiness and address potential biases. Confidentiality was maintained throughout.

Literature and ethics

The approach drew on a broad literature base, e.g., (Almeida, 2005; Beall, 1990; Bhattarai & Pant, 2013; Carrim, 2012; Hiralal, 2003), to inform findings, and ethical standards and protocols were followed.

Data Analysis

Interviews were transcribed verbatim and coded using Saldaña’s (2021) coding methods. Thematic analysis guided by Braun and Clarke’s (2006) framework was employed to identify patterns and themes, ensuring that findings reflect participants’ perspectives across Participants1 (P1)–Participants14 (P14), with attention to emotional

and contextual nuances. Analysis began during data collection, incorporating ongoing reflexivity to mitigate potential biases (Mertens & McLaughlin, 2004), and researchers engaged deeply with anonymised transcripts (Vaismoradi et al., 2016). Data were coded in ATLAS.ti 24, starting with first-level coding (Tracy, 2019); themes and subthemes were refined through iterative review, culminating in thematic networks and a comprehensive codebook to support credibility. Visual materials were digitised, uploaded to ATLAS.ti, and integrated into transcripts, then coded and incorporated into the analysis alongside the textual data (Braun & Clarke, 2012).

Results and Discussion

Analysis revealed six interconnected themes, each with sub-themes that embody distinct yet overlapping facets of empowerment and flourishing within this cultural context.

Table 1: Themes

| Themes | Sub-themes |
|--|---|
| Theme 1: Culture underpins women’s disempowerment. | Cultural beliefs/expectations/influence Freedom (strict upbringing) What would the neighbours say? Cultural expressions on marriage Cultural expressions of abuse Gender roles |
| Theme 2: Religion and feeling empowered | Empowerment through religion Fasting as a strength |
| Theme 3: Overcoming cultural obstacles and moving from a state of silence to a state of empowerment. | Cultural silence must be broken Breaking/rejecting cultural barriers |
| Theme 4: What leads them to attain a sense of purpose and strength? | Flourishing Identity Support and supportive structures |
| Theme 5: Strengths and resources related to empowerment and disempowerment | Empowerment through the availability of resources Social connection Capabilities |

| | |
|---------------------------------------|--|
| Theme 6: Sentiments about languishing | Feelings of fear Feelings of despair Depression Languishing |
|---------------------------------------|--|

Theme 1: Culture underpins women's disempowerment

Culture is transmitted intergenerationally and varies across individuals, with many participants reporting that societal and familial norms compel domestic labour while pursuing academics, and depict Indian girls as expected to be quiet, submissive, and modest in dress. Overall, cultural expressions are perceived as disempowering, reinforcing male superiority and home-based privilege, which constrains female agency and has implications for education, self-efficacy, and psychosocial well-being. The discussion invokes Nussbaum's capability Affiliation (B), highlighting social bases of self-respect and equal dignity; P5 and P13 describe being unable to decide their lives, particularly regarding abuse. Reputational concerns, captured by "What would the neighbours say?", historically silence women, e.g., P2: "that's your karma... you have to stay". The tension between cultural conformity and personal aspiration reflects a broader conflict, with norms rooted in stereotypes and autonomy restrictions eroding self-worth and social security, thereby limiting agency and dignity and impacting psychological well-being and social belonging.

Theme 2: Religion and Feeling Empowered

Religion, specifically Hinduism, is portrayed as fostering self-assertion and empowerment through God, prayer, and ritual. Kali emerges as a central symbol of strength and protection; drawings show Kali empowering a participant to discard painful memories, suggesting religion can enhance agency, resilience, and psychosocial well-being. One narrative employs a "bin of the past" to depict the discarding of trauma, with Kali's imagery signifying the destruction of threats to prevent recurrence. Overall, religious symbolism serves as a coping mechanism and source of safety.

The "bin of the past" frames memory consolidation and symbolic release within a healing process that combines ritual separation from memories with meaning-making through protective narrative. The imagery signals agency in recovery and trauma-informed empowerment.

Vedhna Dayanand-Lalla and Chrizanne Van Eeden

P2's visual depicted increased happiness, strength, and confidence after discarding the past, illustrating progress toward capability. Together, these visual and narrative elements function as adaptive meaning-making and ritualised trauma processing that bolster self-efficacy, agency, and a resilient sense of self in the context of abuse, advancing toward capability.

Theme 3. Overcoming cultural barriers and moving from a state of silence to a state of empowerment

The findings reveal a tension between cultural constraints and an aspirational push toward autonomy, safety, and flourishing. Grounded in Sen's (2003) capability approach, participants describe expanding freedoms and social participation as they exercise agency to rework life trajectories. Some challenge stereotypes and advocate for self-authorship, signalling broader capabilities across bodily integrity, practical reason, affiliation, and environmental control. P9 urges breaking boundaries to avoid dependence on others' approval "...I think we need to break the stereotype and the boundaries of, you know, we look for other people or to please the next person.", and P8 advocates self-authorship and resistance to prescribed roles, "I don't want to endure. I want to stand up. I want to take a stand. I want to be my own person. I don't want to be who society tells me to be." Ongoing emotional harms reflect impediments to flourishing, yet there is a movement from constrained functionings to enhanced capabilities, with marriage increasingly reframed as a source of safety. Empowerment emerges as a contextually grounded process shaped by resources, agency, and structure, progressing toward relational and safety-oriented capabilities.

