

REWARDING THOSE HARDLY WORKING MORE THAN THOSE WORKING
HARD: HOW MISALLOCATING EQUITABLE TEAM-BASED REWARDS IN
INTERDEPENDENT TASKS CAN CREATE A BARRIER TO RETAINING HIGHER-
PERFORMING TEAM MEMBERS

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Equitable Team-Based Rewards in Interdependent Tasks Can Create a Barrier to
Retaining Higher-Performing Team Members

A Dissertation submitted in partial fulfillment of the requirements for the degree of
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DEDICATION

This is dedicated to the village that upheld me throughout this entire process—pushing me, encouraging me, supporting me, asking me about my work and my progress, staying interested, and allowing me to take the path that I felt was best to reach this finish line. It took all of you to get me to this point.

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LIST OF ABBREVIATIONS

Team-Based Reward	TBR
Equitable Team-Based Reward	ER

ABSTRACT

REWARDING THOSE HARDLY WORKING MORE THAN THOSE WORKING HARD: HOW MISALLOCATING EQUITABLE TEAM-BASED REWARDS IN INTERDEPENDENT TASKS CAN CREATE A BARRIER TO RETAINING HIGHER-PERFORMING TEAM MEMBERS

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This study examined one possible barrier to the effectiveness of equitable team-based rewards (i.e. rewards allocated according to each team member's individual contribution) that can especially occur with interdependent tasks, where it may be difficult to measure individual contributions: reward misallocation, such that higher performers are rewarded less than lower performers. The impact of three individual differences as moderators—equity sensitivity, exchange ideology, and agreeableness—was also examined. Results from a sample of 122 undergraduate students, each paired with a confederate teammate (who was always the lower performer), indicated that misallocation did not negatively impact individual performance or helping behaviors on a subsequent task. Misallocation, did however, reduce the intention to continue working with the teammate on future tasks. Lastly, moderating effects of the individual differences were not found.

INTRODUCTION

Broadly speaking, the impact of financial compensation on performance in the workplace (e.g., pay-for-performance; henceforth, *rewards*) has long been a part of organizational research. As organizational structures have more widely embraced the use of teams (Ilgen, Hollenbeck, Johnson, & Jundt, 2005), organizations have also had to navigate the shift from individual rewards to team-based rewards (TBRs; DeMatteo, Eby, & Sundstrom, 1998). This shift has brought some of the unique considerations that arise with TBRs to the forefront of organizational research and practice (Chen & Kanfer, 2006; DeMatteo et al., 1998; Wageman, 1995).

One consideration of TBRs is whether to implement an equitable or equal structure. An equitable structure rewards each team member individually with an amount proportionate to their contribution to the team's performance, whereas an equal structure rewards all team members with the same amount based on the team's overall performance and regardless of individual contribution (DeMatteo et al., 1998). Both of these structures have their strengths and challenges: equal TBRs yield high levels of cooperation among team members (e.g., Sinclair, 2003; Bamberger & Levi, 2009), but also increase the likelihood of free-riding (when one or more team members allow hard-

working teammates to put in more effort and earn the team a reward that is then split into equal portions despite unequal contributions; Karau & Williams, 1993; Kerr, 1983; Pearsall, Christian, & Ellis, 2010); equitable TBRs yield less cooperation, but can alleviate free-riding by more directly linking rewards to performance and, in turn, motivating individual team members to be more participative and perform in a faster, more productive manner (e.g., Garbers & Konradt, 2014; Johnson et al., 2006; Miles & Greenberg, 1993).

In line with the aforementioned strengths and challenges, there is a common thought that it is most appropriate to use equal TBRs for interdependent (i.e., cooperative) tasks and equitable TBRs for independent tasks (e.g., Shaw, Gupta, & Delery, 2002; Wageman, 1995; Wageman & Baker, 1997). Some researchers have disputed this though, suggesting that, in particular, there may be interdependent tasks where a supervisor should use equitable TBRs if they are prioritizing speed and participation (i.e., limited free-riding) over cooperation (e.g., Beersma et al., 2003; Trevor, Reilly, & Gerhart, 2012). One caveat to this latter approach, however, is that it can be difficult to measure individual contributions in interdependent tasks (DeMatteo, et al., 1998; Salas, Sims, & Klein, 2004). and, in turn, there is a possibility that the rewards could be allocated in a way that does not accurately align with team members' contributions (i.e., misallocated). This possibility raises a critical question that has received very little attention in TBR research: "To what extent is the effectiveness of equitable TBRs that are used for interdependent tasks diminished when rewards are misallocated?" The purpose of the current study was to address this research gap around

when equitable TBRs may be ineffective (i.e., when they are misallocated), while also addressing two related gaps in the TBR literature around *why* and *for whom* this barrier may be particularly challenging.

First, focusing on *when*, there has been recent acknowledgement that the field of TBR research is “still at an early stage in understanding” the effects of equitable TBRs when used for interdependent task work (Gerhart & Fang, 2014, p. 49). Across this relatively nascent body of research, virtually all studies have involved tasks where individual contributions are quantified using objective, easily measurable metrics (e.g., percentage of total enemies killed in a computer-based war simulation; e.g., Bamberger & Levi, 2009; Bloom, 1999; Johnson et al., 2006; Pearsall et al., 2010). To my knowledge, there is yet to be research conducted on situations where individual contributions are not so easily measured (i.e., metrics are more subjective or difficult to measure), such as can be the case with interdependent tasks. As a result, it is currently unclear how the misallocation of equitable TBRs in interdependent tasks affects the outcomes typically desired when using equitable TBRs, and specifically how the higher-performing team members react when they are rewarded less than lower performers. The current study set out to address this first gap by comparing the impact of equitable TBRs (henceforth, *ERs*) and misallocated equitable TBRs (henceforth, *misallocated ERs*) on higher performers’ behaviors and intentions (i.e., outcomes).

Second, focusing on *why*, the research around TBRs primarily focuses on various theoretical frameworks related to motivation (e.g., expectancy, self-determination, motivated information processing; Conroy & Gupta, 2016; Hertel, Konradt, &

Orlikowski, 2004; Rack, Ellwart, Hertel, & Konradt, 2011; Super, Li, Ishqaidaf, & Guthrie, 2016). Some studies, however, have found there to be, at best, a “marginally significant” effect of motivation as it has been studied thus far (e.g., Hertel et al., 2004, p. 22), and there have been calls to further expand the scope of theoretical explanations considered. In particular, equity theory and its principles of fairness (Adams, 1963; 1965) have been singled out as a widely-neglected theoretical framework of motivation. For example, in an early review on TBR research, the authors pointed out that, “Organizations have adopted team rewards with little consideration of the possibility that employees may not perceive group-based reward practices as fair,” and “...considerations of justice have been virtually unexplored in the literature on team-based rewards,” (DeMatteo et al., 1998, p. 170). In a second review that included TBRs and was published 16 years later, researchers continued to suggest that, “A worthy goal may be to examine forms of perceived unfairness and fairness,” (Garbers & Konradt, 2014, p. 124). These calls, along with evidence that perceptions of fairness are a prominent concern for employees working in teams (e.g., Kirkman, Shapiro, Novelli, & Brett, 1996), make it clear that this underlying explanation for the effectiveness of TBRs is worthy of additional attention. Additionally, perceptions of fairness may be particularly salient for higher performers who are rewarded less than lower performers. The current study set out to address this second gap by incorporating the equity-based framework of organizational justice (i.e., perceptions of fairness; Greenberg, 1987) into its theoretical model.

Third, focusing on *for whom*, in the few instances that research around TBRs has given attention to individual differences it is almost always equity sensitivity (Allen, Sargent, & Bradley, 2003; Allen & White, 2002; Hütter & Diehl, 2011). Beyond equity sensitivity, there has only been one study, to my knowledge, that explored other personality traits (Beersma et al., 2003), focusing on multiple elements of the Five Factor Model of Personality (Costa & McCrae, 1992). With the general lack of inclusion of individual differences, though, it is no surprise that there have been calls to further explore how “team member characteristics...influence team member responses to incentive systems,” (Barnes, Hollenbeck, Jundt, DeRue, & Harmon, 2011, p. 1631; also see Bamberger & Levi, 2009, for a similar call). The current study set out to address this third gap by building on previous research and including three individual differences in the current research model: equity sensitivity, exchange ideology, and agreeableness—all of which may impact the extent to which higher performers react to misallocated ERs.

