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The Effects of Individuals' Cognitive Processing of Situations and Peer Effects on Altruistic Behavior

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Abstract

The 2*2 between subjects design examines the specific situational factors (moral situation/non moral situation) and peer effects(with peer/without peer) impact on altruistic behavior.complied to test common experimental material, two experimental includes two independent variable mentioned above,study subjects to make the will of the altruistic behavior. Results showed that:(1)The degree of willingness make individual altruistic behavior in moral situations than non moral situations and the difference was significant,compared with no companion case,participantes will be more willing to make altruistic behavior,but the difference was not significant.(2)There is no existing situation and peer interaction,have the willingness of the subjects in the peer side do altruistic behavior in the moral situation of the highest.in the existing of altruistic behavior influencing factors on the basis of the study of further study and lay the foundation for the follow-up of altruistic behavior research ,and also urge the people to care and help others, promote interpersonal relationship,is conductive to building a more harmonious society.

Keywords

Situation factors; Peer effect; Altruistic behavior

1. Introduction

"One should cultivate oneself when in poverty, and benefit the whole world when successful." "A noble person values others and thinks little of themselves, putting others before themselves." From these ancient sayings, it is evident that helping others is a traditional virtue of the Chinese nation. Even in today's rapidly developing economy, helping others is strongly advocated. For example, many cities in China have enacted policies to reward brave citizens, in order to promote social justice and maintain public order by encouraging acts of moral courage. In recent years, we have also seen reports of altruistic acts: Wu Juping caught a two-year-old girl who had fallen from a tenth-floor window with her bare hands, suffering a

comminuted fracture in her arm from the immense impact. During evening rush hour in Ningbo, three or four private cars collectively ran a red light to allow an ambulance to pass smoothly, earning praise from many netizens; even when fined by traffic police, they did not regret their actions. Such acts are common in real life.

Altruistic behavior refers to voluntary actions that benefit others when they are in danger or difficulty. Such behavior may cause losses to the helper, yet the helper expects no reward (Cheng Zhe, 2015). Many factors influence altruistic behavior. Personal factors include gender, age, personality, and empathy. Among situational factors, the bystander effect, perception of the situation, and role modeling have significant effects. In addition, physical environment and sociocultural factors also play a role (Gui Xi, Li Weiqing, Song Huizi, 2012). Regarding the neural mechanisms of altruistic behavior, studies have shown that the anterior cingulate cortex, orbitofrontal cortex, amygdala, and striatum are involved (Liu Buyun, Jing Jin, 2014).

In many studies, whether on altruistic behavior or implicit altruistic behavior, the situation plays an irreplaceable role. For instance, some psychologists used the Implicit Association Test to examine individuals' implicit altruistic behavior in safe versus dangerous situations, categorizing the situations into these two types (Cao Yanmiao, Wang Meiping, Chang Shumin, 2014). Moreover, in real life, people are more willing to help a disabled person who has accidentally fallen than a drunkard who has fallen over (Gui Xi, Li Weiqing, Song Huizi, 2012). Thus, an individual's perception of the situation also influences whether they engage in altruistic behavior. Furthermore, the presence or absence of peers and the quality of peer relationships have varying degrees of influence on many aspects of individuals' lives (Wang Qun, Ouyang Wenzhen, 2009). Research has shown that peer relationships are significantly correlated with individuals' prosocial behavior and can serve as a predictor of prosocial behavior (Liu Zhijun, 2001).

Through a review of the literature, this study intends to examine altruistic behavior in moral versus non-moral situations and in the presence versus absence of peers, exploring whether there are differences in individuals' altruistic behavior under these two conditions. This study investigates the effects of two factors—moral vs. non-moral situations and presence vs. absence of peers—on altruistic behavior. Building on previous research, it further explores specific influencing factors of altruistic behavior, laying a foundation for future studies on the topic. At the same time, it calls on people to care for and help others, thereby promoting interpersonal relationships and contributing to the construction of a more harmonious society..

2. Literature Review

2.1. Related Review of Altruistic Behavior

Altruistic behavior refers to voluntary actions that benefit others without bringing obvious benefits to oneself.