Theme 4. What leads them to attain a sense of purpose and strength

Meaning, agency, and social support, not wealth, drive well-being. Aligning with the capability framework, participants describe growth through protective relationships and expanded opportunities. Personal agency shifts from constraint to self-authored life projects; coworker

support and relational validation bolster self-efficacy, purpose, and resilience within a capability-based model. P1 describes how routine tasks, work, caregiving, and singing for her children culminate in leaving an abusive marriage to pursue children's well-being and employment: "Getting up, doing my household chores, going to work, coming back, and singing to the boys."

Theme 5. Strengths and resources relating to empowerment

Autonomy and social capital enable authentic living and escaping coercion. Resilience, symbolised by growth metaphors, underpins continued progress. Access to freedom of choice, supportive relationships, and stable resources translates into tangible improvements in well-being, consistent with Robeyns' (2003) capabilities framework and socio-structural empowerment. P12 emphasizes prudent freedom to make autonomous choices: "that freedom, obviously not being reckless, but being able to make your own decisions."

Theme 6. Sentiments of Languishing

Two participants exhibit languishing, a mid-range state between thriving and depression marked by reduced purpose and self-doubt that hinder the translation of latent capacities into action. One participant's fractured sense of self and uncertain prospects illustrated that latent capabilities and social supports do not guarantee functioning, underscoring the need to address agency, resources, and structural constraints. Theoretically, languishing aligns with Sen's (2003) capability approach as a deficit in real freedoms and with Robeyns' (2017) focus on gaps between potential and exercised capabilities. From an empowerment perspective, it signals misalignment among resources, agency, and achievements, indicating a need for interventions to expand opportunities and autonomy. In terms of flourishing, languishing reflects deficits in PERMA domains, engagement, and positive relationships, risking well-being if unaddressed (Seligman, 2018; Keyes, 2002). Overall, flourishing requires actively expanding capabilities and culturally sensitive empowerment, acknowledging the non-linear path from latent potential to sustained well-being.

Limitations and Recommendations

This qualitative study on empowerment and flourishing among South African Indian women is limited by its small, context-specific sample. Future research should involve larger, more diverse cohorts across SA provinces, replicate in *Vedhna Dayanand-Lalla and Chrizanne Van Eeden*

other culturally restrictive settings, and adopt longitudinal designs to track empowerment trajectories.

Conclusion

Cultural norms often constrain empowerment, but religious belief can function as a healing resource. Women can navigate cultural barriers, derive meaning, and access empowering resources, though marginalisation persists. Interventions should respect cultural histories while fostering agency to promote genuine flourishing. The study supports a dynamic, ongoing empowerment process where culture, religion, and social resources interact, and calls for methodological expansion to identify practical, culturally sensitive strategies that sustain flourishing for scholars, practitioners, and policymakers.

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**Investigating the Impact of Work Stress on Flourishing of Employees During the COVID-19
Pandemic in Namibia**

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Abstract

Since the outbreak of the coronavirus, a rapid decline in employee well-being has emerged, as well as an increase in work stress for employees. Many of these stressors existed before the pandemic; however, they were amplified further. It is vital to reduce work stress and enhance the well-being of employees, considering their contribution to overall economic and social development. This study seeks to explore the extent to which work stress is related to the flourishing of employees from selected industries in Namibia. Reducing the occupational stress that employees encounter might lead to greater flourishing and employee productivity. This study made use of a quantitative research approach and applied a descriptive design through the use of a questionnaire. The sample consisted of n=666 employees from various industries in Namibia. Work stress was reported to have a positive relationship with flourishing in this study. The implementation of wellness programs could help employees cope with stressors they might experience at work and hence promote flourishing. Literature indicates that this is the first study to research this relationship in selected industries. This study adds to the knowledge within the field of psychology and the understanding of work stress.

Keywords: work stress; flourishing; COVID-19, media, construction, education, medical personnel, Namibia

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Introduction

According to a survey conducted by the Namibian Statistics Agency (2020), 87.9% of businesses were significantly affected by the COVID-19 pandemic (Namibia Statistics Agency, 2020). The present study explores how work stress influenced various employees' flourishing levels in selected industries in Namibia. These industries include the media, construction, education and medical sectors of Namibia. During the lockdown quarantine period, people were forced to stay at home, avoid crowded markets and disregard the informal sectors (Julius et al., 2020). During the COVID-19 pandemic, work stress levels were heightened for many organisations, including the informal sector. These businesses' operations and profits were influenced during the pandemic.