In order to compare ERs (i.e., the control) and misallocated ERs, an experimental condition was employed where the supervisor was unable to accurately measure individual contributions. As a result, the supervisor misallocated rewards based on a seemingly subjective determination of each team member’s reward (which was actually pre-determined). To create a clear instance of misallocation, higher performers were rewarded *less* than lower performers.

THEORY AND HYPOTHESES

The current study's theoretical model (see Figure 1) is founded on equity theory (Adams, 1963). Equity theory states that employees generally expect that their inputs (e.g., performance) will correspond with their outcomes (e.g., rewards) and, importantly to the current study, that their own input-to-outcome ratio will be fair relative to the ratios of others (also see Bloom, 1999; Shaw et al., 2002). As a logical progression of equity theory, Adams went on to incorporate inequity into this worldview (1965), stating, "Job inputs and outcomes are, in fact, intercorrelated, but imperfectly so. Indeed, it is because they are imperfectly correlated that we need to be at all concerned with inequity," (Adams, 1965, p. 424). Equity and inequity comparisons become particularly salient in team settings due to the interdependence among team members and similarity (i.e., same team) to referent others (Colquitt, 2004; Festinger, 1954).

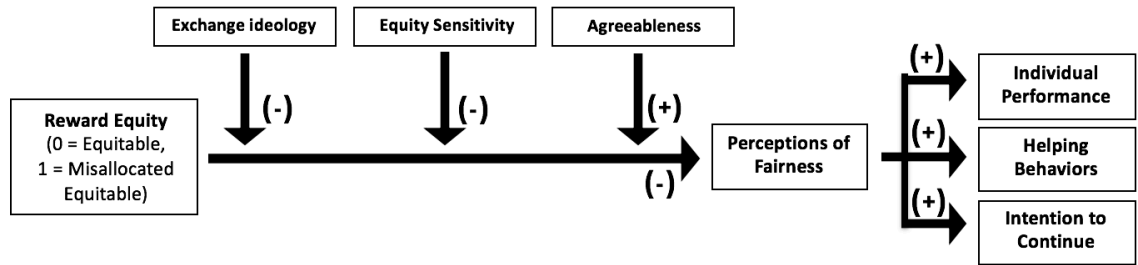


Figure 1

Current Theoretical Model

According to Adams, the determination of what is equitable or inequitable lies in the perceptions of the employees. Organizational justice theory, a successor to equity (and inequity) theory, focuses on employees' perceptions of fairness based on the way they are treated by their organization, including how they are rewarded for their performance (Greenberg, 1987). Sinclair and colleagues (2003), in one of the rare TBR studies to explicitly consider these perceptions, considered both procedural justice, which is based on the criteria and process used to determine reward allocation (Leventhal, 1980; Thibault & Walker, 1975), and distributive justice, which is based on the reward amount allocated (Homans, 1961; Leventhal, 1976). The clear procedural rules and distribution plans in that study were tied to objective measures of individual contributions and yielded the perceptions of fairness that were predicted by the authors. Contrarily, the current theoretical framework examined perceptions of fairness tied to misallocated ERs, which are characterized by more subjective procedures and measures—an underlying consideration when trying to elicit the desired outcomes associated with ERs.

The Impact of Reward Equity

Multiple meta-analyses have shown that, in general, when rewards are allocated inequitably there are detrimental effects on a wide variety of employee reactions (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). The current research model (see Figure 2) was, in part, designed to examine the impact of misallocated ERs on two individual team-related behaviors that are commonly considered antecedents to successful team performance: individual performance on one's own part of a team task (i.e., individual performance) and helping each other (i.e., cooperation; e.g., Barrick, Stewart, Neubert, & Mount, 1998; Beersma et al., 2003)—both of which are equally important in interdependent tasks (Kelley & Thibaut, 1978). Also included in the current model was a team member's "willingness to continue working together" (i.e., intention to continue; p. 122, Sundstrom, De Meuse, & Futrell, 1990), another critical predictor of successful team performance (Mathieu, Maynard, Rapp & Gilson, 2008; Sinclair, 2003; Sundstrom et al., 1990). Generally speaking, a primary goal of compensation systems is to retain the best employees (Lawler & Jenkins, 1992), and specific to teams, if higher performers are leaving due to perceived unfairness then the team is likely to suffer in terms of effectiveness. Overall, the goal of testing this research model was to examine how ERs elicit these outcomes from higher performers working on an interdependent team task and whether misallocated ERs, as a potential barrier, yield poorer outcomes.

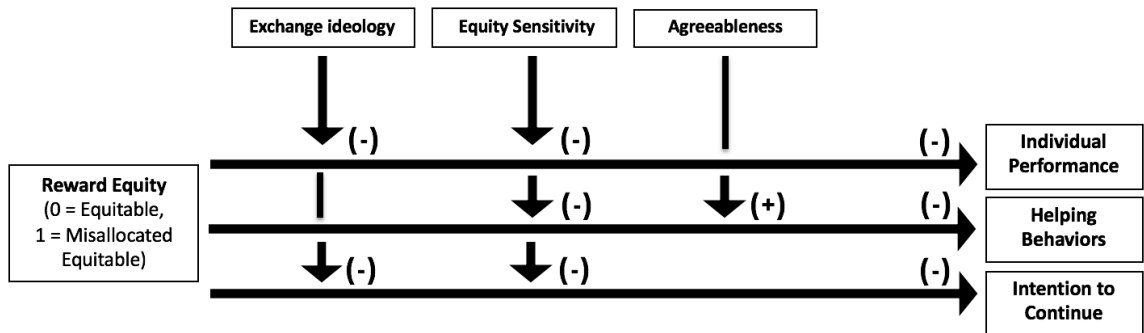


Figure 2

Current Research Model

Individual Performance

As established above, an equitable approach to TBRs, when rewards are accurately aligned with team members' contributions, has generally been found to yield individuals carrying out faster and more productive work than rewards based on equality. When these rewards are misallocated, however, such outcomes may be tempered due to perceptions of unfairness. Organizational justice theory suggests that when employees perceive there to be unfairness, they will respond with behavior that attempts to ameliorate the unfairness. For example, in the case of an employee feeling undercompensated, the employee is likely to reduce the amount of work they do in order to better align the ratio of their performance to the rewards received (Greenberg, 1984; 1990).

Research has long supported the justice-performance relationship. One of the earliest field studies on this relationship found that professional baseball players who were forced to receive less compensation than other players due to league-imposed

contract stipulations rather than a difference in ability (i.e., under-compensation) showed a relative decrease in performance (e.g., lower batting average, less runs batted in; Lord & Hohenfeld, 1979). More recent studies looking at the fairness of treatment in the workplace, specifically by one's supervisor, have found a similar pattern of lower justice perceptions leading to lower performance in the workplace (e.g., Lam, Schaubroeck, & Aryee, 2002). Other research has shown this effect of supervisor treatment to generalize to team settings as well (Colquitt, Zapata-Phelan, & Roberson, 2005). Furthermore, justice perceptions have also been shown to mitigate the negative effects of other performance antecedents. For example, one study found that perceptions of fairness alleviated the negative effects of job demands onto performance (Janssen, 2001).

The findings delineated in this section suggest that any perceived unfairness of misallocated ERs could be a barrier to eliciting strong individual performance. Therefore, I hypothesized the following:

Hypothesis 1: Higher performers who receive misallocated ERs that are lower than those received by lower performers will demonstrate lower levels of individual performance on subsequent tasks than those who receive ERs.

