

Does Empathy Mediate the effect of Theory of Mind on Prosocial Behaviour? An exploratory study on male and female college students.

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Abstract

Prosocial behaviours are a broad category of actions covering behaviours meant to benefit others; for example, helping, volunteering and sharing. Pro-sociality is essential for the well-being of social groups. And hence, identifying factors that could foster pro-sociality is important. Empathy, the ability to feel and share another person's emotions has long been associated with pro-social behaviour. However, a related but distinct construct Theory of Mind, which is also at the core of social cognition, has not been assessed for its possible contributions to prosocial behaviour. Theory of Mind (ToM) refers to the ability to attribute mental states to the self and others. Present study aimed to find out whether the impact of ToM and sex, if any, on prosocial behaviour is mediated by empathy, among college students. Stratified purposive sampling was followed and total 297 undergraduate college students (150 males and 147 females) were selected for the study. Findings of mediated regression analysis reveal that different dimensions of empathy (Perspective taking, Empathic Concern and Personal Distress) mediate the association of Theory of Mind (ToM) with prosocial behaviour. This study provides some preliminary evidences in line of research concerning how social cognition might influence prosocial behaviour.

Key Words: *theory of mind, empathy, prosocial behaviour*

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Introduction

Prosocial behaviours are a broad category of actions covering behaviours meant to benefit others; for example, helping, volunteering and sharing (e.g., Batson, 1998; Schroeder, Penner, Dovidio & Pilliavin, 1995). Further, prosocial behaviours are interpersonal acts that involve a benefactor and a recipient, who may be a single person or a group, or even an organisation (Eisenberg & Mussen, 1989). The term prosocial behaviour is often used synonymously with other terms, for e.g., helping behaviours, which have been measured in experimental studies. Additionally, altruism and helping have been used as synonymous terms for prosocial behaviours; however, these terms can actually be classified as different types of

prosocial behaviours (Batson, 1998). For the purpose of the current study, prosocial behaviour, in the broadest sense, includes both the terms helping behaviours and altruistic behaviours, and also the corresponding actions that are included within these. More specifically, examples of prosocial behaviours that are addressed in the current study include such things as helping a person (e.g., with homework), volunteering, donating money or time, aiding a stranger in need- such as holding an elevator door for someone (Rushton, Chrisjohn & Fekken, 1981).

Prosociality is central to the well-being of social groups across a range of scales. The concept of prosocial behaviour and its psychological foundations are extremely

important in furthering research and practice in a number of fields, including education, social work, criminal justice and law. The concept is also key to understanding philanthropy.

The role of cognition and emotion in altruistic behaviour has been a topic of debate for centuries. Throughout the years, various researchers have questioned why people do/ do not act prosocially (e.g., Batson, Harris, McCaul, Davis & Schmidt, 1979; Eisenberg et al, 1999; Latane & Darley, 1970, etc). Research concerning sex difference in prosocial behaviour has not been very conclusive. However, majority of studies have indicated that females are slightly higher in prosocial behaviour than males (Eisenberg, Fabes & Spinrad, 1998).

Prosocial behaviour has long been associated with empathy (for e.g., Batson & Coke, 1981; Batson & Shaw, 1991; Dovidio, Allen & Schroeder, 1990). Empathy has many different definitions that encompass a broad range of emotional states, including caring for other people and having a desire to help them; experiencing emotions that match another person's emotions; discerning what another person is thinking or feeling; and making less distinct the differences between the self and the other. It is also the ability to feel and share another person's emotions. Even though empathy has been continually linked with prosocial behaviours, the research on how it impacts prosocial behaviour has not been much informative.

Empathy and Theory of Mind (ToM) are distinct but related constructs. Premack and Woodruff (1978) introduced the term "theory of mind" to mean the ability to impute mental states to the self and others. From the beginning of the nearly twenty-five-year modern history of the notion of ToM, there has been the assumption that the ability to explain and predict behaviour by attributing mental states to agents is

functional in the organization of social behaviour (Moore & Frye, 1991). On the other hand, empathy is defined as the "reactions of one individual to the observed experiences of another". Belief understanding can be served by cognitive ToM and emotion understanding can be served by emotional ToM (Dvash & Shamay-Tsoory, 2014). ToM and Empathy are distinct in that ToM involves belief understanding, which is necessary, but not sufficient for successful social communication. Belief understanding does not guarantee emotion understanding; and emotion understanding does not guarantee empathy, and empathy might not guarantee kindness to people (Davis & Stone, 2003). Emotion sharing is served by empathy. Thus, empathy may actually serve as the link and bridge the gap between understanding someone else's situation (ToM) and responding kindly to them (Prosocial behaviour). This study aims to find out whether the impact of ToM and sex, if any, on prosocial behaviour is mediated by empathy, among college students.