Different employees in Namibia's sectors cannot work from their homes (such as the medical sector and construction employees). The coronavirus pandemic has further resulted in a loss of employment for many employees and forced individuals within these specific sectors to reduce their working hours. This, in turn, led to a reduction in salaries and in employees going on temporary, unpaid leave (Fernandes, 2020). The remaining employees were put under pressure to complete their own duties and the work of those who were on leave or who were dismissed. This leads to an increase in workload (work stress) for these employees. During the COVID-19 pandemic, the media industry needed to alter its business strategies and methods to enhance involvement from its customers (Ciampa & Loucks, 2020). This was accomplished by shifting most of their operations to online platforms like many other organisations and sectors (Pérez-Escoda et al., 2020).

According to Priyashantha (2018), stress is a critical element that can influence an employee's success in a company. The success of an organisation is tied to the success of its employees. Stress factors may include reduced organisational and overall employee performance; reduced quality of work; increased mistakes; absenteeism due to health issues (specifically,

anxiety, mental disorders, and depression); other physical attributes such as headaches, obesity and heart attacks; and higher staff turnover intention (Ajayi, 2018). It is therefore important to reduce work stress, not only in the different industries, but in all workplaces. Ariza-Montes et al. (2001) noted that employees who are flourishing are experiencing well-being on a social, psychological and emotional level. These employees can contribute to the success of the organisation and live healthier lives.

Literature review

Work stress

Occupational/work stress is a real and increasing problem in today's life (Harshana, 2018). It is a universal concept that constantly disrupts people's lives in both a direct and indirect manner (Ali & Abid, 2015). Stress is the exerted force, pressure or tension laid upon a person that may include inadequate or impartial changes in their behavioural and psychological systems, which may lead to multiple physical and psychological diseases if increased (Ali & Abid, 2015). If individuals are presented with overbearing work demands that are outside of their knowledge and capabilities, it may lead to negative responses. These responses might be challenging and exceed the individuals' coping abilities within the respective job, and result in job stress (Twusami & Gyensare, 2016). Work stress is also described as a non-specified response the body reacts to when any demand is placed upon it, accompanied by multiple factors such as performance, motivation and employee well-being (Harshana, 2018). As soon as employees start to experience the 'pressure to perform', this can manifest in increased efforts by meeting higher expectations with no increase in job satisfaction (Ganapathi & Panchanatham, 2012).

Antecedents of work stress

Every individual in society is facing stress in different forms and impacts (Ali & Abid, 2015). Literature highlights different categories, such as the *work environment, support from*

management or workload, to determine how employees' physical and psychological health is affected through stress (Ali & Abid, 2015).

One major antecedent found in work stress is **role conflict** (Twumasi & Gyensare, 2016). When role conflict occurs, individuals are obliged to take on the responsibility of two or more role requirements that conflict with one another, and the individual is likely to experience work stress (Twumasi & Gyensare, 2016).

When an employee is uncertain about what they have to do regarding their job and lacks information about what role they occupy in the organisation, they might experience **role ambiguity**. Role ambiguity leads to these employees experiencing stress at work (Usman et al., 2011).

Workload is another radical source of job stress, and it creates unnecessary pressure on an employee to work adequately and effectively. It is defined as the concentration of assignments at work, including working long hours and the intensity of the work (Olukayode, 2017). With this pressure, the **job demands** of the employees cannot be met, and the satisfaction felt is replaced with feelings of stress (Ali & Abid, 2015).

If an organisation fails to appreciate its employees or recognise their hard work, it can lead to another factor known as **job insecurity** (Soelton et al., 2019). Job insecurity is a psychological condition that is defined as the fear and anxiety an employee might experience as they are worried about the continuity of his/her work in the future (Soelton et al., 2019).

Job dissatisfaction is an antecedent of work stress. Job satisfaction is the positive emotional reaction a person experiences to a particular job and the extent to which an individual is satisfied with their job (Usman et al., 2011). Job satisfaction has a negative relationship with job stress (Usman et al., 2011).

Outcomes related to work stress

Work stress can be immensely time-consuming and costly to an organisation. It leads to **low productivity**, which, at the end of the day, is the

main reason for the organisation's existence (Peek, 2021).

Productivity decreases when **absenteeism** increases. This usually accompanies occupational stress and conflict (Fisher, 2021). Lloyd (2016) noted that work stress is regarded as the main reason for extended sick leave or absence from work. Absenteeism leaves the remaining workers with extra duties and responsibilities to complete, placing them under additional pressure and stress.

Work ethics are the responsibility and ethical demands people adhere to in the organisation (Salajeghe & Farrokhiyan, 2015). A good standard practice of work ethics promotes positive relationships with co-workers, reduces conflicts, allows room for differences among employees and supervisors, which then leads to less job stress in the future (Salajeghe & Farrokhiyan, 2015).