Altruistic behavior differs from what we usually call prosocial behavior and helping behavior. Prosocial behavior has the broadest scope; it refers to actions taken by an individual that contribute to the harmonious development of society, not merely benefiting other individuals. Helping behavior, which brings benefits to others and promotes their well-being, is more like a concept in everyday life. Finally, altruistic behavior brings benefits to others but does not necessarily benefit oneself (Chi Yukai, 2005).

Altruistic behavior can be classified in various ways. For example, Batson, based on different motivations, divided altruistic behavior into egoistic altruism and pure altruism. The former aims to alleviate one's own distress and anxiety and to realize one's self-worth; when an individual deeply empathizes with the pain and helplessness of others, they may engage in behavior that benefits others. Depending on the situation, altruistic behavior can be divided into altruistic behavior in general situations and in emergency situations—that is, helping others in ordinary circumstances (e.g., giving up a seat to an elderly person on a bus, explaining problems to classmates) versus in dangerous or emergency circumstances (e.g., helping police catch a robber, rescuing a drowning child).

Altruism is a doctrine in ethics, a moral principle and theory that is formally opposed to egoism, and an indispensable part of people's social life. Altruism can be divided into benevolent altruism and egoistic altruism. The former holds that humans possess benevolence and can act selflessly and contribute to society under any circumstances; the latter maintains that humans are selfish by nature, but also have empathy and a social emotion that unites them with humanity, leading them to perform social behaviors that benefit others. Furthermore, in research related to altruistic behavior, altruistic motivation is also a focus of psychologists' attention and study. Altruistic motivation refers to the motivational process underlying an individual's altruistic behavior. Psychologists have measured middle school students using the Egoistic Altruism Motivation Scale and the Altruistic Altruism Motivation Scale, finding no differences in gender or whether one is a student leader; however, differences exist in altruistic motivation among middle school students of different grades and those whose parents have different occupations (Hu Hui, 2012).

The factors influencing altruistic behavior have long been a popular topic of research among psychologists. For example, one study examined the relationships among college students' moral values, self-concept, and altruistic behavior, and found that moral values and self-concept were significantly positively correlated with altruistic behavior, and that moral values had a certain predictive effect on altruistic behavior (Li Yanfang, 2008). Other researchers have suggested that empathy can directly influence the occurrence of altruistic behavior and also indirectly regulate it through neuroticism; in addition, happiness plays a certain role (Li Wenhui, Li Chan, Shen Yue, Dan Fei, 2015). Some scholars have also argued that

emotional intelligence affects altruistic behavior, with perspective-taking and empathic concern serving respectively as complete and partial mediators between emotional intelligence and explicit altruistic behavior (Wang Dongqin, 2013). Moreover, many other studies have demonstrated the effects of other influencing factors on altruistic behavior, such as individuals' perception of the situation.

In previous research, scholars have used altruistic personality (high vs. low altruistic personality), situation (effectiveness of charitable organizations), and peer effects as independent variables, and individual donation levels as the dependent variable, to examine individuals' altruistic behavior, and have also elucidated the neural mechanisms underlying donation behavior (Xie Ye, 2012). We also understand that altruistic behavior is closely related to personality; some individuals are inherently more willing to engage in altruistic behavior than others. One study investigated college students' altruistic motivation and egoistic motivation, and found that individuals with higher altruistic motivation were more willing to engage in altruistic behavior than those with higher egoistic motivation (Zhang Huiping, Li Hong, 2006).

2.2. Situated Cognition

In previous research, situated cognition refers to the idea that learners cannot acquire knowledge in isolation from specific contexts; learning should be integrated with concrete, contextualized social practices. In this sense, situated cognition is a concept opposed to objectivist cognitivism; it is essentially a new cognitive movement with earlier intellectual and conceptual roots in pragmatism, phenomenology, the theories of Piaget and Vygotsky, Gibson's ecological psychology, sociology, anthropology, and ethnomethodology. Contemporary research on situated cognition, meanwhile, originates from educational and developmental psychology, social and cultural studies, and other fields.

Situated cognition emphasizes the following four points: First, cognition always occurs within a specific context, in the interrelation and interaction between the individual and the environment. Second, situated cognition is ubiquitous; throughout the course of individual development, cognitive activity cannot be separated from context. There are two modes of cognitive processing: bottom-up (the individual analyzes specific things, then makes judgments and decisions) and top-down (the individual perceives unknown things based on existing concepts or cognitions of familiar things). Third, situated cognition has intentionality and meaning — that is, each person perceives things differently during cognitive processes, and we unconsciously use past experiences to influence and modify current practical activities. Fourth, cognition takes place in complex, open, and realistic contexts; it is natural rather than artificial (Sheng Xiaoming, Li Hengwei, 2007).

