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## Abstract

Objective: This paper aims to examine how individual disposition is influenced by group structures and how this in turn enhances team members' creative and prosocial behaviors. Building on a person-in-situation theory, we argue that altruism is a communal personality leading to the dual outcome of creativity and prosocial behavior, and altruism can best facilitate the dual outcomes of creativity and prosocial behavior when team standardization is low and when team participation is high. Method: Based on data from 346 employees in 86 teams, the results from multilevel modelling largely supported our hypotheses. Results: Altruism is associated with both individual creativity and prosocial behavior when team participation is high. Altruism is associated with individual prosocial behavior when team standardization is low. Conclusions: Our study shows that to foster creativity and prosociality, teams need not only to pay attention to team members' altruistic dispositional tendency, but also to build participative team environment and reduce team standardization to enable such dispositional tendency to be expressed. In doing so, our study offers a new alignment of prescriptions to foster prosociality and creativity. Being altruistic is an antecedent of prosociality, but it is also a powerful driver of individual creativity in participative teams.

Keywords: altruism, team standardization, team participation, creativity, prosocial behavior

## Highlights and Implications

- The relationship between altruism and creativity is stronger when team participation is high.
- The relationship between altruism and prosocial behavior is stronger when team participation is high.
- The relationship between altruism and prosocial behavior is stronger when team standardization is low.
- Organizations and leaders should encourage team participation and reduce standardization, so altruistic team members will be better able to engage in creativity and prosocial behavior simultaneously.

# Two birds, one stone: How altruism can facilitate both individual creativity and prosocial behavior in two different team contexts

Creativity involves generating useful and novel ideas and products in achievement settings (Amabile, 1996; Nijstad & De Dreu, 2002; Nijstad et al., 2010), while prosocial behavior refers to "a broad category of acts that are defined by some significant segment of society and/or one's social group as generally beneficial to other people" (Penner et al., 2005, p. 2) and includes behaviors contributing to the "the greater good" (Martin-Raugh et al., 2016) such as supporting one's community and showing social responsibility. Creativity helps team members generate novel strategies to deal with the increased competitiveness of the environment, and prosocial behavior enhances the broader group's social good by sustaining their quality of life. As such, both creativity and prosocial behavior are often enacted in team settings (De Dreu et al., 2011; Kavussanu et al., 2006) and have been found to be key factors influencing team success and sustainability in teams across different fields (Benson & Bruner, 2018; Feather et al., 2018; Martin-Niedecken & Schättin, 2020; Ness, 2011). For example, creativity is important for medical teams to develop novel solutions to rare or poorly understood diseases such as Alzheimer's disease (Ness, 2011), and prosocial behavior is key for enhancing team members' feeling, the quality of which influences their performance (e.g., medical teams' quality of care or sport team behaviors and strategies across time) (Benson & Bruner, 2018; Feather et al., 2018). However, despite the dual importance of creativity and prosocial behavior in varied team contexts, to date, we know very little about what personality type could lead to both creativity and prosocial behavior.

To address this gap, we first propose altruism, a motivation disposition with the highest goal of increasing others' welfare rather than one's own (Batson, 2011; Batson & Shaw, 1991), as a viable individual disposition that encourages people to develop creative ideas and functions as a common antecedent for creative and prosocial performance. Altruism

is defined as a dispositional ability to perceive others' needs and value others' welfare and the tendency to help and benefit others voluntarily without considering one's own welfare (Batson, 2011). Evolution psychological researchers define altruism as self-sacrifice or kin-selection, which involves extreme behaviors of placing others' needs above one's own. Differing from the self-sacrifice or kin-selection perspective, our definition of the altruistic personality is more about actively considering others' needs and concerns, and sensitivity and willingness to address others' needs as one of the priorities in their everyday life.

Altruism differs from reciprocity in that it involves helping others with no expectation of reciprocity. Both altruism and prosocial motivation demonstrate one's willingness to help others, but the concept of altruism is strictly limited to willingness to help others without the intention to gain external rewards (Bar-Tal et al., 1985). A self/other concern is important for teams across different disciplines; for example, it could influence the mentor-protégé relationship in organizations (Hu et al., 2014), the therapist-patient relationship in clinical settings (Flasch et al., 2019; Limberg et al., 2015), and sport team players' performance (Grijalva et al., 2020). Individuals with high altruism with the ultimate goal of benefiting others' welfare typically help others more eagerly (Batson & Powell, 2003). Therefore, people with a high altruistic personality are more likely to help others (Hu et al., 2014). As such, drawing on psychological theories (e.g., empathy altruism hypothesis) (Batson & Shaw, 1991) have found that altruism is a key factor leading to prosocial behavior. In addition, although we have not observed studies that examine the link between altruism and creativity, experimental psychologists have shown evidence that altruism could facilitate creative cognitive processes, such as value-creating (Pruitt & Carnevale, 1993), information seeking and information exchanging, for people's maximum good (rather than zero-sum) (Beersma & De Dreu, 2005). As such, along these lines, team members may freely express and empathically respond to each other's authentic affect, which, in turn, can help members more

fully and collectively explore and make sense of their work and lead to improved elaboration of ideas (Parke et al., 2021), specifically, ideas that are useful (Grant & Berry, 2011). Taken together, we first propose that altruism is a communal factor leading to both creativity and prosocial behavior.

