Indian Journal of Psychological Science

Internationally

Indexed, Refereed and Peer Reviewed

UGC –CARE LIST:
UGC Approved: Emerging Sources Citation Index:

WoS **https://mjl.clarivate.com:/search-results?issn=0976-9218**

I J P S

The official organ of:

National Association of Psychological Science

(Regd.)

www.napsindia.org Email: managingeditorijps@gmail.com, Phone: 9417882789

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Nature Connectedness: Its Impact on, Proactive Coping and Emotion Regulation in Emerging Adults

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ABSTRACT

Background: 'Emerging adult', the period from the end of adolescence to young adulthood, is a transition phase in which one frequently engages in negative thinking. The psychological resources of nature connectedness, proactive coping, emotional regulation and their associated impact on emerging adults are thus deemed significant to study.

Objective: To examine nature connectedness and its impact on proactive coping and emotional regulation in Indian emerging adults.

Methods: Correlational survey research was conducted with 100 emerging adults (N=100) drawn randomly from different departments of a Central University in Bihar. Self-report measures of nature connectedness, emotional regulation and proactive coping were used to assess the three psychological resources.

Results: Nature connectedness was positively associated with and significantly predicted proactive coping in the emerging adults. Proactive coping was found to associate positively and significantly influence cognitive reappraisal, the positive dimension of emotion regulation.

Conclusions: Nature connectedness, proactive coping and emotion regulation could be understood as psychological resources for emerging adults that may help them overcome the vulnerability of this phase.

Implications: Findings have emphasised the flourishing nature of connectedness and advocate for including it in psychological interventions and programs to enhance adaptive coping and emotion regulation among emerging adults.

Keywords- *emerging adults, nature connectedness, proactive coping, emotional regulation, psychological resources*

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Paper Received: 29-11-2024
Paper Accepted: 11-07-2025
Paper Published: 30-07-2025

Introduction

The degree to which a person integrates nature into their identity is referred to as their nature connectedness (NC). It encompasses knowledge of nature and everything it contains, even the unpleasant elements (Schultz, 2002). Nature connectedness traits are similar

to personality traits in the following ways: The connection to nature remains constant across time and contexts. According to Schultz and Tabanico (2007), NC constitutes the A-B-C component of attitude, i.e., affective, behavioural and cognitive components. The cognitive component describes how one feels a part of nature, while affective component describes how one feels about nature. The behavioural component is an individual's dedication to preserving the environment.

The Biophilia hypothesis can be used to understand one's interaction with nature. According to Wilson, (1984), this word refers to people's intrinsic desire to connect with other living forms, such as plants and animals. In essence, this indicate that people want to be around nature. Biophilia being genetic, it stands to reason that people who have always had a close relationship with nature have probably had easier access to food and clean water. Living near greenery, water, or having a pet as a guardian, for instance, would have increased one's chances of surviving.

NC strongly associate with the personality factors of openness to new experiences, conscientiousness, extraversion, and agreeableness. Additionally, neuroticism has inverse relationship with the nature sub-scale (experiences related to nature). Individual who is more in tune with nature is typically more daring, laid back, and sociable. It's also possible that those who have a strong connection to nature are more considerate of the environment because conscientiousness has a good, albeit shaky, relationship with it. Evidence reveals that, like any of the five elements mentioned above, people's subjective feeling of connection to nature also varies (Lee et al., 2015). Environmental engagement—including environmental ideals, energy conservation, and protection of the environment—is correlated with agreeableness, conscientiousness, and openness to new experiences (Lee et al., 2015). According to Conn, (1998), being linked to nature accounted for (mediated) the relationship between openness and pro-environmental behaviors. As per Mason et al., (2001) exposure to nature resulted in cognitive benefits, specifically in terms of replenishing directed attention following mental fatigue.

Anticipating possible stressors and taking proactive measures to either prevent or lessen their effects is the practice of proactive coping (PC) (Aspinwall & Taylor, 1997). It's a technique for managing stress that takes into account, attempts to accumulate resources that support advancement toward difficult goals and personal development. People who take initiative are driven to overcome obstacles and adheres to their high standards. They anticipate needs and possibilities in the far future and start taking proactive steps to address them. When stress is perceived as eustress, or active arousal and vital energy, coping changes from risk management to goal management. In contrast to the other three types of coping proposed by German psychologists Ralf Schwarzer

and Nina Knoll (1943), PC does not arise from any negative appraisals, such as harm, loss, or threat.