What we consider is the individual's decision-making within a specific social context before engaging in altruistic behavior — that is, whether the individual judges it

necessary or worthwhile to perform an altruistic act in that situation. The individual's perception and evaluation of the situation directly influence their decision. The cognitive process of the situation is something invisible and intangible; different people evaluate the same situation differently. In the same dangerous situation, different individuals may or may not engage in altruistic behavior, and to varying degrees. For example, when a drowning child is struggling in a pond, some people might jump in to rescue the child without a second thought, while others might quietly walk away. Among those who do rescue, one might leave quietly afterward, while another might take the child to the hospital.

Psychologists have conducted numerous studies on the situational factors influencing altruistic behavior, and have also explored how individuals perceive and judge situations before making decisions. In examining how situations affect altruistic behavior, scholars have categorized situations into different types—for instance, whether a situation benefits oneself, or whether a specific situation involves moral considerations. Both situational factors and individual differences influence people’s decisions; accordingly, they also affect whether people behave altruistically across different circumstances. That is, individuals classify situations into two types based on specific contexts: those in which altruistic behavior is necessary and those in which it is not. Other studies have employed different classification systems. For example, some psychologists investigated the effects of situational priming (three conditions: intuitive priming, analytical priming, and a control group) and need for cognition (divided into high and low groups, referring to individuals’ willingness and ability to engage in in-depth thinking when analyzing problems) on decision-making in information processing. The results showed that situational priming had a significant effect on individuals’ decision-making (Liu Jinping, Zhou Guangya, & Liu Yali, 2008). In real life, individuals often make decisions under uncertain circumstances and judge whether altruistic behavior is worthwhile without clear information. Some researchers designed an experiment examining how emotional conflict influences decision-making under three types of uncertain situations: ambiguous decision-making situations, certain decision-making situations, and risky decision-making situations. It was found that decisions varied with the timing of conflict emergence across different situations. Numerous studies and experiments have demonstrated that the interaction between situational and personal factors exerts a substantial impact on individual decision-making.

In the real lives of middle school students, we can categorize certain situations into **moral and non-moral scenarios**. For example, when a student borrows money from a friend, whether the use of the money meets social norms—whether it is spent on playing video games or buying books—will be evaluated. This involves individuals’ perception of the situation and their moral judgment. **Moral judgment** refers to the process in which individuals use existing moral concepts

and moral understanding to evaluate and infer their own or others' behavior, and its level develops continuously. Although moral judgment is generally regarded as a product of rational processing, research has shown that individuals also make moral judgments based on emotions. This conclusion is supported by cognitive neuroscience studies, meaning that moral judgment results from the combined effects of rational and non-rational processing (Shen Wangbing & Liu Chang, 2010). For instance, when judging whether copying classmates' homework is moral, people usually consider whether the person frequently copies homework and whether the reason conforms to moral standards. However, under certain circumstances, individuals may form different judgments—for example, if the two are close friends, or if the friend once helped the person who copies homework. For these reasons, the present study focuses on altruistic behavior in moral and non-moral situations. Before engaging in altruistic behavior, most individuals consider whether it is necessary to act altruistically under the given circumstances, whether such behavior will harm them, or whether it will damage their own interests. Similarly, in the daily life and study of middle school students, when facing requests from classmates or friends, they engage in similar reasoning: they evaluate whether the behavior of their classmates or friends is moral or non-moral for themselves, for others, or for society, before deciding whether to perform altruistic acts. Accordingly, this study attempts to classify the situations commonly encountered by middle school students into two types—moral and non-moral—and investigates the degree of their willingness to engage in altruistic behavior across different contexts.