Method

Sample

Stratified purposive sampling was followed in this study. Total sample size was 297 (150 males and 147 females). For inclusion in the study, participants were required to be males or females of age between 19 to 22 years, residing in Kolkata for at least the last 5 years, to be unmarried, of Hindu community, and from nuclear family, having family income of 72K-100K per capita per year. Also, they were required to be the students of 1st to 3rd year of Graduate courses of Govt. or private coeducation colleges of Kolkata. Those with history of any chronic illness, psychiatric illness, physical handicaps or acute illness that may have residual effects were excluded from the study. Also, those not willing to participate in the study were excluded.

Procedure

Stratified purposive sampling was followed in this study. However, for zonal representation of different undergraduate colleges of Kolkata, the list of colleges spread over Kolkata were prepared and a zone wise mapping were done. Two colleges from North, South, East, West (Howrah) and Central Kolkata were selected. The college authorities and the student unions were approached and through them the students were contacted. They were asked to volunteer for the study and the nature of the study was explained to them. Those who agreed and met the criteria defined for the study were included as prospective subjects. 297 students (150 males and 147 females) were finally chosen for the study. They were administered Reading Mind in the Eyes Test (Baron-Cohen et al., 2002) Interpersonal Reactivity Index (Davis, 1983) and Self-Report Altruism Scale (Rushton et al, 1981).

Statistical analysis

Descriptive statistics has been done to show the nature of the data. Mean and Standard Deviations of all the variables were calculated separately for men and women and the total sample.

Regression Analysis

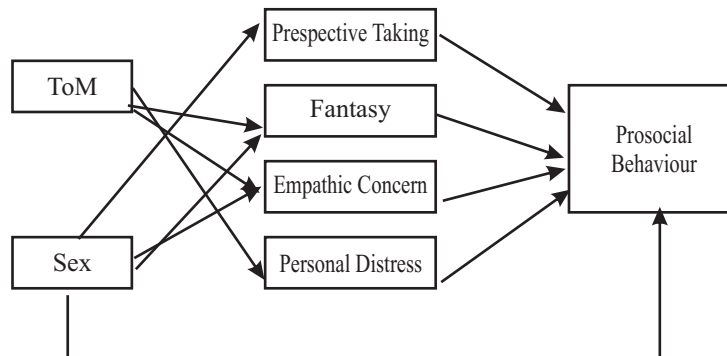
To test for direct effects of the predictors and mediation, sequential regression analysis was conducted following Baron and Kenny's (1986) approach. To examine the multivariate relations among the measures mentioned before, Sequential regression analysis was conducted. First, it was intended to examine whether different domains of empathy mediated the relationship between ToM and prosocial behaviour among college students. Second, it was intended to know whether domains of empathy mediated the relationship between sex and prosocial behaviour among college students.

According to Baron and Kenny (1986), to conclude that there is evidence of a mediated relationship, the following conditions must be met:

- a) There must be significant relations between the predictors and the outcome.
- b) There must be significant relations between the predictors and the mediators; and
- c) There must be significant relations between the mediators and the outcomes when all of the variables are entered into the same equation, and these relations must reduce the direct effects of the predictors on the outcomes.

First, simple linear regression was done considering ToM and Prosocial behaviour as predictor and outcome respectively (Condition I). Once this effect was established, domains of empathy (Perspective Taking - PT, Fantasy - F, Empathic Concern - EC and Personal Distress - PD) were regressed on ToM to test the first links in the hypothesized mediational sequence (Condition II). Second, simple linear regression was done considering Sex and Prosocial behaviour as predictor and outcome respectively (Condition I). Once this direct effect was established, domains of empathy were regressed on Sex to test the first links in the hypothesized mediational sequence (Condition II). Finally, the last analysis involved simultaneous regressions for prosocial behaviour that included both ToM (predictor) and domains of empathy (mediators). Evidence for mediated regression would include a direct effect of the mediators on the outcome and diminishment of the direct links between the predictors and outcome in these final equations (Condition III). Results are presented in Table III (a, b & c). However, Sex was not found to have any effect on any domain of empathy and thus, further analysis for mediation was not computed for sex.

Figure I: Model showing the hypothesized relations between all the variables to be tested in this study:



Results:

Table I: Mean and Standard Deviations of scores of Men and Women and total sample considering all the variables:

Variable	Men		Women		Total	
	Mean	S.D	Mean	S.D	Mean	S.D
ToM	20.87	5.79	21.56	3.34	21.21	4.56
Perspective Taking	18.52	5.17	20.13	4.38	19.35	4.77
Fantasy	16.58	4.38	17.00	5.45	16.79	4.91
Empathic Concern	17.99	6.61	19.69	2.23	18.84	4.42
Personal Distress	14.73	4.21	15.59	3.21	15.16	3.71
Prosocial Behaviour	45.61	5.37	49.91	4.43	47.76	4.9

Table II: Product-moment correlation value among all the variables for total sample:

Variable	ToM	Perspective Taking	Fantasy	Empathic Concern	Personal Distress	Prosocial Behaviour
ToM	1					
Perspective Taking	.367*	1				
Fantasy	.050	.190*	1			
Empathic Concern	.504*	.233*	.036	1		
Personal Distress	.195*	.150*	.225*	.295*	1	
Prosocial Behaviour	.412*	.331*	.074	.221*	.170*	1

Correlations among all the measures are shown in Table II. Significant bivariate relations between ToM, Perspective Taking (PT), Empathic Concern (EC), Personal Distress (PD) and Prosocial behaviour showed a predictable pattern.