Some consequences of work stress are **mismanagement**. Business managers may be too authoritative, disorganised, cause infighting and do not manage employees/organisations well (Ganapathi & Panchanatham, 2012). Work stress may also negatively influence economically conditioned employees. These factors include fear of job loss, downsizing, reduction of hours, retrenchments and loss of benefits (Ganapathi & Panchanatham, 2012). Employees may sustain their families through work, and these **negative outcomes** may increase work stress for these employees.

Burnout is an outcome of work stress. The outcome may produce physical, mental and emotional fatigue for employees. Burnout explains the psychological or physical energy an individual loses when a business does not support or meet the employee's needs or expectations (Soelton et al., 2019).

Flourishing

Flourishing, as part of positive psychology, is defined as a multi-dimensional construct that can be accomplished when an individual experiences a healthy level of each dimension (Ackerman, 2021). These dimensions include emotional, social and psychological well-being (Ackerman, 2021). Flourishing can also be related to self-

development and growth. To find satisfaction with one's life, reach meaningful tasks and have links with others at a deeper level, as well as live the 'good life', is elucidated as flourishing (Ackerman, 2021). It is seen as the pursuit and engagement of a worthwhile life that brings joy and happiness by meeting goals and accomplishments. The opposite of flourishing is languishing and pathology (Romanov, 2005).

Antecedents of flourishing

Ariza-Montes et al. (2001) found that work engagement is positively related to flourishing. **Work engagement** is described as a positive state in workers that is represented by vigour, dedication and absorption (Ariza-Montes et al., 2001).

Positive work relationships can be responsible for flourishing or languishing at work (Vieira, 2016). Work relationships support employees by assisting them in tasks, career advancements and by providing emotional support. When this support continues, it leads to employees experiencing higher levels of job satisfaction, deeper friendships, personal growth and a higher intent to help others (Vieira, 2016).

Another antecedent, **management level**, indicates the extent to which individuals flourish (Rautenbach, 2015). Those individuals who are situated in higher positions have more autonomy, competence and relatedness, leading them to experience lower levels of languishing (Rautenbach, 2015).

Flourishing is positively correlated with **person-environment fit** (Redelinguys et al., 2019). The higher the level of fit between the workplace and the individual, the higher levels of flourishing the person will experience (Redelinguys et al., 2019).

Conscientiousness, extraversion and neuroticism are **personality traits** that contribute towards flourishing levels (Schotanus-Dijkstra et al., 2015). Conscientiousness and extraversion increase when flourishing increases. However, when neuroticism decreases, flourishing increases (Villieux et al., 2016).

Individuals' **relationship status** affects their well-being (VanderWeele, 2017). Those who are married or engaged to be married experience more meaning, purpose and higher life satisfaction, leading to higher levels of flourishing (VanderWeele, 2017).

Outcomes of flourishing

An **improvement in physical health** can emerge when flourishing levels are raised (Fredrickson & Losada, 2005). When individuals experience optimal well-being, it decreases stress levels, cardiovascular issues, and blood pressure and produces a 'good-feeling' (Fredrickson & Losada, 2005).

Apart from the physical outcomes of flourishing, employees may also experience psychological benefits. Individuals who languish are more prone to **mental health issues** and are expected to have a lower life expectancy (Keyes, 2016). Flourishing reduces **suicidal thoughts and tendencies** in individuals (Keyes, 2016). When a person experiences low levels of well-being, their risk of developing depressive symptoms increases (Golena, 2016). **Absenteeism** is more prominent in individuals who do not experience flourishing (Keyes, 2016). People tend to miss more days from work or take more 'personal' leave when they experience languishing, and this may lead to less productive work from employees and decrease organisational productivity (Huppert & So, 2009).

Furthermore, an increase in flourishing levels leads to a decrease in **healthcare expenditure** for employees (Huppert & So, 2009). Employees who experience flourishing are healthier, thus requiring less or no healthcare intervention.

The Person-Environment fit Theory in relation to work stress and flourishing

The Person-Environment fit Theory (PET) is a stress theory that measures how workers fit into the broader environment that surrounds them. PET is the interaction between an employee's characteristics and the environment, where the employee influences the environment and vice versa (Rauthmann, 2021). The higher the deviant/variation, the more stress individuals feel

(Pezaro, 2018). One of the main concepts of the PE fit theory is that stress does not arise from the environment or person individually, but rather from the correlation they have with one another (Edwards, 2008; Edwards et al., 1998). As demonstrated in Figure 1, a distinction is made between the objective and subjective representation of the person and the environment. The objective person signifies the person as they exist in reality, whereas the subjective person represents the individual's knowledge of their own attributes, for example, self-concept/identity of the person (Edwards, 2008; Edwards et al., 1998). The objective environment refers to the actual physical and social conditions and events as they exist, liberated from the person's knowledge, whereas the subjective environment demonstrates the situations and events as perceived by the person. The differences mentioned above join together to produce four types of correspondences between the person and the environment constructs (Edwards, 2008; Edwards et al., 1998). Firstly, the objective PET, which mentions the fit between the objective environment and the objective person. Secondly, the subjective PET is the fit between the subjective person and the subjective environment. Thirdly, contact with reality shows how the objective environment interacts with the subjective environment. Lastly, the accuracy of self-assessment refers to the correspondence between the objective person and the subjective person.