With their communal nature involving working in a team, we argue that team contexts can provide a moderating impact on the underlying processes involved in altruistic personality, creativity, and prosocial behaviors. Indeed, teams are ubiquitous to organizational life, where constituencies' behaviors are often under the influence of the nature of teamwork design (Taggar, 2002). In teams, employees are more likely to experience the compatibility of creativity and prosociality as they must contribute creatively and constructively to the greater good of the team. Extending the idea of employees contributing to the greater good, we examine whether individuals who value others' welfare and voluntarily help and benefit others (Batson, 2011) have the potential not only for prosocial behavior but also creativity.

To understand how different team designs emphasizing employees bottom-up influence (vs. top-down focus) and flexibility (vs. rigidity) influence creativity and prosocial behavior, we study the moderating roles of team participation and standardization. Team participation describes a context in which team members can discuss, contribute to, and influence decisions and directions related to teams (Lam et al., 2002). Team standardization describes a team context in which team members follow consistent processes and procedures, enabling coordination and compatibility across the organization (Gilson et al., 2005; Taylor, 1914).

Our research builds on theories of person-situation interaction (Tett & Burnett, 2003) and the broad creativity and prosocial behavior literature (e.g., De Dreu, 2007). The two tenets of the theories of person-situation interaction are trait activation and situation strength

(Judge & Zapata, 2015). Trait activation is the degree to which the situation is relevant to the trait, whereas situation strength is the situational constraint imposed on the environment (Caspi & Moffitt, 1993). According to trait activation theory, participative team contexts are trait-relevant contexts for altruism. Altruists are motivated to help others in team contexts in which participation is encouraged. Greater opportunities for participation in teams will resonate with altruistic belief structures, empowering an altruistic individual's strong preference to help others. In such contexts, we anticipate that altruistic individuals have far greater capacity to develop novel and useful solutions and prosocial behavior, as their own dispositions resonate with the opportunities afforded by the context. According to situation strength theory, team standardization affords a strong context that inherently reduces the opportunity for altruists to demonstrate creativity and prosocial behavior. Taken together, we examine how different team contexts may invite or restrain altruistic expression, which will in turn translate into individual creativity and prosocial behavior in meeting the organization's needs.

## The Moderating Role of Team Participation

A participative team context refers to the ways in which team members engage each other in decision-making about how their work should be done (Lam et al., 2002). This issue has been discussed in different disciplines. For example, in social psychology, team participation involves group decision-making allowing group members to discuss and share information to find a solution (van Ginkel et al., 2009); in the medical disciplines, a participative context may refer to the ways in which doctors and patients engage each other in making decisions about illness management (Miller, 2009). In the work context, a participative team context refers to the extent to which the individual is able to participate in decisions regarding his or her job, has a high degree of involvement in decisions related to

him or her, can engage in setting his or her team's direction and is empowered so that his or her views can have a real influence on his or her work (Grant & Parker, 2009; Lam et al., 2002).

We argue that a participative team context can strengthen the altruism-creativity link. Altruists are keen to understand others' interests and have a strong desire to benefit the group as opposed to non-altruists. They focus on the harmony and greater social good of the group; thus, they like to cooperate with others. Altruists are more likely to seek, attend, and communicate information that is beneficial to the whole group, enhancing harmony and collective welfare (Bechtoldt et al., 2010). A highly participative team context encourages altruists to elaborate each member's opinions and information exchange (Larson et al., 1994).

Such a context further helps them to understand more about others' needs and to generate novel solutions based on others' needs/ideas to help others. In other words, under a highly participative team context, altruists are more likely to be exposed to divergent information, to find different ways to integrate other team members' unrelated ideas and to generate useful solutions to existing problems. In comparison, non-altruists are less interested in understanding others' needs and less inclined to utilize and elaborate on others' ideas and are less likely to attend to ideas helpful for others. Therefore, team participation is less likely to evoke non-altruists' elaborative thinking, and thus, its impact on individuals' creativity will be small.

In contrast, a low team participative context reduces the opportunities for altruists to discuss and exchange information. Thus, in such team contexts, altruists are less able to understand others' needs. Moreover, as team members spend less time in discussion, the probability of minority opinions being discussed decreases. As team members' unique opinions are more likely to be overlooked in a low team participative context, altruists have

less opportunity to elaborate others' creative ideas. Therefore, we expect a weaker and less positive relationship between altruism and creativity under conditions of low team participation.

*Hypothesis 1*. Team participation moderates the relationship between individual altruism and creativity such that the positive relationship is stronger when team participation is high rather than low.

We posit that team participation encourages altruists to engage in more prosocial behaviors. Highly participative team contexts empower team members to share their views, experiences and perspectives. Thus, in highly participative team contexts, team members are encouraged to share their opinions and needs. In such situations, altruists feel more trust, empathy and connections; thus, they are more willing to help others (Bierhoff, 2002). Moreover, because of the shared power, decision making and respect available in a highly participative context, altruists develop a sense of empowerment and self-efficacy regarding their self-initiated prosocial behavior. Furthermore, high participative team contexts offer more opportunities for interactions, involving more conversations, discussions, or even positive facial expressions from colleagues. Altruists care more about others' welfare than about self-interest. Such positive cues from highly participative team contexts will further confirm to altruists that their prosocial behavior is effective (Grant, 2007). In other words, highly participative team contexts are positive-reinforcing environments for altruists, creating a positive reinforcing cycle where altruists' prosocial behavior is rewarded. Taken together, we propose that team participation amplifies the positive impact of altruism on prosocial behavior because it provides trait-relevant situational cues for altruistic employees in terms of inducing prosocial behaviors. In contrast, when team participation is low, altruists have fewer opportunities to contribute to helping others. Thus, we anticipate a weaker relationship between altruism and prosocial behavior.