Helping Behaviors

While helping behaviors, as established above, are more robust under equal TBRs, helping does also occur under ERs and in a way that positively impacts team performance (Sinclair, 2003). Such findings suggest that, regardless of the TBR structure, it is advantageous to try and elicit as much helping as possible in team settings. One possible barrier to doing so, though, is the perceived fairness of the rewards—an effect

widely studied through the relationship between justice and helping associated with organizational citizenship behaviors (OCBs). OCBs are defined as helpful discretionary behaviors beyond the requirements of one's job that positively contribute to the performance of an organization (Organ, 1988). A meta-analysis has shown there to be a strong relationship between perceptions of fairness and general OCBs (Organ & Ryan, 1995). More specifically, and relevant to the team context in the current study, research has shown that perceptions of justice are even more closely related to OCBs aimed at helping other individual employees (OCBIs; Williams & Anderson, 1991) than to other types of OCBs (e.g., OCBs aimed at the organization; Moorman, Blakely, & Niehoff, 1998).

Interestingly, research has demonstrated that the more employees carry out OCBIs, the lower their perceptions of their own progress on their work goals (Koopman, Lanaj, & Scott, 2016). In other words, employees acknowledge the tradeoff, or opportunity cost, that helping others has on their own performance. Important to the context of current study, research suggests that employees who perceive their situation to be fair are more likely to accept opportunity costs and help others. For example, research on medical emergency department teams found that when team members felt that the hospital enforced fairness in their team (i.e., ensuring everyone contributed equally to the team's effort), they were more likely to put more of their own effort toward helping out teammates and the team as a whole (Valentine, 2018).

The findings delineated in this section suggest that any perceived unfairness of misallocated ERs could be a barrier to eliciting helping behaviors. Therefore, I hypothesized the following:

Hypothesis 2: Higher performers who receive misallocated ERs that are lower than those received by lower performers will demonstrate lower levels of helping behavior toward their teammates on subsequent tasks than those who receive ERs.

Intention to Continue Working with Teammates

Individual performance and helping behaviors address the immediate outcomes of rewards. One longer-term question is the extent to which misallocated ERs influence a team member's willingness to continue working with the other team members on future tasks or projects. Turnover intention, generally, has been shown to be a direct antecedent to actually leaving one's job (e.g., Tekleab, Takeuchi, & Taylor, 2005), and can indicate a strong desire to remove oneself from an inequitable situation (Adams, 1963; 1965). Research has shown that individuals who were told they would be rewarded less for their work than a similar, referent other (albeit not a teammate specifically) indicated higher turnover intentions than those who were told they would be equally rewarded as the referent other (Shore, 2004). Similarly, when directly measuring fairness perceptions of rewards, research has shown that the more employees perceived rewards to be allocated in a biased and unfair manner, the lower their commitment to the organization and, consequently, higher turnover intentions (Parker & Kohlmeyer, 2005).

Sinclair (2003), in one TBR research study that included a turnover-related outcome, found that when team members perceived the rules around rewards to be unfair they were less likely to want to continue working with the other team members. Similarly, and particularly problematic, research has also shown that higher performers are less likely to indicate a desire to keep working on a task when performance measurement is conducted in a subjective, rather than objective, manner (Belogolovsky & Bamberger, 2014). Beyond team member retention generally, the possibility of losing higher performers demonstrates one of the critical ways in which ineffective TBRs could have a long-term negative impact on a team's performance.

The findings delineated in this section suggest that any perceived unfairness of misallocated ERs could be a barrier to eliciting intentions to continue. Therefore, I hypothesized the following:

Hypothesis 3: Higher performers who receive misallocated ERs that are lower than those received by lower performers will subsequently indicate lower levels of intention to continue than those who receive ERs.

Moderators of the Effects of Misallocated ERs

Despite the fact that long-standing theoretical models of intergroup relations (e.g., five-stage model of intergroup relations) indicate perceptions of fairness are influenced by individual differences (Taylor & McKirnan, 1984), the justice literature has historically lacked explanations about why individuals respond differently to varying levels of fair treatment; hence, a relatively recent call to further examine the role of individual differences play in a justice context (Colquitt & Greenberg, 2003). In

particular, Scott and Colquitt (2007) examined the impact of three individual differences as moderators on the effects of justice: equity sensitivity, exchange ideology, and the Big 5 set of personality traits (e.g., Goldberg, 1993). The results suggested that the interactions of these moderators with justice, to different extents and for various types of justice, each may explain unique variance in the effects of justice. Within the Big 5, the results indicated that agreeableness may serve a particularly meaningful role in explaining unique variance for some justice contexts. Also, of note, three of the outcomes examined in that study were performance, OCBs, and withdrawal, which are similar to those examined in the current study.

Strengthening the Effect of Misallocated ERs

Two individual differences built upon the principles of equity theory are equity sensitivity and exchange ideology. Equity sensitivity is an individual characteristic defined as the extent to which “individuals react in consistent but individually different ways to both perceived equity *and* inequity,” (Huseman, Hatfield, & Miles, 1987, p. 223). Those on the low end of the sensitivity continuum are referred to as benevolents, who “give while expecting little in return” (p. 224), and those on the high end are referred to as entitlements, who are “exploitative... getters” (p. 225) specifically sensitive to the fairness of rewards (Kickul & Lester, 2001; Miles, Hatfield, & Huseman, 1994). From a parallel perspective, exchange ideology is the extent to which an employee places value on receiving rewards from their organization that are proportionate to the work they do (Eisenberger, Huntington, Hutchinson, & Sowa, 1986).

Both of these individual differences would be expected to strengthen the impact of misallocated ERs. Within equity sensitivity, for example, benevolents are the least impacted (i.e., the most stable) in situations of inequity regardless of how they are rewarded (e.g., even when receiving a lesser reward for the same amount of work as similar others; Allen & White, 2002; King, Miles, & Day, 1993). Contrarily, entitlements are much more reactive, reacting very positively in favorable situations (i.e., they get what they want) and reacting very negatively when they are displeased (Allen, Evans, & White, 2011; Blakely, Andrews, & Moorman, 2005). Similar reactions occur per exchange ideology. Research has repeatedly demonstrated that employees low on exchange ideology have a relatively muted response to varying levels of reward fairness, whereas when those high on exchange ideology perceive that their organization is treating them fairly they will respond positively (and vice-versa; e.g., Witt, 1992; Witt, Kacmar, & Andrews, 2001; Scott & Colquitt, 2007)

Moderating the Effect onto Individual Performance. In the context of equity sensitivity, one of the seminal studies demonstrated that benevolents are willing to do *more* work for less comparative pay, whereas entitlements were not (Miles, Hatfield, & Huseman, 1989). Similarly, results have been found in studies on the “sucker effect”—the reduction in effort when an individual feels they are being exploited by underperforming teammates (Kerr, 1983; Orbell & Dawes, 1981). For example, more benevolent individuals maintained performance levels when their partner received the same size reward despite being perceived as not performing as well, whereas those more entitled were likely to reduce their effort (Hütter and Diehl, 2011). Other research has

shown similar reaction patterns in situations where a referent other is rewarded *more* for the same amount of work (e.g., Allen & White, 2002).

In the context of exchange ideology, research has demonstrated that when employees perceive that their organization has not fulfilled its obligations to them, employees higher on exchange ideology are more likely to feel under-supported and reduce their performance on tasks (Lee, Chaudhry, & Tekleab, 2014). This complements earlier research that found the lower one's exchange ideology, the more likely they are to continue to perform regardless of the extent to which they feel the organization has fulfilled its obligations to them (Coyle-Shapiro & Neuman, 2004; Witt & Wilson, 1990). Specific to rewards, a study that used vignettes of a retail store manager allocating rewards unfairly found that the more unfair participants perceived the reward allocation to be, and the higher they were on exchange ideology (i.e. a moderating effect), the more likely they were to underperform their assigned duties (Scott & Colquitt, 2007).

In accordance with the way that equity sensitivity and exchange ideology are expected to strengthen the effects of reward equity on individual performance, I hypothesized the following:

Hypothesis 4a: Equity sensitivity will moderate the relationship between reward equity and higher performers' individual performance such that higher equity sensitivity (i.e., being more entitled) will strengthen the negative effect of misallocated ERs on individual performance in subsequent tasks.