The two main techniques for controlling emotions that have received the most attention are cognitive reappraisal and expressive suppression (Gross & John, 1998). The endeavour to reframe an emotional experience in a way that changes its meaning and modifies its emotional impact is specifically described as cognitive reappraisal (Lazarus & Alfert, 1964; Gross & John, 2003). The act of attempting to conceal, prevent, or lessen ongoing displays of emotional expression is known as expressive repression (Gross & Levenson, 1993; Gross & John, 2003).

A meta-analysis (2019) was conducted to examine the connection between being in touch with nature and eudemonic wellbeing and to test the idea that this connection is stronger than the one between being in touch with nature and hedonic wellbeing. Personal growth showed a moderate effect size on the eudemonic well-being subscales, which was considerably greater than the effect sizes for autonomy, meaning/purpose in life, self-acceptance, positive relationships with others, and environmental mastery, but not vitality. Hence, individuals who possess a more profound bond with the natural world frequently encounter elevated degrees of eudemonic well-being, particularly in relation to self-perceived personal development (Pritchard et al., 2019).

Emotional control over the lifespan was investigated by Chelsea et al., (2019) and showed that the capacity to manage one's emotions in a flexible manner is essential for adaptive functioning across the lifespan.

Zelenski and Nisbet (2012) conducted research on the relationship between happiness and feeling connected to nature. Their findings provide evidence that being connected to nature may lead to both human happiness and environmental sustainability. Crucially, nature relatedness continued to be a strong predictor of most pleasure indices, even after taking into account many other relationships. Children who feel more a part of nature exhibit more environmentally friendly behaviours (Fernanda, et al. 2020). Children's perceived happiness increases with their pro-environmental, frugal, altruistic, and fair attitudes. The British Ecological Society has introduced the Green Care Code. This study's findings emphasize the crucial significance of nature connectivity and simple activities in explaining pro-nature conservation behaviors. They highlight how having a close contact with nature via everyday participation contributes to pro-nature conservation behavior (Passmore et al., 2022).

As Arnett (2008) describes it, emerging adulthood can be defined as age of identity exploration, age of instability, age of self-focus, age of feeling in between and also age of possibilities. The people high on NC can reduce their negative emotions and stress. Spending time in nature fulfils this need and promotes well-being, whereas nature deprivation may contribute to maladaptive functioning (Kellert, 1997)

Individuals who experience a strong sense of connection with nature are inclined to take measures to save it. In addition, this personal feeling of connection possesses unique predictive ability; the degree to which one feels linked to nature seems to forecast their level of environmental concern and sustainable behavior, even when accounting for other measures of attitude that do not encompass a sense of connectivity (Nisbet et al., 2009).

The emotional regulation is a basic quality that an adult wants to cooperate with their environment. The PC mechanism can also make them more strong and more adjustable. Recently, there has been a growing interest in the relationship between humans and nature (Ives et al., 2017). This issue is now seen as important in government policies that address both human health and well-being, as well as the natural environment (DEFRA, 2018). There is increasing evidence indicating that being linked to nature has positive effects on mental well-being (Richardson et al., 2020; Pritchard et al., 2020). Additionally, it has been found to promote pro-environmental attitudes and actions (Abrahmese et al., 2005; Otto & Pensini 2017; Otto et al., 2016). Therefore, the sense of being linked to nature may be employed as a coping mechanism in times of stress and other emotional states. Engaging with nature and establishing a connection with it may have significant effects on both mind and body.

Historically, coping was perceived as an adaptive response to challenging situations and was considered to be a reactive approach employed after experiencing stress (Lazarus & Folkman, 1984). PC refers to the act of engaging in coping strategies before experiencing stress. It is a comprehensive and future-oriented approach that combines the management of personal well-being with the achievement of self-regulatory goals (Greenglass, Schwarzer, & Taubert, 1999). PC involves anticipating and preparing for future challenges and effectively managing goals. It involves individuals perceiving potential hazards, demands, and opportunities in the future, without interpreting them as threats. Conversely, they view challenging situations as opportunities. Therefore, PC is transformed into the management of goals rather than the management of risks. (Greenglass & Fiksenbaum, 2009). Nature may serve as more effective coping mechanisms for individuals of all age groups, with a special emphasis on emerging adults.