*Hypothesis 2*. Team participation moderates the relationship between individual altruism and prosocial behavior such that the positive relationship is stronger when team participation is high rather than low.

## The Moderating Role of Team Standardization

Standardization entails increased formalized processes with a focus on enhanced efficiency. The standardization literatures can be traced back to Taylor's (1914) scientific management, which proposes that specifying work details can improve efficiency to meet organizational goals. Accordingly, routines are documented and formalized to consistently increase efficiency and delivery quality (Litchfield et al., 2021, p. 67). An important aim of standardization is to decrease unnecessary change during the process. Such a standardization process is not only common in teams in organizations (Litchfield et al., 2021), but it is also common in sport teams (e.g., athletes warm up following standardized procedures), and in clinical teams (e.g., doctors/nurses have a systematic way to check patients' blood pressure; counsellors practice systematic therapy to help patients). Team standardization is characterized in terms of consistency toward improvement and maintenance of work quality (Gilson et al., 2005). Specifically, in the workplace, a standardized team context is usually run according to detailed, precise, thorough and methodical guidelines with regard to how work should be performed, thereby reducing the variance associated with each task, enhancing consistency and thus improving overall effectiveness (Gilson, et al., 2005; March, 1991), with aims to minimize variations, imperfections or errors (Gilson, et al., 2005; Judge & Zapata, 2015).

High team standardization affords consistent procedures about what is required, limiting the latitude to diverge from these requirements. Although altruists may be inclined to generate ideas useful to others (Grant & Berry, 2011), in such contexts, they need to keep an eye on the standards when developing useful ideas for others and thus are likely to be less

creative. That is, standardization decreases opportunities and freedom for altruists to explore different ways to help others. Moreover, excessive rules from standardized team contexts inhibit the spontaneous infusion, random encounters and creative elaboration of altruists (Schilling, 2005). In contrast, low team standardization equates to less control and restriction, with fewer prescriptions and directives about how tasks should be done. There are fewer directions about what needs to be done and great opportunities for individual discretion and variation. When these structures are reduced, employees feel less pressure for doing certain things in certain ways. When the stress to follow standards and negative effects are attenuated, the focus on cognitive processing expands, which enables altruists to make remote associations between unconnected ideas (Baumann & Kuhl, 2002).

*Hypothesis 3*. Team standardization moderates the relationship between individual altruism and creativity such that the positive relationship is stronger when team standardization is low rather than high.

We expect that low levels of team standardization strengthen the positive impact of altruism on prosocial behavior. A low standardized team context removes those barriers and provides team members with an enriched platform with opportunities to share information and discretion in how work is done (De Dreu, 2007). That is, in a low standardized team context, altruistic team members have more opportunities to collaborate to achieve their common purpose of helping others via their work engagement, as a low standardized team context encourages more communications and interactions (Thompson, 1965). As such, a low standardized team context affords greater positive synergy for altruistic individuals to influence and contribute to helping others. In addition, a low standardized team context provides greater chances to determine how to perform work, potentially building emotional ties between team members and opportunities to have a prosocial impact (Grant, 2007; Grant & Gino, 2010), fueling altruists' desire to help others.

In contrast, a highly standardized team context is a strong situation with fewer opportunities to interact with others. Although altruists have an innate desire to promote and protect other people's wellbeing (Batson, 1987; De Dreu et al., 2000), a highly standardized team context affords little opportunity for discretion or to codetermine how work is performed and help others. Moreover, when team standardization is high, altruists are constrained in their capacity to help others, reducing the societal benefits of their other serving disposition.

*Hypothesis 4*. Team standardization moderates the relationship between individual altruism and prosocial behavior such that the positive relationship is stronger when team standardization is low rather than high.

## Method

### Sample and Procedure

Data were collected as part of a national survey of Taiwanese customs, which is a large government organization in Taiwan. Employees in that government organization were responsible for and involved in a particular activity (e.g., detecting the smuggling of private cigarettes and meat by working with sniffer dogs and applying novel technologies). Altruism, prosocial behavior and creativity are heavily related and required for the study's organizational sample—Taiwanese customs. For example, during the festive seasons, the officials in Taiwanese customs must facilitate migrant workers' travels to their home countries (i.e., prosocial behavior) and devise creative activities (e.g., food parties, cooking competitions) to help migrant workers cope with homesickness or displacement (i.e., creativity). Moreover, during the African swine fever virus pandemic, the Taiwanese customs officials must work with scent-detecting dogs trained in another country as well as "think outside the box" about which containers or food products could be infected by the African

swine fever virus. While testing travelers for African swine fever virus, they also aim to help travelers return home smoothly (i.e., prosocial behavior). Thus, their jobs require both creativity and prosocial behavior. Moreover, during the pandemic, when travelers flew back to Taiwan, they were required to quarantine for two weeks "individually" in a hotel. Few parents with young kids arrive Taiwan, but kids cannot stay in a hotel separately without their parents. The officials in Taiwanese customs had to suggest breaking the rules of quarantining separately and help them find family quarantine hotels. This example shows that both prosocial behavior and creativity are required in this work context.