***Hypothesis 4b:* Exchange ideology will moderate the relationship between reward equity and higher performers' individual performance such that higher exchange ideology will strengthen the negative effect of misallocated ERs on individual performance in subsequent tasks.**

Moderating the Effect onto Helping Behaviors¹. When it comes to helping behaviors, the benefits and downsides of entitlements strong reactivity has been demonstrated by research. For example, one study showed that the more entitled team members feel committed to their team, the further they go above and beyond their roles to help the organization (i.e., OCBs) than do benevolents (Allen et al., 2011). On the other hand, the same study showed that the less committed entitled team members feel to their team, the far fewer OCBs they perform compared to benevolents. Similar findings have been found in regard to reactions to perceived fairness: when perceived fairness is high, entitlements report a higher level of performance of OCBs compared to benevolents, and when perceived fairness is low, they report a lower level. Overall, changes in OCBs for benevolents remained substantially less pronounced across high and low perceptions of fairness. These findings were consistent with a more granular examination of the data,

¹ In research that found support for exchange ideology strengthening the impact of organizational perceptions on OCBs toward the organization, support was not found for an effect of exchange ideology on the relationship between coworker perceptions and helping behaviors aimed at coworkers (Ladd & Henry, 2000). Furthermore, while the original conceptualization of exchange ideology refers to it as a “global belief” (p. 501), global has been shown to refer to organizations, and even informal organizations such as worker unions, but not to interpersonal relationships (Redman & Snape, 2005). In turn, the current study explores the moderating effect of exchange ideology as it relates to individual performance and intentions to continue, though not to helping behaviors.

which showed a similar pattern of differences for the sub-dimension of OCBI (e.g., Blakely et al., 2005) that is most relevant to team member interactions.

In situations where referent others are being over-rewarded relative to their input, one possible response is to try to get them to increase their input. This can serve as a way to equalize the amount of work they are doing for the rewards they are receiving. For example, Allen and White (2002) demonstrated that when others were thought to be earning a relatively higher reward, entitleds were more likely to want them to do more work so that they “earned” their higher reward, whereas benevolents in this situation essentially had no reaction.

In accordance with the way that equity sensitivity is expected to strengthen the effects of reward equity onto helping behaviors, and in consideration of the fact that helping has an inherent opportunity cost, I hypothesized the following:

Hypothesis 5: Equity sensitivity will moderate the relationship between reward equity and higher performers’ helping behaviors such that higher equity sensitivity (i.e., being more entitled) will strengthen the negative effect of misallocated ERs on helping behaviors in subsequent tasks.

Moderating the Effect onto Intention to Continue. In the context of equity sensitivity, early studies showed that those higher on equity sensitivity are, at baseline, more likely to want to leave their organization (e.g., King & Miles, 1994). Research has suggested that this may be because entitleds tend to be less committed to their organization and have lower job satisfaction, both precursors to turnover intentions (DeConinck & Bachmann, 2007; Williams & Hazer, 1986). Such differences in

likelihood to turnover can create more fragile conditions for retaining employees who fall higher on the equity sensitivity scale. For example, research has shown that when employees feel like their organization is not fulfilling its obligation to them (e.g., providing expected rewards, development opportunities, benefits), those higher on equity sensitivity are more likely to leave (Hao-min, Jun, Si-yan, & Su-ting, 2010). A similar pattern has emerged in research specifically around misallocated ERs. For example, in a scenario put forth to participants where a referent other was being paid the same despite doing less work, those higher on equity sensitivity had a stronger desire to start looking for a new job (Allen & White, 2002).

In the context of exchange ideology, one study that looked across a wide variety of occupations found that a higher level of exchange ideology consistently related to lower feelings of commitment toward the employee's organization (Tekeuchi, Yun, & Wong, 2011). Another study, which specifically examined how rewards can impact commitment, demonstrated that schoolteachers with a stronger exchange ideology indicated less commitment toward the school when they did not perceive the school to be sufficiently compensating them for their work. Contrarily, there was no relationship between compensation and commitment for teachers with a weaker exchange ideology (Witt & Wilson, 1990). There is also evidence that exchange ideology strengthens the likelihood that an employee will consider leaving their job when they perceive others are being treated better than they are due to favoritism rather than merit (Andrews, Witt, & Kacmar, 2003).

In accordance with the way that equity sensitivity and exchange ideology are expected to strengthen the effects of reward equity on intentions to leave an organization, and applying these effects to the team setting, I hypothesized the following:

***Hypothesis 6a:* Equity sensitivity will moderate the relationship between reward equity and higher performers' intention to continue such that higher equity sensitivity (i.e., being more entitled) will strengthen the negative effect of misallocated ERs on one's subsequent intention to continue.**

***Hypothesis 6b:* Exchange ideology will moderate the relationship between reward equity and higher performers' intention to continue such that higher exchange ideology will strengthen the negative effect of misallocated ERs on one's subsequent intention to continue.**

Mitigating the Effect of Misallocated ERs

One individual difference that has been shown to be particularly impactful in a team setting is agreeableness, with higher average agreeableness across members of a team being related to better team performance (e.g., Barrick et al., 1998; Peeters, Rutte, Van Tuijl, & Reymen, 2006). Reasons for this likely include some of the underlying predispositions of agreeable individuals, which include being modest, altruistic, and, most relevant here, cooperative (Costa & McCrae, 1992, McCrae & Costa, 1989, Mount, Barrick, & Stewart, 1998). Numerous studies have shown a positive relationship between agreeableness and both general OCBs as well as OCBI, such as being supportive of co-workers (e.g., Neuman & Kickul, 1998; Bourdage, Lee, Lee, & Shin, 2012). Furthermore, previous meta-analyses have shown that not only is agreeableness related to OCBs, but

that it is more strongly related to OCBs than to task performance (Chiaburu, Oh, Berry, Li, & Gardner, 2011; Organ & Ryan, 1995).

In the context of rewards, agreeable individuals tend to not place as much importance on the value of rewards (Matz & Gladstone, 2018), *except* when they are unequal in a way that overly benefits themselves. One illuminating study found that business executives higher in agreeableness were more sensitive to executives being paid substantially more than employees, and, in turn, indicated a greater likelihood to take steps that would yield a more level playing field in the organizational compensation structure (Orlitzky, Swanson, & Quartermaine, 2006). Similarly, research has shown that when agreeable individuals are in team situations that are competitive (e.g., individual TBRs), they tend to strive for harmonious interactions to alleviate tension (Graziano, Hair, & Finch, 1997; Graziano, Jensen-Campbell, & Hair, 1996).

In consideration of the other-focused, interpersonal nature of agreeableness (Costa & McCrae, 1992), I hypothesized the following:

Hypothesis 7: Agreeableness will moderate the relationship between reward equity and higher performers' helping behaviors such that higher agreeableness will mitigate the negative effect of misallocated ERs on helping behaviors in subsequent tasks.

METHOD

Participants

122² undergraduate (psychology and business) students from a large, Mid-Atlantic university participated in the study for course credit. 56.6% of participants identified as female and 42.6% identified as male, with one participant not identifying as either. Participants were randomly assigned to an experimental condition and paired with a confederate teammate. Participants had the opportunity to earn up to \$20 in rewards for completing the assigned tasks, which, in line with previous justifications for reward size (e.g., Cadsby, Song, & Tapon, 2007), should have been salient to participants because the allotted time for the study was one hour and this amount is well over the hourly minimum wage (\$7.25 federally, \$15 in some states).

Tasks and Reward Structure

Teams were assigned two consecutive tasks. Both tasks contributed toward the construction of a Lego city storefront. This task type was based on building block tasks in previous TBR studies (e.g., Rosenbaum et al., 1980; Sinclair, 2003).

Task 1 required the teammates to construct one quadrant of the storefront collaboratively. This task met two of the main criteria for interdependent tasks: (1)

² Data for 22 additional participants did not qualify for analysis for various reasons (e.g., did not complete the tasks in the allotted time; studies were not properly video-recorded; figured out that the teammate was a confederate). To identify if a participant knew the teammate was a confederate, open-ended manipulation check questions were included in Question Set #3 (see Appendix G).

requiring team members to work closely together, and (2) requiring coordination of their individual activities (Shea & Guzzo, 1987). Following completion of this task, teammates were each given a portion of an overall TBR amount. The overall reward amount was time-contingent so that any lack of contribution by the confederate would be salient as it would slow down the team and have the potential to negatively impact that amount. The portion that each team member received was said to be based on their contribution to the team's performance, though it was actually pre-determined by the experimental condition in which the participant was unknowingly placed.