Emerging adults experience various stresses and emotional states due to the simultaneous occurrence of hormonal changes, peer group dynamics, and other stresses such as academic and relationship pressures, among other things. Nature may serve as a coping mechanism for properly managing stress and regulating emotions. Nevertheless, all of the above research has a Western origin, and only correlational analysis between nature connectivity and well-being was done. The specific role of nature as a PC mechanism has not been adequately addressed yet.

This study is about how Indian emerging adults integrate nature into their identity. Subsequently, it is necessary to explore how individuals may successfully utilize the assistance of nature to cope with their surroundings and employ psychological strategies such as PC and emotional control to enhance their ability to adapt to various conditions. Hence, the objective of this study is to fill significant deficiencies in the current knowledge base.

Objective: To explore NC, PC and emotional regulation among emerging adults

Hypotheses:

Hypothesis 1*:* There would be a significant association between NC, PC and dimensions of emotional regulation (cognitive reappraisal and expressive suppression)

Hypothesis 2*:* The NC of emerging adult would significantly influence their PC and emotional regulation (Cognitive reappraisal and expressive suppression).

Hypothesis 3*:* PC would significantly influence emotional regulation (Cognitive reappraisal and expressive suppression) among emerging adults.

METHODS

Research Design: Correlational survey research design

Sample: The sample consisted of 100 emerging adults (N=100; male=47 and female = 53) between age range 18 to 29 years (mean age =21). A simple random sampling method was employed to draw sample from different departments of the University of South Bihar, Gaya, Bihar. Adults who reported no past chronic illness/disease history were only included in the study.

Tools:

1. **Nature relatedness scale (Nisbet and Zelenski 2011)** - It measures emotional, cognitive and physical connection to nature. The NR scale measured the overall construct, but three subscales or dimensions can also be calculated: self (emotional), perspective (cognitive), and experience (physical). NR- scale reflects an internal personal identity and connection to nature. It consists of 21 statements to which people respond on a 5-point Likert scale.
2. **Emotional regulation questionnaire (Gross and John 2003)-** It is 10-item scale used to assess an individual's inclination to manage their emotions using two distinct methods: cognitive reappraisal and expressive suppression. This demonstrates how one manages and regulates their emotions. The scale demonstrates excellent psychometric properties, making it a potential tool for assessing emotion regulation.
3. **Proactive Coping inventory (PCI) (Greenglass et al. 1999)** – It's 14 statements deal with reactions one may have to various situations. Respondents are presented with four alternatives: "not at all true", "barely true", "somewhat true", "completely true." The proactive

inventory was developed to evaluate the many aspects of a r strategy.

Procedure: A total of 100 participants were drawn randomly from different departments of a Central University in South Bihar, India. All procedures followed the ethical standards of the American Psychological Association (APA, 2016) and Helsinki Declaration of 1975, as revised in 2000 (5). Appropriate rapport was built and informed consent was taken from all participants before data collection. The primary data set was collected using the selected psychometric tools. The quantitative data so obtained was handled and analysed with the help of Statistical Package for Social Sciences-version 25.

Results:

To explore the association between NC, emotional regulation and PC correlation coefficient was computed.

Table 1: Correlation coefficient between NC, PC, Expressive suppressive and Cognitive reappraisal

	Nature Connectedness (NC)	Proactive Coping (PC)	Cognitive Reappraisal	Expressive Suppression
NC	1	.309**	.148	-.148
PC		1	.383**	-.003
Cognitive Reappraisal			1	.154
Expressive Suppression				1

Table 1 shows that NC significantly positively associated ($p<0.01$) with PC. Thus, the finding supports hypothesis 1 that states "NC would significantly associate with PC and emotional regulation dimensions of cognitive reappraisal and expressive suppression". PC was significantly positively associated ($p<0.01$) with the cognitive reappraisal dimension of emotional regulation. This finding supports hypothesis 2 which states "PC would significantly associate with the dimensions of emotional regulation (cognitive reappraisal and expressive suppression)

Table 2: Linear regression analysis using NC as predictor variable (IV) and PC as criterion variable (DV) among emerging adults

Predictor	**R**	**R-Square**	**R-square change**	**Beta**	**F change**	**Sig. of F change**
Criterion Variable: PC						
NC	.330	.109	.099	.330	11.483	0.01

The result of the regression table 2 indicates that the predictor `NC` explained 33.0% of the variance in PC (F (94) =11.483, p= 0.01).