Coping and defence are ways in which PE efforts can be resolved. Coping refers to the efforts in which the objective PET can be improved by changing the objective person or the objective environment (for example, adaptation). Defence entails the efforts in which one can enhance the subjective PET by distortion in cognitive abilities of the subjective person or environment (examples are repression, denial, projection) without manoeuvring their objective parts (Edwards, 2008; Edwards et al., 1998).

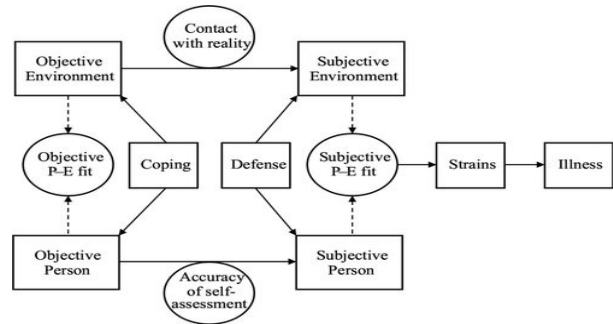


Figure 1: Person- Environment Fit Theory (Edwards, 2008).

Based on the literature and theories discussed, the following hypotheses were developed. *Hypothesis 1: There is a negative relationship between role ambiguity, workload, job insecurity and flourishing.* *Hypothesis 2: Work stress is negatively related to flourishing.*

Method

Research design

This research endorsed a quantitative research method, gathering data in numerical form and analysing it with the help of mathematical methods, in specific statistics (Apuke, 2017). The study employed a descriptive research design, which explains the characteristics of the variables in a study (Aggarwal & Ranganathan, 2019). The survey method was used during this study, and it explains how information was gathered from a sample of people through their responses to questions (Ponto, 2015).

Population and sample

Availability sampling was implemented. Availability sampling is a non-probability sampling technique used to select a sample of subjects from a population (Etikan, 2016). The sample (n= 666) consisted of respondents from the media, construction (construction company in Namibia), education (teachers from primary and secondary schools in Rundu; employees from the University of Namibia) and health industries (hospitals in the Khomas region).

Research instrument

The demographic section contained questions related to the respondents' sex, age, marital status, qualification level, number of dependents, number of years in the profession and management level.

Three categories were used to measure work stress, with 17 items in total. These categories included role ambiguity, workload, and job security. The first category, role ambiguity, answered questions such as "The aims of my job are clear". It was measured using the *Role Conflict and Ambiguity Scale* (Rizzo et al., 1970), which involves a 6-item questionnaire where respondents choose between a 5-point scale varying from 1 (totally disagree) to 5 (totally agree). The remaining categories, workload and job security, were evaluated with the use of the *Job Demand-Resource (JD-R) Questionnaire* (Jackson & Rothmann, 2005). Questions such as "Do you have too much work to do?" were implemented for workload, and "Do you need to be more secure that you will still be working in one year's time?" for job insecurity. Answers were labelled on a 4-point scale, including 1 (never), 2 (some of the time), 3 (most of the time), and 4 (always). These two questionnaires, workload and job insecurity, reported reliable results with $\alpha=.90$ and $\alpha=.75$ (Rothmann et al., 2006), making them reliable dimensions of the Job Demands-Resource Questionnaire. The final instrument used in this study was for flourishing, consisting of three sub-components: emotional, social and psychological well-being. These constructs were measured using a 17-item scale, emotional well-being, consisting of three questions; psychological well-being, consisting of nine questions; and social well-being, consisting of five questions. The *FWS-SF* consisted of a 6-point rating scale, 1 being 'never' and 6 being 'every day', and has a reliability score of $\alpha=.82$ and $\alpha=.93$, making it a reliable instrument for measuring flourishing in employees (Rautenbach & Rothmann, 2017). The work stress and flourishing instruments were used within the Namibian context and found to be reliable.

Research procedure

This study combined data from five smaller projects focusing on work stress and flourishing. The University of Namibia's Department of

Psychology and Social Work provided ethical clearance. The online survey and the pen and paper questionnaire included an informed consent section on which respondents indicated their willingness to participate in the study. Electronic reminders and phone calls were administered weekly for participants to complete the questionnaire; this continued over the course of two to four months. The data was collected between June 2021 to September 2021.

Data analysis

The data analysis was captured and analysed using SPSS. Descriptive statistics were obtained by computing minimum and maximum values as well as the sum of the dataset. The reliability analysis was conducted to calculate Cronbach's alpha for the different sub-dimensions of each variable to achieve significant levels (.65 and above).