**Table III: Table showing results of sequential regression analysis:
Table IIIa:**

Step I	Adjusted R ²	Beta	Significance
ToM	0.167	0.412	Significant
Step II			
ToM		0.336	Significant
PT	0.201	0.207	Significant

Table IIIb:

Step I	Adjusted R ²	Beta	Significance
ToM	0.167	0.412	Significant
Step II			
ToM		0.330	Significant
EC	0.169	0.153	Significant

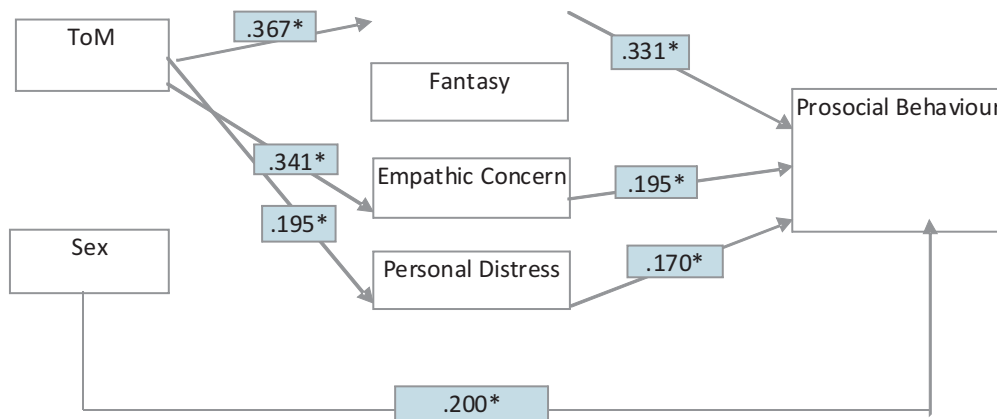
Table IIIc:

Step I	Adjusted R ²	Beta	Significance
ToM	0.167	0.412	Significant
Step II			
ToM		0.387	Significant
PD	0.173	0.143	Significant

Significant-p<.05

These tables present the results of sequential regression analyses. Effect of the predictor (ToM) on the outcome (prosocial behaviour) is found under the "Model I" column. "Model II" column presents the result of the full equation, i.e., when the mediators (PT, EC, PT) are also included in the regression equation. Results show that ToM significantly predicts prosocial behaviour. Perspective Taking had positive effect on prosocial behaviour and the direct

relation of ToM and prosocial behaviour reduced in this equation. Empathic Concern and Personal Distress, too had positive effect on prosocial behaviour and the direct relation of ToM and Prosocial behaviour reduced in these equations. Thus, Perspective Taking, Empathic concern and Personal Distress are found to partially mediate the effect of ToM on Prosocial Behaviour.

Figure II: Model showing the relation between all the variables of the study:

In the figure above, Standardized regression coefficients (beta) among all predictor variables and outcome variable are presented individually. ToM was found to be the strongest predictor of prosocial behaviour ($b = .412$, $p < .001$). ToM was also found to predict Perspective Taking ($b = .367$, $p < .001$), Empathic Concern ($b = .341$, $p < .001$) and Personal Distress ($b = .195$, $p < .05$). Sex did not predict any of the domains of empathy i.e., the mediators. Perspective Taking ($b = .331$, $p < .001$), Empathic Concern ($b = .195$, $p < .05$) and Personal Distress ($b = .170$, $p < .05$) were found to predict Prosocial behaviour.

Discussion:

Findings of this study reveal that Theory of Mind (ToM) has significant effect on Prosocial Behaviour and different dimensions of empathy (Perspective taking, Empathic Concern and Personal Distress) partially mediate this association. Here, Prosocial behaviour has been conceptualised as “voluntary behaviour that benefits others/ promotes harmonious relations with others” (Eisenberg & Miller, 1987, Hay, 1994). It encompasses broad range of behaviours like sharing, helping, volunteering.