2.3. Peer

Peers refer to people who live and study together. They do not fully represent friends, but can include friends. Peer relationship is a major component of an individual's social development. In real life, we all have peers and are more or less influenced by them. During our school years, peers exert the greatest influence on us apart from parents and teachers. As the saying goes, "He who keeps company with the good will be good, and he who keeps company with the bad will be bad." Excellent peers can exert a positive influence on us, offer help when we are confused, guide us in the right direction, and lend a helping hand when we encounter difficulties. On the contrary, "unreliable" peers not only fail to bring us positive energy, but may also lead us astray. In many cases, when we are hesitant about something, we usually consult close peers for advice. The presence or absence of peers and the quality of peer relationships both affect our decision-making. Secondly, peer relationships play an important role in an individual's psychosocial adaptation. They are a parallel and equal interpersonal relationship, different from the relationship with parents and elders. Some researchers have conducted studies on children's peer relationships using a series of experiments and surveys, exploring children's peer relationships from

four influencing factors: individual characteristic level (individual personality, temperament, physical characteristics, social knowledge, etc.), interpersonal interaction level (social behaviors performed by individuals with their peers), relationship level (sustained interaction between two individuals), and group level (individual's relationships in formal groups). In addition, with the rapid development of the Internet and its characteristics of anonymity, asynchrony, transcendence of time and space, and archivability, online communication is favored by people, especially adolescents, and more and more scholars are paying attention to this field. In fact, appropriate online communication has a positive impact on an individual's psychosocial interaction, but excessive reliance on the Internet can lead to addiction to online interpersonal relationships.

In many current studies on adolescent development, researchers treat peer influence or peer relationships as independent variables or moderating variables. Most of these studies focus on peer relationships, such as peer relationships and loneliness, peer relationships and moral judgment, peer relationships and interpersonal trust, and so on. Regarding individuals' prosocial behavior and peer relationships, generally speaking, individuals with good peer relationships are more likely to get along with their peers, have higher peer acceptance, be more popular among peers, experience self-worth, and be more willing to interact with others, thus exhibiting more prosocial behavior. It can be seen that peer relationships can predict individuals' prosocial behavior to a certain extent (Wang Qun & Ouyang Wenzhen, 2009). On the other hand, individuals with a good tendency toward prosocial behavior can be liked and accepted by others. Prosocial behavior and peer relationships influence each other (Wang Qun & Ouyang Wenzhen, 2009). A study by Sun Xiaojun et al. (2003) showed that among children, peer acceptance is negatively correlated with loneliness; the less favorable one's social status is, the stronger one's loneliness becomes. Peer relationships (peer acceptance, friendship quality, social self-perception) can predict individuals' loneliness to a certain degree, among which social self-perception is the strongest predictor, followed by friendship quality and peer acceptance. In addition, good peer relationships are conducive to the development of self-esteem (individuals' emotional experience of self-evaluation and self-competence). Research has shown that peer relationships have a certain predictive effect on self-esteem level, and different aspects of peer relationships exert different influences on self-esteem. Conflicts, selfish behaviors, and disrespectful behaviors among peers seriously hinder the healthy development of individual self-esteem, while friendly and helpful behaviors among peers enable individuals to gain a greater sense of identity and pleasure (Lai Jianwei, Zheng Gang & Liu Feng, 2008). It can be seen that peers play an irreplaceable role in people's lifelong development. Whether one has peers or not, as well as the quality of peer relationships, exerts a significant impact on individuals'

decision-making.In many current studies on adolescent development, researchers treat peer influence or peer relationships as independent variables or moderating variables. Most of these studies focus on peer relationships, such as peer relationships and loneliness, peer relationships and moral judgment, peer relationships and interpersonal trust, and so on. Regarding individuals' prosocial behavior and peer relationships, generally speaking, individuals with good peer relationships are more likely to get along with their peers, have higher peer acceptance, be more popular among peers, experience self-worth, and be more willing to interact with others, thus exhibiting more prosocial behavior. It can be seen that peer relationships can predict individuals' prosocial behavior to a certain extent (Wang Qun & Ouyang Wenzhen, 2009). On the other hand, individuals with a good tendency toward prosocial behavior can be liked and accepted by others. Prosocial behavior and peer relationships influence each other (Wang Qun & Ouyang Wenzhen, 2009). A study by Sun Xiaojun et al. (2003) showed that among children, peer acceptance is negatively correlated with loneliness; the less favorable one's social status is, the stronger one's loneliness becomes. Peer relationships (peer acceptance, friendship quality, social self-perception) can predict individuals' loneliness to a certain degree, among which social self-perception is the strongest predictor, followed by friendship quality and peer acceptance. In addition, good peer relationships are conducive to the development of self-esteem (individuals' emotional experience of self-evaluation and self-competence). Research has shown that peer relationships have a certain predictive effect on self-esteem level, and different aspects of peer relationships exert different influences on self-esteem. Conflicts, selfish behaviors, and disrespectful behaviors among peers seriously hinder the healthy development of individual self-esteem, while friendly and helpful behaviors among peers enable individuals to gain a greater sense of identity and pleasure (Lai Jianwei, Zheng Gang & Liu Feng, 2008). It can be seen that peers play an irreplaceable role in people's lifelong development. Whether one has peers or not, as well as the quality of peer relationships, exerts a significant impact on individuals' decision-making