Research ethics

Anonymous responses were used, providing participants with anonymity when completing the questionnaire. This was a voluntary survey, and it allowed respondents to withdraw from the study at any given time with no consequences. No participants were coerced into completing the questionnaire. The contact details of the researchers were added to the survey, and they were the only individuals who had access to the data. The data will be stored for five years on Google Drive with password protection.

Results

The sample consisted of $n=666$ participants from Namibia. Mostly males ($n=344$, 51.7%) participated in the study. The sample consisted of 11.9 ($n=79$) participants aged below 24 years. Respondents who had no children were 12.9% ($n=86$). A total of 50.2% ($n=334$) of participants are single. Some participants obtained a qualification level of grade 12 (9.3%, $n=62$). For tenure, 5.7% ($n=38$) were in the industry for less than 1 year. The complete information is presented in Table 1.

Table 1: Biographical details of the Sample

| Category: | Item: | Frequency: | Percentage: |
|----------------------------------|---------------------------------|------------|-------------|
| Sex: | Male | 344 | 51.7 |
| | Female | 322 | 48.3 |
| Age: | Below 24 | 79 | 11.9 |
| | 24-28 | 115 | 17.3 |
| | 29-31 | 102 | 15.3 |
| | 32-35 | 77 | 11.6 |
| | 36-40 | 112 | 16.8 |
| | 41-45 | 75 | 11.3 |
| | 46-50 | 48 | 7.2 |
| 51 and older | 58 | 8.7 | |
| Number of dependents (children): | None | 86 | 12.9 |
| | 1-2 | 228 | 34.2 |
| | 3-4 | 182 | 27.3 |
| | 5-6 | 33 | 5.0 |
| | 7-9 | 7 | 1.1 |
| | 10 and more | 2 | 0.3 |
| Marital status: | Single | 334 | 50.2 |
| | Married | 275 | 41.3 |
| | Divorced | 32 | 4.8 |
| | Widowed | 25 | 3.8 |
| Qualification level: | Grade 12 | 62 | 9.3 |
| | Certificate | 42 | 6.3 |
| | Diploma | 79 | 11.9 |
| | Degree | 106 | 15.9 |
| | Honours degree | 196 | 29.4 |
| | Master's degree | 131 | 19.7 |
| Phd degree | 50 | 7.5 | |
| Years in profession: | Less than 1 | 38 | 5.7 |
| | 1-2 | 106 | 15.9 |
| | 3-4 | 177 | 26.6 |
| | 5-6 | 121 | 18.2 |
| | 7-8 | 69 | 10.4 |
| | 9-10 | 46 | 6.9 |
| | 11-15 | 48 | 7.2 |
| | 16 and more | 23 | 3.5 |
| Industry | Primary and secondary education | 101 | 15.2 |
| | Construction | 153 | 23.0 |
| | Tertiary education | 151 | 22.7 |
| | Media | 108 | 16.2 |
| | Medical | 153 | 23.0 |
| Total | | 666 | 100.0 |

Table 2 presents the data for the Mean, Standard Deviation (SD) and Cronbach's alpha of each dimension/ variable. All dimensions were reported

as reliable. The relationship between the different dimensions and variables is presented in Table 2.

Table 2: Descriptive statistics and Pearson rank order correlation

| Item | Mean | SD | α | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|---|
| 1.WS_RA | 11.01 | 4.98 | 0.91 | - | | | | | | | |
| 2. WS_WL | 9.05 | 7.64 | 0.74 | -.05* | - | | | | | | |
| 3. WS_JIN | 5.22 | 2.08 | 0.89 | -.24* | .06* | - | | | | | |
| 4.WS_COM | 37.90 | 13.21 | 0.71 | .41*+ | .85++ | .13* | - | | | | |
| 5. FL_EWB | 11.80 | 7.88 | 0.71 | -.12* | .03 | -.04 | -.03 | - | | | |
| 6. FL_PWB | 40.60 | 11.46 | 0.78 | -.24* | .67++ | .04 | .45*+ | .17* | - | | |
| 7.FL_SWB | 21.53 | 5.71 | 0.89 | -.21* | .04 | -.06* | -.11* | .24* | .64++ | - | |
| 8. FL_COM | 73.93 | 19.05 | 0.82 | -.26* | .43*+ | -.01 | .22* | .59++ | .87++ | .79++ | - |

* Statistically significant: $p \leq 0,05$

+ Practically significant correlation (medium effect): $0,30 \leq r \leq 0,49$

++ Practically significant correlation (large effect): $r > 0,50$

Key:

FL_EWB = Flourishing Emotional Well-Being
 FL_PWB = Flourishing Psychological Well-being
 FL_SWB = Flourishing Social Well-being
 FL_COM = Flourishing Combined
 WS_RA = Work Stress Role Ambiguity

WS_WL = Work Stress Workload
 WS_JIN = Work Stress Job Insecurity
 WS_COM = Work Stress Combined

Discussion

The aim of this study was to investigate the relationship between work stress and flourishing. *Hypothesis 1: There is a negative relationship between role ambiguity, workload, job insecurity and flourishing.* Role ambiguity reported a negative relationship with workload. When employees experience role ambiguity because they do not understand their role expectations, it increases their workload and leads to increased pressure for the employee (Eliyana, 2020). During the COVID-19 pandemic, it being a novel virus and an experience in the workplace, most organisations did not know how to manage these work-related challenges regarding the health regulations. Employees were expected to become accustomed to the “new normal”, adding to work stress. Trying to execute work duties differently added to the work stress and required new and additional skills to complete tasks.