As prescribed by the study design, the participant ended up working solo on Task 1 for roughly 75% of the time, while the confederate worked solo on the task the other 25% of the time (see procedure below). In turn, and in accordance with equity theory's focus on the input-to-outcome ratio, it was predetermined (also unknown to the participant) that the reward would be split in a three-to-one ratio. This meant that the participant received three times the reward of the confederate in the ER condition and vice-versa in the misallocated ER condition.

Task 2 required each teammate to construct another quadrant of the storefront independently, which allowed for individual performance and helping to be clearly measured. Each team member earned a reward that was based on how quickly they completed their own quadrant. Throughout the task, though, the confederate asked for help on four separate occasions, and, because the reward amount was time-contingent, this created an opportunity cost for the participant each time since choosing to help would

detract from their individual performance time. For both tasks, time-contingent reward scale was determined during pilot testing.

Procedure and Experimental Manipulation

After the participant arrived, the study supervisor texted the confederate to come to the study room—this was done to avoid the participant showing up with both the supervisor and confederate already in the room, possibly creating suspicion that the confederate was part of the study. Once both team members were seated, the supervisor stated the purpose of the study: “My research team is interested in how people work together and want to give you opportunities to work with others today on three separate building tasks³ using Legos. Today you’ll work together to make this building.” An informed consent form was then provided to and signed by each team member.

Next the team members completed Question Set #1 (see Appendix A). As soon as the team members began filling out these questions, the supervisor would mention, “I will be in and out of the room because I’m setting up a study in the other room as well.” This was done to establish the justification for why the supervisor would be in and out of the room during the study---a critical precursor to creating opportunities when the confederate could slack off in Task 1 and ask for help in Task 2 (see below). The survey took approximately four to five minutes to complete, and the confederate finished around the same time as the participant. Once both team members had completed the survey, the

³ Participants were informed that there would be a third task as a way to encourage them to finish the second task without feeling like if they hurried on that task they could leave right away. This was also done to add fidelity to the question regarding participants intention to continue working with teammates after Task 2. The third task was never completed though because they always “ran out of time” for it.

supervisor provided the rules for Task 1 (see Appendix B). These rules included information about the reward being split between the team members “based on your contributions to the team effort.” In an effort to emphasize how the reward would be split, the confederate would ask the supervisor, “When you say split, is that an even split?” at the end of the reading of the Task 1 rules, to which the supervisor would respond, “No, it’s based on how much you contribute.”

Next, the pieces and step-by-step construction instructions for Task 1 were provided to the team (see Appendix C), and they began the task once the timer was started. Soon after, the supervisor left the room for 90 seconds, during which the confederate did practically nothing to help the participant construct the first quadrant of the storefront. The supervisor then returned for 30 seconds, during which the confederate took over control of the construction. This 90-30 second cycle, along with the confederate’s alternating levels of involvement (disengaging and taking control, respectively), repeated until the construction for Task 1 was completed. Then the supervisor said, “Based on what I saw of how much you each contributed and the amount of time it took you overall, I’m going to divide up the reward...” before doling out the rewards⁴. In the ER condition, the participant received the larger portion (75%), corresponding to the time they spent working on the task, and the confederate received 25%. In the misallocated ER condition, the participant received the smaller portion (25%), while the confederate received the larger portion despite having only worked on

⁴ Payouts were given following the completion of each task in accordance with experimental economics principle of saliency (Friedman & Cassar, 2004), which advises how to best ensure rewards are associated with behaviors.

the task 25% of the time. Participants were immediately paid the corresponding amount of cash before moving on to the next task.

In Task 2, each team member was provided with new rules (see Appendix D), pieces, as well as instructions for constructing their own quadrants (see Appendix E), and then began working the task once the timer was started. Soon after, the supervisor left the room, which began a cycle of being out of the room for 60 seconds and in the room for 60 seconds⁵. During the periods in which the supervisor was out of the room, the confederate would ask the participant to help them with a specific part of constructing their quadrant. The confederate did this for the first four times⁶ the supervisor was out of the room regardless of whether the participant had agreed to help on previous requests. As soon as either team member completed their own quadrant, the supervisor confirmed the quadrant was constructed accurately and marked the time of completion. Once both team members had completed their quadrants, the supervisor immediately doled out the cash rewards to each team member separately, with the size of each reward being based on the amount of time it had taken each of them to finish their quadrant.

Before the study was finished, team members were asked to fill out Question Set #2 (see Appendix F), told there was not enough time for Task 3, and asked to fill out Question Set #3 (see Appendix G). These two surveys took approximately five to six minutes to complete, and the confederate finished around the same time as the

⁵ These time intervals were reduced to 45 seconds each if Task 1 was completed in under 10 minutes. This was because pilot testing determined that this indicated the participant was likely to work faster than average on Task 2, and the confederate needed to ensure that all four requests for help were made before the participant completed their task so that there was an opportunity cost to the participant's helping.

⁶ Every time the study was run, the four requests for help were for the same four segments of the construction task.

participant. Lastly, the participants were informed that their teammate was a confederate, provided with the debriefing explanation, and allowed time to ask questions.

Materials

The building task used the “Corner Deli” Lego kit (#31050). Team members were provided with the necessary pieces and visual instructions to complete each task (see Appendices C and E). An iPad timer was used to track completion time and was made visible to participants the entire time. Lastly, a video camera was used to record the studies for coding purposes.

Measures

Individual Performance (on Task 2)

Individual performance was operationalized as the amount of time⁷ (in seconds) that a participant took to complete construction of their own quadrant in Task 2, not including the amount of time they spent helping the confederate (see below)—the shorter the time taken to construct their quadrant, the better their individual performance. The start time of individual performance was marked by when the supervisor running the study said, “You may begin,” and the end time was marked by when the participant placed their last Lego piece onto their quadrant.

Helping behaviors (during Task 2)

Helping was operationalized as how much time (in seconds) a participant spent helping the confederate in response to the confederate’s four requests for help. First, two

⁷ Number of pieces was not included as a measure of individual performance, as some similar past TBR studies have done (e.g., Sinclair), because the task was designed for everyone to finish in the allotted total time.

observers, who were blind to the experimental condition to which participants were assigned, watched the videos of the study and coded each response to the confederate's requests as "helped" or "did not help." Through pilot coding, and in light of the concept of opportunity cost, the observers defined "helping" as any response by the participant that involved cessation of working on one's own task paired with also providing either physical or verbal assistance to the confederate. The observers reached 98% agreement during pilot coding using this definition before continuing to code the entire set of studies.

Next, in order to measure exactly how much time a participant spent helping, coders went back through all of the responses coded as "helped" and determine the exact start and stop time of the helping behavior. Through pilot coding, the observers defined "start time" as when the participant ceased working on their own task and "end time" as when the participant returned to working on their own task. Observers reached 67% agreement on these times during the first round of pilot coding using these definitions, with the average disagreement being by 1.25 seconds. During the second round of pilot coding, agreement reached 91% and observers then proceeded to code start and end times independently.

Intention to Continue Working with Teammates

A one-item scale was used to measure intention to continue working with teammates (e.g., Belogolovsky & Bamberger, 2014). The item asked, "After Task 1 (Task 2), to what extent did (do) you want to keep working with your partner on the next task?" Due to the fact that these questions were asked after both tasks had been

completed, however, it was not possible to parse apart how each task or reward influenced these perceptions. In turn, the responses to the two items were averaged to create a scale score for this measure. This scale showed a high reliability ($\alpha = .81$),

Equity Sensitivity

An adapted five-item forced distribution scale was used to measure equity sensitivity (King & Miles, 1994; included in Question Set #1) with language changed to reflect working with a teammate. Each item had two choices across which the participant had to allocate 10 points total between the two choices. An example of an item from this scale included, “The hard work I do should...A) Benefit both of us or B) Benefit me,” where choice A is benevolent and choice B is entitled. To what extent participants were equity sensitive was measured similarly to previous research that calculated equity sensitivity as a continuous variable (i.e., the higher the score, the more sensitive; e.g., DeConinck & Bachmann, 2007). The points allocated to the entitled choices were averaged to create the scale score. In the current study, one item that showed up as a separate factor in exploratory factor analyses was dropped and the four-item scale showed moderate reliability ($\alpha = .61$), although previous studies have shown this measure to have higher reliability (e.g., $\alpha = .87$; Bing & Burroughs, 2001).