Table 3: Linear regression analysis using PC as predictor variable (IV) and cognitive reappraisal as criterion variable (DV) among emerging adults

Predictor	R	R Square	R-square change	Beta	F change	sig of F change
Criterion Variable: Cognitive Reappraisal						
PC	.348	.121	.112	.348	13.388	0.00

Result table 3 indicates that 34.8% of the variance can be seen in cognitive reappraisal is because of PC (F (97) = 13.388, p= 0.00). The results were statistically significant at a significance level of p<0.01.

Discussion:

Wilson (1984) proposed the biophilia theory, which proposes that humans benefit from being linked to nature. It claims that because of our evolutionary history, people have an inbuilt need to interact with other living forms**.** The scope of the concept has been expanded to include inanimate aspects of the natural world, such as water, mountains, and wind (Frumkin, 2001). The biophilia theory proposes that spending time in outdoors satisfies our intrinsic urge to connect with nature, and that nature deprivation could negatively impact us (Gullone, 2000). Research provides evidence for the biophilia hypothesis, showing that engaging with nature has advantages such as lessening stress (Gullone, 2000; Hartig, Mang, & Evans, 1991; Parsons et al., 1998) and promoting physical well-being (Diette et al., 2003; Frumkin, 2001; Heinsch, 2012). Furthermore, a variety of elements have been extensively researched and proven to influence happiness, including interpersonal interactions (Caunt et al., 2013). Our relationship with nature, on the other hand, has received little study, though it can influence happiness, emotional regulation, and coping.

Recent research has found that a connection to nature is connected with happiness (Nisbet, Zelenski, & Murphy, 2011), personality, emotional intelligence, and well-being (Gerofsky & Gerofsky, 2016). There is a need to study NC and its relation to emotional regulation and coping altogether among emerging adults. The emerging adult is a difficult phase of development, hosting regular ups and downs of life and with greater frequency and intensity of negativity. The environment and the psychological well-being may be intertwined because of the nature of NC of an individual. The present study intended to explore the associative and predictive relationship between NC, PC and emotional regulation among emerging Indian adults.

Findings suggested that NC and PC among the emerging adults are positively associated, so a direct derivation may be that PC behaviour would be observed in an emerging adult if he/she experiences NC in life. Somewhat similar findings were obtained in the study of Aspinwall and Taylor, (1997), in which they stated that those who consider nature an integral part of their identity are more likely to engage in the proactive process of predicting and mitigating future stressors.

Thus, this process may be inculcated and instilled into people through good exposure to nature. In children, the habit of spending time with nature could be developed, so that the practice of PC gets enhanced**.** When emerging adults feel connected to nature, they tend to exhibit higher levels of PC. The connection provides them with a sense of resilience and resourcefulness, enabling them to anticipate challenges and take proactive steps to address them. Additionally, NC promotes emotional regulation by providing a source of stress relief and relaxation. Being in natural areas can assist individuals in regulating their emotions by fostering sensations of tranquillity and overall wellness.

The NC bears good predictive power for PC. NC has a good role in happiness and so does PC, an advanced sustainable behaviour. Prior research has demonstrated that PC partially mediates the relationship between social support and positive affect, and that positive affect is linked to improved psychological functioning (Greenglass & Fiksenbaum, 2009). It helps the person to act appropriately and maintain good psychological wellbeing. So, high NC could make one less stressed and good at practicing PC. Cognitive reappraisal refers to the process of reinterpreting a situation that evokes emotions to change its meaning and emotional effect. Expressive suppression is a type of emotional regulation. Habitual use of cognitive reappraisal has been positively associated with better interpersonal functioning, positive affect and several other indicators of mental health; the opposite holds for habitual use of expressive suppression (Gross & John, 2003; Hu et al., 2014; John & Gross, 2004). The expressive suppression is not a good coping strategy, which is exhibited more among individuals with low exposure to nature. NC could be seen as a protective factor against expressive suppression.