A long-standing manager in the human resource department of the organization was supportive of the broader project including questions in the organization's annual survey of field employees, that is, teams of operational employees. The inclusion of these items was based on the understanding that we were allowed to use only these items and provide an organizational report based on these data. Operational employees were situated in particular locations across Taiwan, e.g., in different airports or ports, and they were responsible for particular activities such as inspection, port security management, and branch cyber-security. As a consequence, team members worked in a particular team with a supervisor to whom they reported. Due to their differing locations and their specific focuses, the team members did not cross-over and did not work in different teams. An anonymous code was embedded in the questionnaires, and individual team members and team supervisor questionnaires were anonymously matched. In total, 435 of 529 employees (82% response rate) finished the first-wave survey, and 91 of 103 team supervisors (88% response rate) finished the second-wave surveys about individual members' creativity and prosocial behavior. After matching, we obtained 346 employees in 86 teams. Because each individual member was nested within a team, this required a multilevel analysis that took into account the clustering of data based on team membership. We conducted multilevel analyses for all of our hypotheses.

Among team members, the average age was 38.66 years (SD=8.91), 35.5% were female, 60% held an undergraduate degree, and the average tenure at the organization was 9.03 years (SD= 8.71). The average team size was 4.02 members (ranging from 2 to 7 members). Among team leaders, the average age was 49.40 years (SD =6.98), 72.5% were male, 49.5% held an undergraduate degree, and their average tenure at the organization was 21.23 years (SD = 8.89).

**Measures**

Employees responded to measures of altruism, team participation, team standardization, creative self-efficacy and demographics, while matched supervisors rated employees' prosocial behavior and creative behavior (Baer & Oldham, 2006).

**Altruism** was measured by a 5-item altruism scale from the International Personality Item Pool (i.e., IPIP) (Goldberg, 1999) (1= very inaccurate to 5 = very inaccurate, e.g., "I am concerned about others" and "I anticipate other people's needs", α= .84).

**Team participation** was measured using a 4-item scale developed by Lam et al (2002) (1= strongly disagree to 5 = strongly agree), which assessed the autonomous team contexts for participative decision making and the extent to which the team engages in cooperate team decision making. Sample items include "In this team, I can participate in setting our team's directions" and "In this team, my views have a real influence on how we work", α= .88). Because team standardization is a shared perceived context within the team, we calculated the intraclass correlation coefficients (ICC1 = .10, $p < .01$ and ICC2 = .30 and mean rwg(j) = .90). Building on multilevel measurement theorizing, sufficient within-group agreement (i.e., the degree to which the ratings from individuals in a group are interchangeable) is a requirement for constructing a team-level construct, which was found in our study (rwg(j) >0.70). Sufficient reliability (i.e., the degree to which the individual group

members' ratings are consistent in their proportions) is another requirement for constructing a team-level construct (Bliese, 2000), which requires ICC1 and ICC2 values to be above zero. The ICC1 describes that a proportion of the variability in the construct in question results from group membership. The ICC2 describes that the groups can be reliably differentiated by their mean values on the construct. Supported by the rwg(j), ICC1 and ICC2 values (Bliese, 2000), we aggregate participation to the team level (Chan, 1998).

**Team standardization** was measured by a 4-item team standardization scale slightly adapted to the context from Gilson et al (2005) (1= no, not at all to 5 = yes), which assessed the inflexible team contexts to require team members to follow the standardized procedures. Sample items include "Our team has consistent, prescribed ways of performing our work" and "Our team has an inspection process to ensure we perform our work according to standard procedures", $\alpha$= .88). Because team standardization is a shared perceived context within the team, we calculated the intraclass correlation coefficients (ICC1 = .04, $p < .01$ and ICC2 = .15 and mean rwg(j) = .92). As the aforementioned rationale, the ICCs and rwg(j) together support aggregation to the team level (Bliese, 2000). Therefore, we aggregate the individual level answers to the team level (Chan, 1998).

**Employee creativity** was rated by supervisors using a 4-item creativity scale developed by Farmer et al (2003) (1 = very strongly disagree to 7 = very strongly agree, e.g., "This employee suggests many creative ideas that might improve working conditions in my organization" and "This employee often comes up with creative solutions to problems at work", $\alpha$= .93).

**Employee prosocial behavior** was rated by supervisors using a 4-item employee prosocial behavior scale developed for this study (1 = very strongly disagree to 7 = very strongly agree, e.g., "This employee demonstrates high levels of energy striving to benefit

others", "This employee works towards our mission of serving and protecting the community", "This employee does his or her best to have a positive impact on the stakeholders our organization serves" and "This employee puts the interests of others first in upholding our organization's mission to serve the community", α= .83).