3. Research Problem

A review of the above studies shows that: (1) Situational factors exert a certain influence on individuals' decisions before judging whether it is necessary to perform altruistic behavior. (2) The presence or absence of peers and peer relationships affect individuals' prosocial behavior, self-esteem, loneliness and other aspects. Environmental factors around individuals influence their altruistic behavior. Before helping others, individuals consider whether it is necessary or worthwhile to lend a hand, and most people may perceive and categorize the surrounding situations. Different people respond differently to the same situation. For example, when an old

man lies on the street due to heavy drinking, some people take out their phones to call the police, while others remain indifferent. Those who help the old man do so merely out of pity. For those who are indifferent, they may know that he often drinks excessively, does not engage in proper work, has a bad character and has done many bad things before, so they are used to seeing him lying on the street and thus do nothing. Situations have a great impact on all the decisions we make in real life. In addition, peer influence is also an important factor affecting individuals' decisions to engage in altruistic behavior, among which peer relationships are particularly important for the development of individuals' sociality and mental health. If a person finds 20 yuan on campus, whether he will turn it in to the lost-and-found office depends on whether peers are present, for we cannot guarantee that the person acts altruistically anytime and anywhere. Returning to the previous example, if a person, accompanied by peers, originally intends to leave the scene without offering help, but his peers remind him to check first in case they can do something to help, then the person will consider his peers' advice. Based on the above analysis, this study hypothesizes that: (1) Participants' altruistic behavior differs under different situations (moral and non-moral); altruistic behavior is more frequent in moral situations than in non-moral situations. (2) The presence or absence of peers influences altruistic behavior; individuals exhibit more altruistic behavior when accompanied by peers than when alone.

4. Research Design

To investigate individuals' altruistic behavior in moral and non-moral situations respectively, as well as in the presence and absence of peers. 4.1.2 Research Participants Sophomore students from a senior high school in Meishan City, Sichuan Province. 4.1.3 Experimental Design This study adopted a 2×2 between-subjects design, with situation (moral/non-moral) and peer (present/absent) as independent variables, and the participants' willingness to perform altruistic behavior in specific situations as the dependent variable. 4.1.4 Experimental Materials The two scenarios in the experimental materials involved common choices faced by middle school students: whether to let classmates or friends copy their homework, and whether to lend money to classmates or friends. According to the definition of morality and previous psychological research on morality, moral behavior refers to actions that benefit or do not harm oneself, others, or society, while non-moral behavior refers to actions that are harmful to oneself, others, or society (Yang Shaogang & Wu Huihong, 2006). For moral situations, the operational definition was that classmates or friends were absent when the teacher assigned homework for other reasonable reasons, and the borrowed money was used for legitimate purposes. For non-moral situations, the operational definition was that classmates or friends delayed their homework time due to playing video games, and the borrowed money was used for playing video games rather than normal

purposes. Two scenario stories frequently encountered by middle school students (stories about lending money and doing homework) were developed, which were close to real life and objectively narrated. Before the formal experiment, the experimental materials were reviewed by participants, and all participants raised no objections (they all agreed that the materials reflected situations they often encountered). The materials were also examined by the thesis supervisor and finally confirmed not to mislead participants. Each story had four versions: moral situation with peer present, moral situation with peer absent, non-moral situation with peer present, and non-moral situation with peer absent. All stories were identical except for the situation and peer cues. A 5-point scoring system was used: "1" for extremely unwilling, "2" for unwilling, "3" for uncertain, "4" for willing, and "5" for extremely willing. 4.1.5 Experimental Procedure With the permission of the sophomore head teacher of the middle school, participants were randomly divided into four groups with 30 students in each group: moral situation with peer present, moral situation with peer absent, non-moral situation with peer present, and non-moral situation with peer absent. Experimental materials were distributed, and the main experimenter instructed participants to complete the experiment, with each group reading different materials. Small gifts were distributed to participants after the experiment.