The positive association found between cognitive reappraisal and PC is assuring. The PC is a very advanced coping mechanism. Anticipation is the act of foreseeing possible pressures and taking proactive measures to either prevent them or minimize their effects (Aspinwall & Taylor, 1997). The cognitive reappraisal helps the person to deal effectively with emotional problems. In an earlier study PC emerged as a single significant predictor of life satisfaction of emerging adults (Dwivedi & Rastogi, 2017)**.** Cognitive reappraisal, a dimension of emotional regulation, involves reframing one's thoughts about

a situation to change its emotional impact. PC and cognitive reappraisal are closely related, as both involve proactive approaches to managing stress and emotions. Individuals who are adept at cognitive reappraisal are often better equipped to engage in PC strategies. Their cognitive flexibility helps adjust their thoughts and actions to effectively deal with stressors. Therefore, the PC and cognitive reappraisal are associated and it creates a good coping mechanism in a person.

The emerging adults experience numerous challenges on an individual and social level. They seek for ever-better coping strategies. By exploring NC in association to PC, higher PC was reported with higher connectedness with nature thus NC is particularly beneficial for newly independent adults and PC too may be beneficial in uplifting their emotional regulation skills.

Findings establish that NC has the potential to safeguard the mental and emotional health of emerging adults. Nature clubs in schools would not just help create a green and eco-friendly environment but also a healthy mind and soul charged with the positive energy drawn from practicing PC. Another study (Mason. et al., 2022) suggests that even minimal exposure to the outdoors may greatly influence kids' cognitive abilities. This means that schools and other educational institutions can help to support students' cognitive development by providing opportunities for them to spend time in nature.

Individuals who experience a strong sense of connection with the natural world possess a desire to safeguard and preserve it. In addition, the subjective feeling of connection has a unique ability to predict environmental concern and sustainable behavior. This prediction remains significant even when accounting for other attitude variables that do not involve a sense of connectivity (Nisbet et al., 2009).

The study further suggests initiating pro-environment programs involving the emerging adults, and by doing so, this population is allowed to experience and learn better coping and emotional regulation styles. Some people might be more persuaded to protect the natural environment by understanding how connecting with nature can contribute to their personal well-being. By spending more time enjoying and connecting with nature, their motivation to protect it might again increase, ultimately supporting a cycle with benefits for people and the environment. This study suggests that the nature-relatedness link with PC and emotional regulation, so will happiness be connected to NC (Zelenski & Nisbet, 2012). Enhancing individuals' perception of their connection to nature can serve as a formidable instrument in promoting proconservation actions, while enhancing physical and mental well-being. Multi-age cross-sectional research have demonstrated a significant decline in nature connectivity during early infancy, followed by a subsequent recovery during maturity. The majority of

students indicated that they liked to relax in their own homes, but a significant number picked a natural setting as their favorite spot. Their findings validate significant decrease in the level of connection to nature during early infancy. However, they also indicate potential treatments that might mitigate this loss, leading to improvements in well-being and behavioral changes. (Price et al., 2022). Huge change in mental health with the help of nature could be planned and brought about among emerging adults. NC fosters PC and emotional regulation among emerging adults by providing a source of resilience, stress relief, and cognitive flexibility. This connection to nature enables individuals to anticipate and effectively manage stressors, while also promoting adaptive emotional responses through techniques such as cognitive reappraisal.

Conclusions:

PC and NC are positively associated concepts for the emerging adults. PC could be influenced significantly with NC. This implies that the connection to nature can serve as a predictor of PC. Further, PC have a strong predictive value for cognitive reappraisal among the emerging adults. The findings present the beneficial interconnection among the variables that may be implied for program development to enhance coping and emotional well-being utilizing nature connectedness.

Implications:

1. The findings highlight information on environmental psychology and its significance for human well-being.
2. Draws attention of the health professionals, policy makers and other stakeholders on the areas of strength or challenges to work on the emerging adults.
3. Suggests the government and non-government organizations to take steps towards providing public spaces that promote nature and improve tourism's relationship with the environment that has far reached impact on emotional well-being, emotional regulation and their coping mechanism.

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