Making inferences about others’ affective states is crucial for prosocial behaviour and this is a prerequisite for basing one’s responses on these inferences (Hoffman, 1984). According to the Decision Making Perspective (Latane and Darley, 1970) perceiving the need of the target person is the first crucial step in the process leading to help a person in distress. ToM, i.e., the ability to attribute mental states, such as desires, intentions and beliefs, to other people to explain and predict their behaviour, (Frith & Frith, 1999) serves these functions and hence might be important for prosocial behaviour.

From other perspective, ToM constitutes a central aspect of social cognition which is regarded to be a highly specialised, human-specific skill that forms a crucial prerequisite to function in social groups (Adolphs, 2003). Prosocial behaviour requires organization of action with respect to others’ goals (Moore & Macgillivray, 2004). The function of ToM is to organize complex social behaviours. Thus, ToM may be required for prosocial behaviour. In an interesting line of research, Sally and Hill (2005) found that the cognitive ability to infer the mental states of others such as ToM effects fairness-related

behaviour in a positive manner. Engaging in social interactions with others requires constant observations and drawing inferences concerning other's mental states. Advanced capacity of mindreading is needed for that. However, ToM cannot, by and in itself, be enough for prosocial behaviour. While it can lead to helping behaviour, it can lead to manipulative behaviour as well. Research into Antisocial Personality Disorder (ASPD) has revealed that the lack of empathy is a central personality characteristic of individuals suffering from sociopathy; still, they are good at manipulating others, at least in short terms (Hare, 1993). Representing the diversity of mental states of self and other cannot be sufficient. While it can foster cooperation, it can promote manipulation as well in that it would enable individuals to gain advantageous positions or to manipulate others in order to attain own goal. In other words, given that in any social situation, both cooperation and manipulation of the target are possible, it must be that along with the representation of the mental states, or conditions of others, there is a desire to act in their favour. If this desire is not there, the actor would act in a way that would be of best interest to himself/ herself only. To put it in other words, the individual must be able not only to represent other's mental states/ beliefs/ desires, but also to care about them, to feel for them. There must be some mechanism by which the represented state of others triggers sufficient motivational power in the observer that the observer relinquishes his/ her selfish motives. Thus, the findings of this study show that empathy may provide this motivational power and act as a mediator between ToM and prosocial behaviour.

Empathy may also serve to "feel into" other's situation. One way could be simulation, which involves imagining oneself in another's situation (e.g., Decety & Sommerville, 2003). Another possibility is that the observer can feel

her way into the experience of and feel for the other person because he/she identifies with that person's attitudes. Whether via simulation, identification or some other mechanisms, one takes the other's perspective and infers the other's affective state, which can trigger affective responses and thereby motivate prosocial behaviour (Batson, Fultz & Schoenrade, 1987; Feshbach, 1978). Smith and Mackie (2007) have argued in similar lines stating that, humans are often motivated by feelings of empathy to relieve distress of another person without regard to personal rewards and costs. Also, the Empathy-altruism hypothesis suggests that people experience two types of feelings when they see a person in distress, personal distress (anxiety and fear) or empathic concern (sympathy and compassion). Personal distress motivates them to help for egoistic reasons, aiming to reduce actor's negative feelings (negative state-relief) and empathic concern on the other hand creates altruistic motivation where the actor helps to reduce the distress of a person. Eisenberg et al (1989) using path analysis, obtained findings consistent with this. Also, investigators have suggested that empathy triggers the development of internalized moral reasoning reflecting concern for other's welfare (Hoffman, 1987) and primes the use of other-oriented moral cognitions (Eisenberg, 1986).

The study also found that female sex has a positive effect on Prosocial Behaviour. Among the characteristics that people attribute more frequently to females than to males is the tendency to care, to help. Sociologists like Parsons & Bales (1955) have attributed differences in males' and females' behaviours to variations in the traditional roles of the two sexes. According to them, women are socialised to assume an expressive role, i.e., to facilitate interpersonal harmony within the family. Thus, to fulfil their role functions effectively, females,

but not males, must be socialised to be nurturant, sympathetic and empathic. Also, in a country like India, where collectivism prevails, social construction of self for women is relational. They are taught to be affiliating with close others, maintaining connectedness and blending the self-other boundary (Singelis, 1994). In line with this, Baumrind (1980) found that girls are more prosocial and empathic than boys. Hall (1978) found in an extensive review that females were better nonverbal decoders than males. Borke (1973), Hudson (1978) found that females score higher on affective role taking.

Conclusion:

The study suggests that different dimensions of empathy (Perspective taking, Empathic Concern and Personal Distress) partially mediate the association of Theory of Mind (ToM) with prosocial behaviour among college students. Identification of the factors that can nurture prosocial behaviour is important because it can work as the starting point in research aiming at understanding what can enhance prosocial behaviour. This study provides some preliminary findings in this line. However, this study is not without limitations and it should be interpreted in light of these limitations. One such limitation is that the tools used were self-report measures. In future research, experimental social research employing real-time measures of prosocial behaviour and empathy can be beneficial.

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