**Controls**. In line with the prior creativity and prosocial behavior literature, we controlled for sex (0 = "male," 1 = "female"); education level (1, "high school or under," to 5 = "postgraduate degree"); employees' ages, which have been found to have significant impacts on creativity (Hirst, et al., 2009; Liu et al., 2011) and prosocial behavior (De Dreu & Nauta, 2009; Kuvaas et al., 2012). In addition, we controlled for creative self-efficacy, which has been found to be positively related to individual creativity in team contexts (Richter et al., 2012), by using three creative self-efficacy items (Tierney & Farmer, 2002, 2004) (1 = very strongly disagree to 7 = very strongly agree, e.g., "I have confidence in my ability to solve problems creatively" and "I feel I am good at generating novel ideas", α= .95).

**Factor Structure and Validity**

While employee creativity and prosocial behavior were rated by team leaders, the other study variables were collected from team members (altruism, team participation, team standardization, creative self-efficacy). We conducted confirmatory factor analyses (CFAs) to test the distinctiveness of these two sets of variables. The results of the CFAs suggested that for the data from supervisors, the hypothesized 2-factor model ($\chi^2$ = 58.27, df = 19, CFI = .98; SRMR = .03) fit the data well. Furthermore, model comparison demonstrated that the hypothesized 2-factor model had a significantly better fit than the one-factor model (combining creativity and prosocial behavior) for leader-rated variables ($\Delta\chi^2$ = 274.17, $\Delta$df = 1). The average variance extracted (AVE) for creativity was .78 and that for prosocial behavior was .60, and each was greater than the squared correlation of these two variables (.41). Furthermore, the composite reliability for creativity was .93 whereas that for prosocial

behavior was .85. These results provide evidence for the convergent and discriminant validity of these two dependent variables (Farrell, 2010; Fornell & Larcker, 1981).

Regarding the data from team members, the hypothesized 4-factor model (altruism, team participation and team standardization, creative self-efficacy) also had a good fit with the data ($\chi^2$ = 314.61, df = 113, CFI = .95; SRMR = .05). Model comparisons demonstrated that the hypothesized 4-factor model had a significantly better fit than other alternative nested models: a 3-factor model A (combining altruism and creative self-efficacy ($\Delta\chi^2$ = 503.15, $\Delta$df = 3), a 3-factor model B (combining team standardization and team participation) ($\Delta\chi^2$ = 689.11, $\Delta$df = 3), and a 1-factor model (combining all employee-rated variables ($\Delta\chi^2$ = 1888.08, $\Delta$df = 6). The AVE for the study variables rated by employees was .54 for altruism, .64 for team participation, .65 for team standardization, and .85 for creative self-efficacy; each was larger than the maximum shared variance (.25) and the average shared variance (.09). The composite reliability was .86 for altruism, .87 for team participation, .88 for team standardization, and .96 for creative self-efficacy. These results also provide support for the convergent and discriminant validity of this set of variables.

**Analytical Strategy**

Due to the nested nature of our dataset, random coefficient modelling (RCM) was used to test the hypotheses with Mplus 7.4 (Muthén & Muthén, 2012). Team standardization and team participation were included as group-level (L2) variables, and altruism was included as an individual-level (L1) variable. To test our cross-level model, we group-mean centered the level 1 variable (i.e., altruism) to eliminate the potential confounding effects residing at the group level and grand-mean centered the group-level variables (i.e., team participation and standardization) (Chen et al., 2007; Enders & Tofighi, 2007; Hofmann & Gavin, 1998).

## Results

Table 1 presents the descriptive statistics, internal consistency reliabilities and intercorrelations for all the study variables.

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Insert Table 1 about here
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The results for hypothesis testing are summarized in Table 2. In Models 1a and 1b, we tested a main effect model by entering controls and altruism at the individual level and team standardization and team participation at the team level to predict creativity and prosocial behavior, respectively. In Models 2a and 2b, the cross-level interaction terms of altruism and team variables (i.e., altruism x team participation and altruism x team standardization) were added to the main effect model. As shown in Table 2, the pseudo $R^2$ increased from .03 to .04 for creativity and from .05 to .07 for prosocial behavior, indicating that the cross-level interaction terms explained an additional 1% of the variance in creativity and an additional 2% of the variance in prosocial behavior beyond that accounted for by altruism and the team variables and the controls. Furthermore, following Aguinis et al (2013), we calculated the proportion of the slope variance explained by the group-level moderators. The results showed that the variance for the slope for altruism on creativity dropped from .034 to .012 when the cross-level interaction terms were included, indicating that team participation and team standardization explained 65% of the total slope variance across teams. Similarly, the variance in the slope for altruism on prosocial behavior decreased from .024 to .008, indicating that the same set of team-level variables accounted for 67% of the total slope variance across teams. More specific results for each contextual moderator are reported below.

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Insert Table 2 about here
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**Team Participation as a Contextual Moderator**

As shown in Table 2 (Model 2a & 2b), the interaction term of altruism and team participation was positively and significantly related to creativity ($\gamma$ = .19, s.e. = .09, $p$ < .05) and prosocial behavior ($\gamma$ = .23, s.e. = .07, $p$ < .01). Furthermore, the simple slope tests demonstrated that the relationship between altruism and creativity was positive and significantly different from zero when team participation was high (simple slope = .42, s.e. = .12, t = 3.51, p < .001) rather than low (simple slope = .04, s.e. = .13, t = .27, p > .05). Similarly, the relationship between altruism and prosocial behavior was positive and significantly different from zero when team participation was high (simple slope = .48, s.e. = .11, t = 4.30, p < .001) rather than low (simple slope = .02, s.e. =.09, t = .19, p > .05). These results, depicted in Figures 1 and 2, support Hypotheses 1 and 2.