Exchange Ideology

A five-item scale was used to measure exchange ideology (Eisenberger et al., 1986; included in Question Set #1). An example of an item from this scale included, “An employee who is treated badly by the organization should lower his or her work effort.” The items were rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). In

the current study, one item was dropped due to poor factor loading and the four-item scale showed moderate reliability ($\alpha = .66$), although previous studies have shown this measure to have a higher reliability (e.g., $\alpha = .80$; Eisenberger et al., 1986).

Agreeableness

A nine-item scale was used to measure agreeableness (Goldberg, 1993; included in Question Set #1). An example of an item from this scale included, “To what extent do you see yourself as someone who is helpful and unselfish with others.” The items were rated on a Likert scale from 1 (to a small extent) to 5 (to a large extent). In the current study, the measure showed moderate reliability ($\alpha = .71$), although previous studies have shown this measure to have a higher reliability (e.g., $\alpha = .85$; Shiota, Keltner, & John, 2006).

Control Variables

Gender and Lego Experience. In addition to including gender as a control variable, past experience building with Legos was assessed with one item that asked participants, “the extent to which you have previously built with Legos.” The item was rated on a Likert scale from 1 (“I have never built with Legos”) to 5 (“I have built with Legos a lot”).

Manipulation Check

Perceptions of Justice. In order to ensure that rewards were perceived as more unfair in the misallocated ER condition than in the ER condition, both procedural and distributive justice perceptions were measured in Question Set #2. A seven-item scale was used to measure procedural justice (Colquitt, 2001). An example of an item from this

scale included, “To what extent were the reward procedures applied consistently?” For perceptions of distributive justice, a four-item scale was used (Colquitt, 2001). An example of an item from this scale included, “To what extent did the monetary reward in Task 1 reflect your contributions to the building task?” All of these items were rated on a Likert scale from 1 (to a small extent) to 5 (to a large extent).

Participants answered both sets of fairness items twice—once for Task 1 rewards and another for Task 2 rewards. Due to the fact that these questions were asked after both rewards had been allocated, however, it was not possible to parse apart how each reward influenced these perceptions. In turn, an average scale score was calculated for all 14 items on procedural justice and all eight items on distributive justice. The former set of items showed relatively high reliability ($\alpha = .90$), as did the latter set of items ($\alpha = .82$).

RESULTS

Manipulation Check

Differences in levels of perceived fairness between participants in the ER and misallocated ER conditions were analyzed through an independent samples t-test. The analysis found that those in the ER condition perceived there to be more procedural justice ($M = 3.75$, $SD = .62$) than those in the misallocated ER condition ($M = 2.80$, $SD = .80$), $t(120) = 7.07$, $p < .001$. Similarly, the former perceived more distributive justice ($M = 3.63$, $SD = .79$) than the latter ($M = 2.76$, $SD = .72$; $t(120) = 6.33$, $p < .001$). These results provided confidence that the manipulation of reward equity created the intended perceptions of fairness.

Confirmatory Factor Analysis

Due to the similar expected effects of equity sensitivity and exchange ideology as moderators, and in line with previous research that included both in the same model (e.g., Scott & Colquitt, 2007), the current analyses included a confirmatory factor analysis of items for both in order to demonstrate construct validity. A two-factor model provided an acceptable fit to the data ($CFI = 1.00$, $SRMR = .04$, $RMSEA = .00$). Furthermore, the two-factor model fit the data significantly better than did a one-factor model that combined both sets of items, χ^2 difference = 40.4(1), $p < .001$. These results provided

confidence that the two constructs are distinct, and their hypotheses should be tested separately.

Testing of Main Effect Hypotheses

The means, standard deviations and intercorrelations for all variables in the current research model are reported in Table 1. The first three hypotheses centered around the main effects of reward equity on the three outcomes of interest. These were tested using linear regression, and the results are reported in Table 2.

Table 1

Descriptive Statistics and Correlations

Variables	n	<i>M (SD)</i>	1	2	3	4	5	6	7	8
1. Gender ^a	121	.43 (.50)	--							
2. Lego Experience ^b	117	3.23 (1.18)	.31**	--						
3. Reward Equity ^c	122	.58 (.50)	-.04	-.14	--					
4. Equity Sensitivity ^d	120	3.91 (1.34)	.06	-.22*	.02	--				
5. Exchange Ideology ^e	121	2.99 (.79)	-.02	-.01	-.01	.18	--			
6. Agreeableness ^f	122	3.93 (.54)	-.31**	-.04	-.07	-.32**	-.16	--		
7. Individual Performance ^g	122	631.16 (189.48)	-.34**	-.55**	.04	.10	.04	.08	--	
8. Helping Behaviors ^h	122	45.76 (30.66)	.08	.00	-.03	-.05	-.01	.00	.01	--
9. Intention to Continue ⁱ	122	2.52 (1.10)	.08	-.06	-.27**	-.10	-.10	.18	-.01	.20*

Note. ^a Gender coding: 0 = F, 1 = M. ^b Lego Experience: 1 = very inexperienced, 5 = very experienced; ^c Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward; ^d Equity Sensitivity: 1 = not sensitive to fairness/unfairness (benevolent), 10 = very sensitive to fairness/unfairness (entitled); ^e Exchange Ideology: 1 = very weak ideology, 5 = very strong ideology; ^f Agreeableness: 1 = very low on agreeableness, 5 = very high on agreeableness; ^g Individual Performance: higher amount of time = worse performance (i.e., slower at building one's quadrant); ^h Helping Behaviors: higher amount of time = more helping (i.e., taking on greater opportunity cost); ⁱ Intention to Continue: 1 = very low intention to continue working with teammate, 5 = very high intention to continue working with teammate; * $p < .05$; ** $p < .01$; two-tailed test.

Hypothesis 1 suggested that receiving misallocated ERs would lead to lower individual performance on subsequent tasks by higher performers than would receiving ERs. As shown in Table 2, reward equity did not significantly predict individual performance ($\beta = -.04, p > .05$). Thus, Hypothesis 1 was not supported.

Hypothesis 2 suggested that receiving misallocated ERs would lead to lower levels of helping behavior on subsequent tasks by higher performers than would receiving misallocated ERs. As shown in Table 2, reward equity did not significantly predict helping behaviors ($\beta = -.05, p > .05$). Thus, Hypothesis 2 was not supported, either.

Hypothesis 3 suggested that receiving misallocated ERs would lead to subsequent lower intentions to continue by higher performers than would receiving ERs. As shown in Table 2, reward equity did, in fact, significantly predict intention to continue ($\beta = -.29, p < .01$). Thus, Hypothesis 3 was supported.

Table 2

Regression Results for Main Effects

Variables	Individual Performance		Helping Behaviors		Intention to Continue	
	β	t	β	t	β	t
Gender ^a	-.19	-2.36*	.09	.95	.11	1.17
Lego Experience	-.50	-6.11**	-.04	-.38	-.14	-1.42
Reward Equity ^b	-.04	-.50	-.04	-.38	-.29	-3.16**

Note. ^a Gender coding: 0 = F, 1 = M. ^b Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward. $n = 115$.
* $p < .05$; ** $p < .01$; two-tailed test.

Testing of Moderation Effect Hypotheses

Hypotheses 4a and 4b suggested that the hypothesized negative effect of receiving misallocated ERs on higher performers' individual performance would be strengthened by both equity sensitivity and exchange ideology. As shown in Table 3, neither of these

moderation effects were found to be significant ($\beta = -.14, p > .05$ and $\beta = -.22, p > .05$, respectively). Thus, Hypotheses 4a and 4b were not supported.