Role ambiguity reported a positive relationship with emotional well-being. Role ambiguity can be regarded as a demand. Based on the JD-R model, role ambiguity should reduce the well-being of employees. Role ambiguity reported a positive relationship with psychological well-being. Under normal circumstances, not during the stressful times of the pandemic, having more work guidelines can be an advantage. People have differing levels of coping. During the pandemic, employees were inundated with stressors to the point that the stressors exceeded their coping levels. When more role guidelines (additional work) are not provided during stressful times, it can be beneficial. The findings of this study are contradictory to the literature discussed and reject *Hypothesis 1* of this study.

Role ambiguity reported a negative relationship with social well-being. When employees do not receive the necessary guidelines (resources) from

the employer, they are less likely to feel part of the organisation. Role clarity acts as a resource and stimulates reciprocity as part of the employment relationship. The more support (resources) employees receive from the organisation, the more they may feel inclined to reciprocate the same way. This finding supports *Hypothesis 1* of this study.

This study found a positive relationship between role ambiguity and flourishing. This finding rejects *Hypothesis 1* of this study. O'Brien (2019) noted that job demands, like role ambiguity, enhance burnout and reduce motivation if insufficient resources are provided. Findings from Brunetto et al. (2011) indicate that the higher an employee's role ambiguity, the lower their well-being. The findings of this study are different, emphasising that role ambiguity was a resource for the surveyed employees, resulting in improved levels of flourishing (well-being).

Workload reported a positive correlation with emotional well-being. An increase in workers' workload weakens their well-being (DiStaso & Shoss, 2020). The findings of this study are contradictory to the findings of DiStaso and Shoss (2020).

A positive relationship was reported between workload and psychological well-being. Men tend to benefit from an increase in workload as this leads to higher self-acceptance, personal growth and purpose in life (Lindfors et al., 2006). The opposite was true for women. Additional workload, when managed, can provide learning opportunities that may enhance employees' perceived competence and meaning in the work they do.

A positive relationship between workload and social well-being was found in this study. Higher work demands can, however, prevent workers from flourishing (Marais-Opperman et al., 2021). This study reported a positive relationship between workload and flourishing; this is inconsistent with the findings from Horii et al. (2019). Janse van Rensburg et al. (2018) found a negative relationship between workload and flourishing, thus disagreeing with the results found in this study. The positive relationship between workload, emotional well-being,

psychological well-being, social well-being and flourishing rejects *Hypothesis 1* of this study.

A negative relationship was reported between job insecurity and emotional well-being. Employees have lower levels of positive affect and higher levels of negative affect when they undergo job insecurity, thus agreeing with the literature from Pacheco et al. (2020). When employees are uncertain about the security of their jobs, it negatively affects their performance and well-being (Darvishmotevali & Ali, 2020). Job insecurity showed a negative relationship with social well-being. When employees are uncertain about their future at the organisation, they are unlikely to feel that they belong at the organisation. A negative relationship was reported between job insecurity and flourishing. Employees are less likely to flourish or experience high levels of well-being when they are uncertain about their future work prospects (Van Dam et al., 2020). The negative relationship between job insecurity, emotional well-being, social well-being and flourishing supports *Hypothesis 1* of this study.

Job insecurity reported a positive relationship with psychological well-being. An employee who experiences insecurity in their organisation undergoes higher health disorders such as stress, anxiety and depression, which are factors of psychological well-being (Nica et al., 2016). The constant worry about one's future at an organisation depletes coping resources and levels of well-being. The findings of the study reject *Hypothesis 1*.

Work stress (combined) reported a negative relationship with emotional well-being. Employees who are stressed may feel worried, down, unable to concentrate or make decisions, and they report lower levels of emotional well-being (Doughty, 2020).

During the pandemic, employees did not have control over a lot of things. Work stress is reported to have a positive relationship with psychological well-being. It is hypothesised that during the pandemic, employees found meaning in their work, and that was one of the aspects that they could "control" or focus on by executing their duties effectively.

This study reported a negative relationship between work stress and social well-being. This supports the findings by Bliese and Edwards (2017), who state that instead of seeking support, employees who are stressed withdraw from others. Increased stress at work leads to difficulty in forming interpersonal relationships at the organisation, resulting in experiencing lower levels of social well-being (Bliese & Edwards, 2017).