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Insert Figure 1 and Figure 2 about here
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**Standardization as a Contextual Moderator**

Table 2 (Models 2a & 2b) also presents the results for the interaction effects of altruism and team standardization on creativity and prosocial behavior. As shown, the interaction term of altruism and standardization was nonsignificant for creativity ($\gamma$ = -.14, s.e. = .08, $p$ = .08) but negative and significant for prosocial behavior ($\gamma$ = -.16, s.e. = .07, $p$ < .05). Simple slope analysis revealed that the relationship between altruism and prosocial behavior was positive and significantly different from zero when standardization was low (simple slope = .41, s.e. = .08, t = 5.11, p < .001) rather than high (simple slope = .09, s.e. =.12, t = .70, p > .05) (see Figure 3). Taken together, these results reject Hypothesis 3 but support Hypothesis 4.

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Insert Figure 3 about here
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## General Discussions

Although both employee creativity and prosocial behavior are key to team success, different antecedents have been proposed to promote each of them separately. Our research is the first attempt to integrate the two streams of literature. Drawing on theories of person-situation interaction and the broad creativity and prosocial behavior literature, we found that altruism is associated with both individual creativity and prosocial behavior when team participation is high and with individual prosocial behavior when team standardization is low.

### Theoretical Implications

Our study offers a number of theoretical contributions. First, altruism is widely studied in psychology; yet, most of the psychological literature on altruism has not taken group contexts into account. Our contribution is twofold. On the one hand, we contribute to the management research by highlighting the importance of altruism and its relation to members' positive work behaviors (i.e., creativity and prosociality) using organizational teams. On the other hand, we contribute to the psychology literature by showing that it might be too simplistic to assume that altruism will lead to prosocial behavior because their relationship may vary depending on scholars' chosen team conceptualization. By showing that altruism may interact with two previously overlooked but important group-level moderators (i.e., participation and standardization) to jointly influence individual outcomes, we go beyond the psychology literature, and integrate team contexts related to altruistic personality, to examine how the personality-team context may jointly influence individual outcomes.

Second, our cross-level interactions align with a trait activation theory framework (Tett & Burnett, 2003) in which individual members' traits will differentially predict their

behaviors depending on their surrounding group contextual cues. We argue that teams provide the flexibility and latitude for individual members to perceive the freedom and appropriate cues to process their creative and prosocial behavior. Such results contribute to the multidisciplinary group research such as that addressing medical teams and sport teams by highlighting the important impacts of group characteristics on members' creativity and prosocial behavior. Our results further emphasize the need to use a multilevel theoretical approach to examine individual- and group-level variables across multiple levels. Our findings regarding the altruism-team standardization interaction endorse the basic premise of the situational strength framework (Caspi & Moffitt, 1993), which suggests that the strong context inherently reduces people's opportunities to demonstrate personality-related behaviors. In addition, by conceptualizing standardizing and participation as team-level constructs, we capture a richer range of teamwork experiences in teams because it reflects the latitude whereby some team members are more or less able to participate in decision making processes.

**Managerial Implications**

Endeavouring to build participative team contexts eliciting altruists' creativity and prosocial behavior is a new trend for organizations. Our research offers a number of managerial implications to help teams and employees achieve both outcomes. First, our results highlight the importance of altruistic personality. To enhance altruism, organizations should not only hire more altruistic employees but also use job design to allow employees to perceive how they make a prosocial difference, which in turn will sustain their prosocial behaviors (Grant, 2007). Second, our findings show that high participative and low standardized team contexts can better translate altruistic employees' concerns into creativity and prosociality. Therefore, organizations should provide a flexible work environment,

encourage more “thinking”, and simplify bureaucratic practices, work procedures and centralized supervision. In doing so, organizations can better use their human resources, specifically employees who are high in altruism.

**Limitations**

This study has a number of limitations. First, the direction of associations cannot be fully explained due to our cross-sectional study design. To address this limitation, we encourage more longitudinal studies to clarify the causality between creativity and prosocial behavior. Second, although we collected supervisor-rated employee creativity and prosocial behavior to overcome the common method variance (CMV) problem, employee creativity and prosocial behavior were collected from the same supervisor, thus increasing the likelihood of correlation between creativity and prosocial behavior. To address this issue, future research could assess employee creativity and prosocial behavior by using archival performance data, or peer-rated data. Third, future research should examine the mechanisms translating altruism into creativity and prosocial behavior. Although we tested how individuals with different levels of altruism respond to a participative/standardized context, we did not examine the mediating processes underlying these links. We call for continued research into potential mediating processes (e.g., inclusive and integrative information processing mechanisms) (e.g., Parke et a., 2021).