5. Research Analyze

As shown in Table 2, a 2 (morality: moral vs. non-moral) × 2 (peer presence: with peer vs. without peer) two-way ANOVA revealed that the main effect of morality was significant, $F = 113.418$, $p = 0.000 < 0.05$. The mean willingness score in moral situations ($M = 6.94$) was higher than that in non-moral situations ($M = 4.52$). The main effect of peer presence was not significant, $F = 1.072$, $p = 0.303 > 0.05$, although the mean willingness score for altruistic behavior with peers present ($M = 5.83$) was higher than that with no peers present ($M = 5.60$). The interaction between the two variables was significant, $F = 12.602$, $p = 0.001$. This indicates that individuals are more willing to help others in moral situations than in non-moral situations. Regarding peer presence, individuals show slightly higher willingness to perform altruistic behavior when peers are present or influential, but the difference is not statistically significant. 5 Discussion The present study investigated middle school students' willingness to engage in altruistic behavior in moral and non-moral situations. It was hypothesized that individuals would be more willing to act altruistically in moral situations than in non-moral situations. In previous research, psychologists have used various scales to measure peer relationships among individuals, especially students, and to explore the relationships between peer relationships and other psychological variables such as prosocial behavior and moral development. In real life, people's behavior is more or less influenced by peers, and peer presence affects decision-making. For example, girls may consult

female peers when shopping, and students may decide to play first if their peers are playing instead of doing homework. Therefore, we hypothesized that individuals would be influenced by peers when choosing to act altruistically: if peers approve or have already acted altruistically, individuals would tend to make the same choice. In the present study, participants' willingness to engage in altruistic behavior was significantly higher in moral situations than in non-moral situations. A detailed analysis of the two scenarios in the experimental materials shows comparisons between borrowing money for gaming versus buying books, and copying homework due to legitimate absence versus missing homework time because of playing games. Individuals can judge which situations deserve altruistic behavior and which do not, indicating that they possess basic moral judgment abilities. However, as mentioned earlier, moral judgment can also be affected by other non-rational factors such as emotion and interpersonal relationships. Thus, when evaluating the two scenarios, individuals may be influenced by other factors. For instance, if a friend engages in one of the non-moral behaviors described in the materials, an individual may regard the friend's behavior as non-moral due to the importance of their friendship. Furthermore, all participants were senior high school students who frequently take examinations, and teachers often remind them not to copy homework or cheat. Consequently, participants may believe that others should not copy homework even with seemingly reasonable excuses. This may partly account for the outliers observed in the experimental results. In addition, it was hypothesized that individuals would show higher willingness to act altruistically with peers present than when alone, partly due to the influence of social desirability observed in other studies—namely, behaviors accepted by the general public. If individuals know that their friends have already helped someone in need, they tend to follow suit and offer help. However, in the present study, no significant difference was found: participants' willingness to engage in altruistic behavior did not differ significantly between the peer-present and peer-absent conditions, although willingness was slightly higher with peers present. Possible reasons for this result include that adolescents approaching adulthood develop independent thinking and judgment. According to Kohlberg's theory of moral development, children aged 13 and above possess genuine moral concepts that are fully internalized; they think rationally and act according to their own internal standards. In addition, the experimental materials selected may not have met the participants' criteria for helping others. Several limitations of this study are as follows. First, the number of experimental scenarios was limited and did not cover various aspects of middle school students' academic and daily lives, and students experience different situations. Second, participants were all average-level students from key classes in the selected school, so the findings cannot be generalized to students in lower-level regular classes or higher-level elite classes. 6 Conclusions (1) Individuals' willingness to engage in altruistic behavior is significantly higher in moral situations

than in non-moral situations. Compared with the absence of peers, individuals show slightly higher willingness to act altruistically when peers are present, but the difference is not significant. (2) There is a significant interaction between situation and peer presence. Participants with peers present show the highest willingness to engage in altruistic behavior in moral situations.

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