Table 3

Regression Results for Moderation of Effect on Individual Performance

Variables	Equity Sensitivity						Exchange Ideology					
	Stage 1		Stage 2		Stage 3		Stage 1		Stage 2		Stage 3	
	β	t	β	t	β	t	β	t	β	t	β	t
Gender ^a	-.19	-2.37*	-.19	-2.33*	-.21	-2.50*	-.19	-2.37*	-.19	-2.34*	-.21	-2.58*
Lego Experience	-.49	-6.12**	-.50	-5.86**	-.49	-5.70**	-.49	-6.12**	-.50	-6.08**	-.48	-5.93**
Reward Equity			-.04	-.49	-.04	-.49			-.04	-.49	-.04	-.47
Equity Sensitivity			-.01	.08	.11	.94						
Equity Sensitivity x Reward Equity					-.14	-1.17						
Exchange Ideology									.03	.36	.19	1.56
Exchange Ideology x Reward Equity											-.21	-1.72

Note. ^a Gender coding: 0 = F, 1 = M. ^b Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward. n = 115.

* $p < .05$; ** $p < .01$; two-tailed test.

Hypotheses 5 suggested that the hypothesized negative effect of receiving misallocated ERs on higher performers' helping behaviors would be strengthened by equity sensitivity. As shown in Table 4, this moderation effect was not found to be significant ($\beta = -.06, p > .05$). Thus, Hypotheses 5 was not supported.

Hypotheses 6a and 6b suggested that the hypothesized negative effect of receiving misallocated ERs on higher performers' intention to continue would be strengthened by equity sensitivity and exchange ideology. As shown in Table 5, neither of these

moderation effects were found to be significant ($\beta = .02, p > .05$ and $\beta = .01, p > .05$, respectively). Thus, Hypotheses 6a and 6b were not supported.

Table 4

Regression Results for Moderation of Effect on Helping Behaviors

Variables	Equity Sensitivity						Agreeableness					
	Stage 1		Stage 2		Stage 3		Stage 1		Stage 2		Stage 3	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Gender ^a	.09	.95	.10	1.04	.11	1.10	.09	.95	.10	.98	.10	.98
Lego Experience	-.03	-.33	-.06	-.55	-.06	-.59	-.03	-.33	-.04	-.39	-.04	-.40
Reward Equity ^b			-.04	-.39	-.04	-.39			-.03	-.35	-.03	-.35
Equity Sensitivity			-.07	-.72	-.12	-.80						
Equity Sensitivity x Reward Equity					.07	.44						
Agreeableness									.03	.27	.04	.28
Agreeableness x Reward Equity											-.02	-.14

Note. ^a Gender coding: 0 = F, 1 = M. ^b Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward. n = 115.

Hypotheses 7 suggested that the hypothesized negative effect of receiving misallocated ERs on higher performers' helping behaviors would be mitigated by agreeableness. As shown in Table 4, this moderation effect was not found to be significant ($\beta = -.02, p > .05$). Thus, Hypotheses 7 was not supported.

Table 5*Regression Results for Moderation of Effect on Intention to Continue*

Variables	Equity Sensitivity						Exchange Ideology					
	Stage 1		Stage 2		Stage 3		Stage 1		Stage 2		Stage 3	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Gender ^a	.11	1.10	.14	1.38	.13	1.37	.11	1.10	.11	1.16	.11	1.14
Lego Experience	-.09	-.95	-.17	-1.77	-.18	-1.76	-.09	-.95	-.14	-1.43	-.14	-1.42
Reward Equity ^b			-.29	-3.21**	-.29	-3.19**			-.29	-3.18**	-.29	-3.16**
Equity Sensitivity			-.14	-1.52	-.15	-1.06						
Equity Sensitivity x Reward Equity					.01	.10						
Exchange Ideology									-.10	-1.13	-.11	-.73
Exchange Ideology x Reward Equity											.01	.03

Note. ^a Gender coding: 0 = F, 1 = M. ^b Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward. n = 115.

** p < .01; two-tailed test.

Post-hoc Analyses

I conducted *post hoc* analyses to better understand possible reasons why such limited support was found for the hypotheses—why misallocated ERs, despite inducing lower perceptions of fairness, did not trigger different team-related behaviors (i.e., performance and helping) by higher performers than did ERs. I also was interested in possible reasons why individual differences did not play a role.

One possible explanatory factor was the attribution that participants made about why their teammate behaved the way they did in Task 1 (i.e., the confederate making many fewer contributions to the task; Weiner 1985). The two types of attribution explored here were “sin” and “sickness” (Weiner, 1993): sin, the attribution which I expected everyone to make based on the confederate’s behavior, suggests that the teammate’s behavior was the result of low motivation (i.e., free-riding) rather than a lack

of ability, and this was expected to yield the hypothesized effects⁸; sickness, on the other hand, suggests that the teammate's behavior was the result of low ability, and this could possibly have muted at least some of the hypothesized effects. If, for some reason, participants in the ER condition made an attribution of sin (as expected), but those in the misallocated ER condition made an attribution of sickness, it could explain why some results between the two conditions were not significantly different. This is to say that the latter could bring about a feeling of sympathy for the teammate (Weiner, 1993) that would (1) motivate the participant to still perform the team-related behaviors⁹ and (2) make agreeableness less relevant as a moderator because all participants in the misallocated ER condition would have a baseline of sympathy toward their teammate¹⁰.

To explore the attributions made, I analyzed the relevant ancillary manipulation check items from Question Set #3: "Rate your building partner's level of ability and motivation" for Task 1 and Task 2 (rated from 1 to 5, 5 being "very high"). The Task 1 and Task 2 ratings for each were averaged to create ability and motivation scale scores prior to performing a paired samples t-test. The analysis showed that participants in the misallocated ER condition perceived their teammate to have significantly higher ability than motivation ($M = 3.36$, $SD = .99$ vs. $M = 2.94$, $SD = 1.01$; see Table 6), meaning that

⁸ The original thinking here was that all participants would attribute the confederate's behavior to "sin," but that it wouldn't matter as much as for those in the equitable reward condition as it did to those in the misallocated reward condition because the equitable rewards were accurately distributed to reflect the confederate's lesser contribution (whereas those in the misallocated condition were slighted).

⁹ I did not expect this sympathy to necessarily impact the participant's intention to continue because they likely would still want to leave the unfair situation regardless of how they feel toward their teammate.

¹⁰ I did not expect sympathy to necessarily trigger the participant's exchange ideology or equity sensitivity because it was expected to more likely impact interpersonal interactions rather change the perceived unfairness of the rewards.

the attribution was more so one of sin. Furthermore, similar results for the ER condition (see Table 6) demonstrated consistency across all participants' perceptions of the confederate. Thus, while the results verified the confederate's behavior was viewed as intended (i.e., sin), support for this explanation was not found.

Table 6

Post Hoc Analysis Comparing Participants' Ability and Motivation Ratings of Confederate

Reward Equity Condition	Ability		Motivation		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Misallocated Equitable Rewards ^a	3.36	.99	2.94	1.01	3.64**	.43
Equitable Rewards ^b	3.58	.90	3.16	.89	3.15**	.45

Note. ^a n = 50. ^b n = 70. ** p < .01; two-tailed test.

A second possible explanatory factor that I explored was whether participants in the misallocated ER condition perceived that the supervisor was less able to measure their performance accurately (i.e., Perceived Supervisor Accuracy) than participants in the ER condition. This may have indicated that these participants held the supervisor accountable for the unfairness of rewards, which, in turn, could have lessened the extent to which they blamed their teammate and tried to negatively impact the team (i.e., reduced performance and helping). Holding the supervisor accountable could also have

mutated the moderating effects of the individual differences related to reward fairness (i.e., exchange ideology and equity sensitivity) because no longer would it just be the rewards that were unfair, but the system as a whole.