In addition, this study involved a single government organization in Taiwan (i.e., Taiwanese customs). On the one hand, Taiwanese culture is unique in some ways. First, according to Hofstede’s model (2001), Taiwanese culture is collectivistic and long-term-oriented as opposed to western countries such as the United States. Such collectivism may strengthen feelings of interconnection and oneness, which may fuel prosocial behaviors in teams in the work environment. Moreover, a long-term orientation may also guide employees to consider how to sustain team members’, stakeholders’ and communities’ “maximized

good" and boost creativity (Beersma & De Dreu, 2005). Second, Taiwanese culture relies on Ren Qing, which refers to "adherence to cultural norms of interaction based on reciprocity, exchange of social favours, and exchange of affection according to implicit rules" (Cheung et al., 2001, p. 408). That is, whether one is altruistic or not, he or she will be more likely to help someone if he or she owes that person a favor. On the other hand, our sample, Taiwanese customs, are bureaucratic organizations, and some of the organizational characteristics and interaction patterns of these organizations may be different from those of other private organizations. To demonstrate the generalizability of our findings, future research should replicate our study in different cultures and settings

## Conclusions

Our study examines the impacts of differing approaches to team design that emphasize involvement and divergence compared to structure and consistency (i.e., team standardization and team participation). By adopting a multilevel approach and showing how different team contexts (i.e., team standardization and team participation) can shape the expression of altruistic personality, our study provides a cross-level approach for understanding how the interactions between the team contexts and altruistic personality can simultaneously facilitate individuals' creativity and prosocial behavior. Specifically, we found that being altruistic is an antecedent of prosocial behavior but is also a powerful driver of individual creativity in participative teams.

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Table 1

*Intercorrelations of the study variables*

| | | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Gender[a] | | | | | | | | | | | |
| 2 | Tenure (in years) | 9.03 | 8.71 | .01 | | | | | | | | |
| 3 | Education | 3.26 | .58 | -.06 | -.32** | | | | | | | |
| 4 | Creative self-efficacy | 4.40 | 1.04 | -.13* | .06 | .09 | **.95** | .43** | .29** | -.01 | .05 | -.03 |
| 5 | Altruism | 3.74 | .52 | -.05 | .08 | .05 | .48** | **.84** | .30** | .10 | .19 | .12 |
| 6 | Team participation | 3.17 | .65 | -.10 | .04 | .09 | .27** | .30** | **.88** | .34** | .02 | -.05 |
| 7 | Team standardization | 3.70 | .57 | -.01 | -.02 | .05 | .00 | .18** | .23** | **.88** | .05 | .15 |
| 8 | Creativity | 5.10 | .98 | .00 | -.08 | .05 | .11* | .20** | .09 | .07 | **.93** | .66** |
| 9 | Prosocial behavior | 5.51 | .79 | .05 | -.02 | .00 | .07 | .18** | .09 | .11* | .64** | **.83** |

Note: Ns: 346 (individual level) and 86 (team level); individual- and team-level correlations are below and above the diagonal, respectively.

[a]Dummy variable: 1= male, 2= female; * $p < .05$; ** $p < .01$; Reliabilities are in bold and underlined

Table 2

*Results of cross-level interactions*

| | Creativity (Model1a) | Prosocial behavior (Model1b) | Creativity (Model2a) | Prosocial behavior (Model2b) | Prosocial behavior (Model3) | Prosocial behavior (Model4) |
|---|---|---|---|---|---|---|
| Gender | .10 (.08) | .08*(.04) | .06(.04) | .09* (.04) | .12(.06) | .12*(.06) |
| Tenure | -.09*(.04) | -.04 (.03) | -.09* (.04) | -.03 (.03) | .01 (.03) | .00 (.03) |
| Education | .02 (.07) | -.06 (.07) | .02 (.07) | -.06 (.07) | -.04 (.04) | -.04 (.04) |
| Creative self-efficacy | .08 (.04) | .05 (.03) | .07 (.04) | .04 (.04) | .01 (.03) | .01 (.03) |
| **Level 1** | | | | | | |
| Altruism | .23* (.10) | .25**(.08) | .23**(.09) | .25**(.08) | .15* (.06) | .14* (.06) |
| Creativity | | | | | .47*** (.05) | .47*** (.05) |
| **Level 2** | | | | | | |
| Team participation | .00 (.08) | -.07 (.07) | .00 (.08) | -.07 (.07) | -.07 (.05) | -.02 (.25) |
| Team standardization | .04 (.07) | .12 (.08) | .04 (.07) | .12 (.08) | .10 (.06) | .72*** (.19) |
| **Cross-level Interactions** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Altruism x team participation | | | .19* (.10) | .23** (.07) | | |
| Altruism x team standardization | | | -.14 (.08) | -.16* (.07) | | |
| Creativity x team participation | | | | | | -.01(.05) |
| Creativity x team standardization | | | | | | -.12** (.04) |
| Pseudo $R^2$ | .03 | .05 | .04 | .07 | .42 | .44 |
| Slope variance | .034 | .024 | .012 | .008 | .048 | .029 |