Work stress reported a positive correlation with flourishing. The findings of this study reject *Hypothesis 2*. An increase in positive work stress (eustress) increases an employee's flourishing through more challenges and experiences (Kim & Beehr, 2020). It is hypothesised that the work stress experienced had a positive effect on employees. This positive relationship would also stem from the work experiences during the pandemic, where meaning and hope were experienced at work.

Recommendations

The main aim of this study was to assess the relationship between work stress and flourishing. Understanding the role that the dimensions of work stress play may enhance the overall understanding of the interaction between work stress and flourishing, and it also provides specific recommendations. *Hypothesis 1* investigated the negative relationship between role ambiguity, workload, job insecurity and flourishing.

This study found a positive relationship between role ambiguity and flourishing. This indicates that the fewer guidelines employees received, the healthier they were during the pandemic. It is thus recommended that managers and organisations should consult employees during strenuous times before implementing new or additional guidelines related to work procedures. Consulting employees enhances the possibility of introducing interventions that may be beneficial, and it increases buy-in into the changes. Managers and organisations need to be educated about the way employees react when under pressure. By understanding that employees may become actively disengaged when their coping resources are overextended, employers may be more cautious when trying to "help".

Bakker et al. (2003) noted that job resources may mitigate the impact of job demands like workload. This study found a positive relationship between workload and flourishing. This means that the more work employees were required to complete, the healthier they were. This study recommends regular evaluation of job demands and job resources. Experiencing a balanced relationship between job demands and job resources may result in motivation and well-being. This study also recommends that organisations provide employees with the needed resources to ensure that even during stressful times, employees remain motivated, engaged and healthy.

This study found a negative relationship between job insecurity and flourishing. This indicates that when employees are uncertain about their future at the organisation, they experience ill health. Soelton et al. (2019) noted that when employees experience job insecurity, they are likely to experience higher levels of stress. Being uncertain about your future at the organisation, being uncertain about how to provide for yourself and/or family, can be stressful and hinder your concentration at work. The uncertainty and constant worry can reduce employees' well-being. It is thus recommended that organisations communicate to employees about possible retrenchments. Being informed about retrenchments may better prepare employees for the possible outcome. Employees may prepare a backup plan or save money for the uncertain future. If no retrenchments are expected, communicating that may also reduce the stress experienced and improve well-being.

Hypothesis 2 investigated the negative relationship between work stress and flourishing. The results of this study rejected *Hypothesis 2*. Work stress reported a positive relationship with flourishing. Bienertova-Vasku et al. (2020) noted that stress can be classified as positive or negative based on the adaptation of the individual. Based on the General Adaptation Syndrome, the body reacts to stress in different ways, and when satisfactory adaptation is achieved, it is regarded as positive stress. The surveyed employees adapted satisfactorily to the work stress; thus, they experienced flourishing. Based on the findings, this study recommends resilience training focusing on cognitive reframing to enhance

adaptation and interpretation of stressors. When employees become more resilient, able to adapt better to stressors, and have the needed coping skills, they have more personal resources advancing their adaptation and coping ability during stressful times. Work stressors such as workload (more or challenging work) may be increased incrementally to foster adaptation and personal resources of employees. These increments can be related to job enrichment and job enlargement.

Employers should be aware of the mental health and well-being of their employees, as it may play a role in their work performance (Janse van Rensburg et al., 2018). Organisations need to provide regular wellness workshops to educate and assess the well-being of employees. Being educated about the possible work stressors may equip employees with the knowledge to identify stressors and better handle them. Identifying stressors earlier enhances the effectiveness of treatment and reduces the long-term irreversible impacts of these stressors.

Implementing regular organisational activities (such as team building, sport days, having a barbecue after work once a month, or attending social events) can help strengthen social relations amongst employees. This leads to employees making strong connections at the workplace and increases their social well-being.

Based on the explanation of the JD-R model, job resources may mitigate the impact of job demands

(work stress). It is thus recommended that organisations regularly assess the performance of employees to make recommendations about the needed resources and skills to function effectively. Enhancing the competencies of employees through regular training and workshops may ensure improved functioning and reduced stress levels.

The organisation needs to provide employees with genuine feedback regarding their work, whether it is good or bad (Christiansen, 2019). Thus, it is recommended that managers and supervisors provide employees with regular feedback. If performance feedback is given in a respectful and non-judgmental manner, negative feedback can benefit employees by motivating them to work harder or highlighting areas of improvement.

Conclusion

This research sought to determine the relationship between work stress and flourishing of employees. Role ambiguity and workload reported a positive relationship with flourishing. Job insecurity reported a negative relationship with flourishing. Work stress reported a positive relationship with flourishing. These findings are novel and different from findings in the literature. This study made recommendations that may enhance employees' resources, reduce the impact of work stress and improve employee well-being. Future studies may consider evaluating the role of mediators like resilience, autonomy and meaning.

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