* p < .05; ** p < .01; *** p < .001

Figure 1

*The Interactive Effect of Altruism and Team Participation on Creativity*

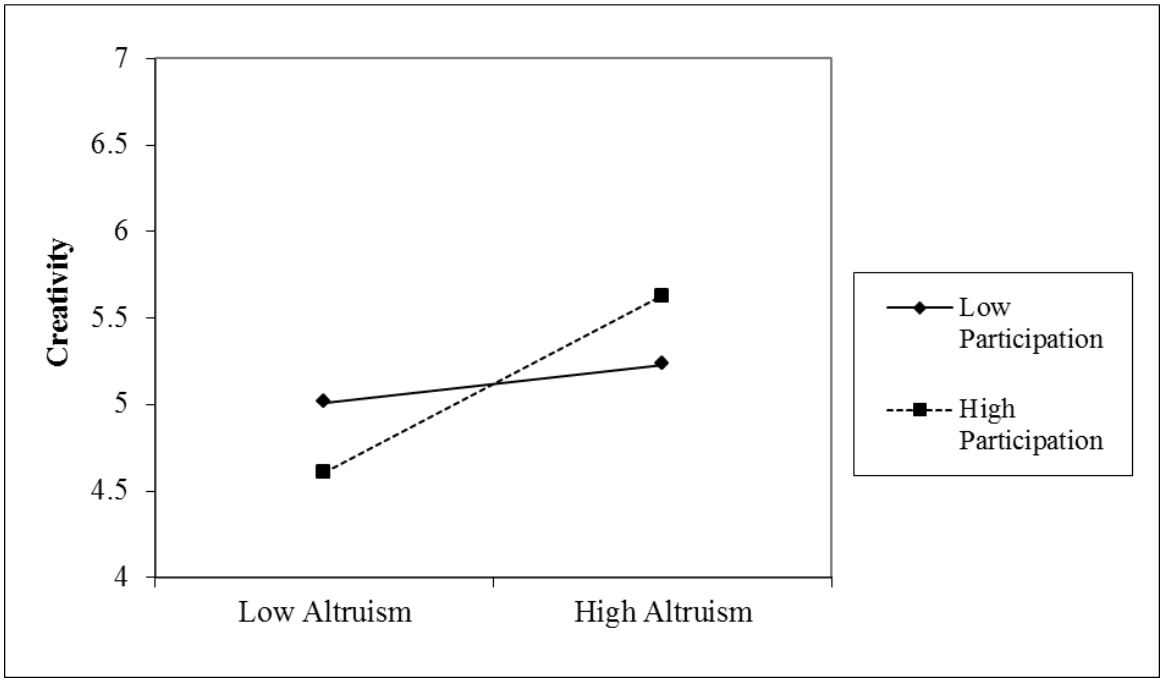


Figure 2

*The Interactive Effect of Altruism and Team Participation on Prosocial Behavior*

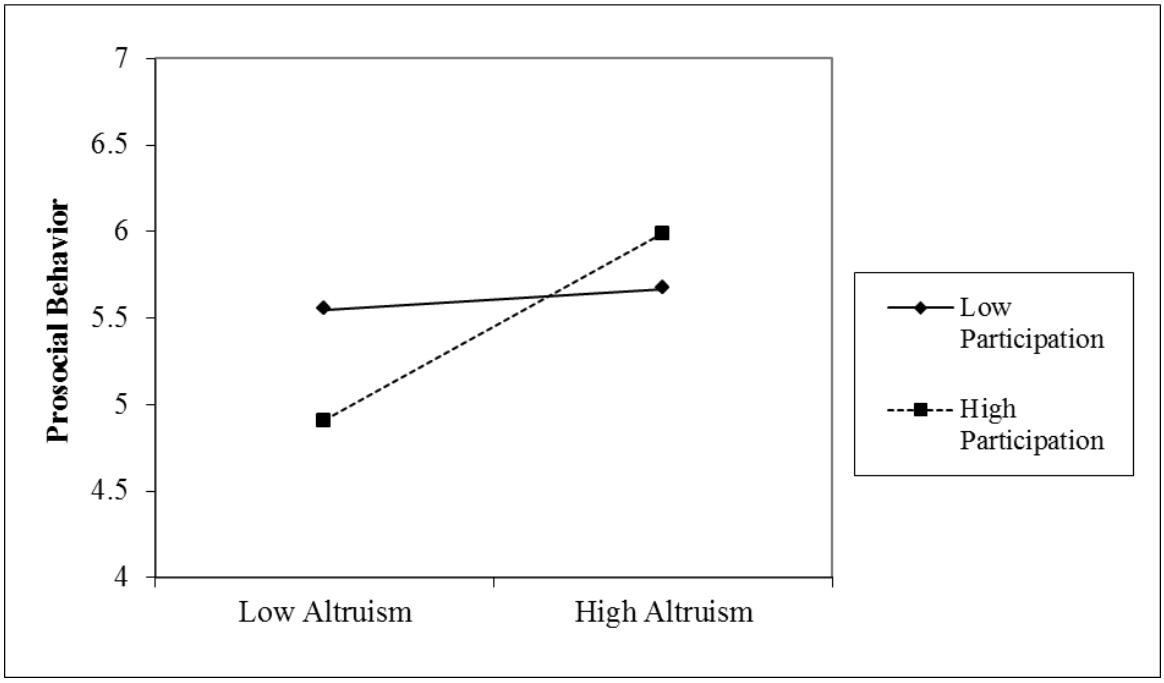

Figure 3

*The Interactive Effect of Altruism and Standardization on Prosocial Behavior*