To explore this possibility, I first conducted an analysis of the relevant ancillary manipulation check item from Question Set #3: “How well do you feel the researcher was able to measure individual performance in Task 1?” (rated from 1 to 5, with 5 being “to a large extent”). An independent samples t-test showed a significantly lower rating on this question by those in the misallocated ER condition than those in the ER condition ($M = 1.99$, $SD = 1.08$ vs. $M = 3.86$, $SD = 1.15$; see Table 7). Having found this to be significant, I conducted additional testing on the moderation effects of Perceived Supervisor Accuracy on the three main effects. Neither the moderation effect on the relationship between reward equity and performance nor helping behaviors was significant ($\beta = -.02$, $p > .05$ and $\beta = -.21$, $p > .05$, respectively). The moderating effect on the relationship between reward equity and intention to continue, however, was significant ($\beta = .32$, $p < .05$; see Table 8). Thus, some support for this possible explanation was found.

Table 7*Post Hoc Analysis Comparing Participants' Perceived Supervisor Accuracy in Task 1*

	Misallocated Equitable Rewards		Equitable Rewards		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Perceived Supervisor Accuracy	1.99	1.08	3.86	1.15	9.24***	1.68

Note. *n* = 122. *** *p* < .001; two-tailed test.**Table 8***Regression Results for Moderation of Main Effect on Intention to Continue by Perceived Supervisor Accuracy*

Variables	Stage 1		Stage 2		Stage 3	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Gender ^a	.11	1.10	.08	.87	.05	.59
Lego Experience	-.09	-.95	-.09	-.95	-.06	-.59
Reward Equity ^b			-.07	-.63	-.11	-.93
Perceived Supervisor Accuracy			.32	2.77**	-.05	.32
Perceived Supervisor Accuracy \times Reward Equity					.32	2.19*

Note. *n* = 115. ^a Gender coding: 0 = F, 1 = M. ^b Reward Equity coding: 0 = equitable reward, 1 = misallocated equitable reward.**p* < .05, ** *p* < .01; two-tailed test.

Lastly, to further verify that those in the misallocated ER condition blamed the supervisor more than their teammate for the unfair rewards, I conducted a paired samples t-test on two more manipulation check items from Question Set #3: “To what extent do you hold the researcher accountable for the way rewards were distributed in Task 1” and the same question replacing “researcher” with “building partner” (rated from 1 to 5, 5

being “to a large extent“). The results of this analysis showed that the “blame attribution” was aimed significantly more so at the supervisor than the teammate ($M = 3.62$, $SD = 1.27$ vs. $M = 3.20$, $SD = 1.19$; see Table 9), thus, providing additional context for the attribution that was made.

Table 9

Post Hoc Analysis Comparing the Blame Attributions of Participants in the Misallocated Equitable Reward Condition

	Blame Supervisor		Blame Teammate		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Misallocated Equitable Rewards	3.62	1.27	3.20	1.19	2.56*	.30

Note. $n = 71$. * $p < .05$; two-tailed test.

DISCUSSION

The primary purpose of the current study was to identify the extent to which misallocation limits the effectiveness of using ERs in interdependent tasks—a situation that has rarely, if at all, been studied. The current study did not find support for two of the hypothesized main effects or for the moderating effects of individual differences. Support was found, however, for the main effect hypothesis that misallocated ERs elicit lower intentions to continue working with teammates than do ERs. *Post hoc* analyses suggested that this set of outcomes may have been, at least in part, the result of unfairly rewarded team members attributing misallocation to be the fault of the supervisor more so than their teammate. In other words, it could be that these participants were more motivated to try and leave the situation (i.e., the supervisor) than to hurt the team's cohesion (i.e., reduce performance on their part of the team's task and helping; Festinger, 1954; Kelley & Thibaut, 1978). Additionally, although there were no manipulation check questions to examine these, there are a couple of other possible reasons that the participant performed and helped similarly across both conditions: 1) they were intrinsically motivated by the enjoyment of playing with Legos, 2) they were intrinsically motivated to see how they could perform without being held back by a slacking teammate, and 3) they were extrinsically motivated to receive as large of an individual reward as possible.

Theoretical Implications

One objective of the current study was to expand the extant theoretical arguments on the role of reward equity in creating effective TBR structures. In response to calls to include organizational justice theory in TBR research having gone largely unanswered (e.g., Garbers & Konradt, 2014), the current study found there to be a significant difference in the way that participants perceived the fairness of ERs and misallocated ERs. This comparison was made possible by the reward allocation structure put in place, and the perceptions of fairness align generally with the findings by Sinclair (2003)—one of the very few other TBR studies that incorporated justice (i.e., perceptions of fairness). In turn, the current study further demonstrated the worthwhileness of considering the role of justice in TBR research.

In TBR research, it is important to consider that perceptions of one's own reward fairness are inextricable from social comparisons among team members (Adams, 1963; 1965; Bloom, 1999; Shaw et al., 2002). The current study leveraged social comparisons and misallocation of rewards to examine how a higher performer perceives fairness in the inequitable situation where a lower performer receives a larger reward than them. Although this is a configuration that very few TBR studies have homed in on (e.g., Allen & White, 2002), this justice-driven perspective can enrich other theoretical frameworks explored in TBR studies, such as changes in team dynamics over time (e.g., structural adaptation theory; Beersma et al., 2009; Johnson et al., 2006). For example, the current study suggests that as the relative levels of team members' contributions shift over time, the supervisor should be consistently accurate in measuring those contributions and allow

for reward allocation to shift as needed in order to maintain perceptions of fairness and retain higher-performing team members.

Allowing for the possibility of misallocated ERs between higher and lower performers brings attention to another theoretical gap in equitable TBR research (albeit studied in equal TBR research): the framework of collective effort, which focuses on the aforementioned issue of free-riding (Karau & Williams, 1993). Although equitable rewards are intended to reduce free-riding, if rewards are misallocated it could actually result in a free-riding endeavor where the free-rider(s) is rewarded more than their teammates. In turn, the departure of higher-performing team members who perceive the reward allocation to be unfair could be exacerbated. This also highlights the importance of integrating organizational justice theory in TBR research.

Lastly, the *post hoc* analyses suggested the importance of considering the role of attributions (e.g., who is blamed for the unfair rewards) in assessing the risk that misallocated equitable TBRs can carry. Attribution theory (Heider, 1958; Kelley, 1973) states that individuals use the limited information they have to make causal attributions. In the current study, the amount of information was limited to the brief interactions between the participant and both the supervisor as well as the teammate. In a typical work setting, teammates typically have more opportunities to interact and validate (or invalidate) their impressions of others (Berger, 1979; Perse & Rubn, 1989).

Despite the limited information in the current study, participants in the both conditions consistently attributed their teammate's poor performance more so to sinning. Yet, those in the misallocated ER condition additionally held the supervisor more

accountable than their teammate for the unfair rewards received and this was a significant factor in their lower intention to continue. These findings demonstrate how integrating attribution theory with research on TBRs, especially in situations where rewards are perceived as being unfair, can provide additional insights into why team members react the way they do along with the relative influence of various, possibly competing, attributions being made.

Practical Implications

Many organizations often use some sort of subjective employee assessment in addition to objective assessments when determining rewards (Gibbs, Merchant, Van der Stede, & Vargus, 2004) that could result in misallocation. The results of the current study highlight that one possible risk of implementing an equitable TBR structure without a clear way for a supervisor to objectively measure individual team members' contributions is that this deficiency may cause team members to eventually leave the team, with an emphasis on the risk of losing higher performers. Further concern comes from those hypotheses that were not supported: team members who are unfairly rewarded may perform and help others (similar to those fairly rewarded) in the short-term while simultaneously considering leaving the team in the future. One possibility, then, is that these team members are begrudgingly performing and helping teammates in a way that does not signal to their supervisor (who they hold most accountable for the unfairness) that the team's viability may, in fact, be in jeopardy.

The importance of fairness in rewards should be a priority for organizations and team leaders to address as millennials become a growing percentage of the workforce in

concurrence with the increase of teams in the workplace (Fry, 2018; Ilgen et al., 2005)—a generation that is oft-cited in industry publications as valuing fairness above many other aspects of work (e.g., Johnson, 2018; Schultz, 2019). In particular, research has started to find that both distributive and procedural justice predict millennials’ turnover intentions (e.g., George & Wallio, 2017). In millennial- and team-heavy industries such as tech, for example, research has found that fairness is the most frequently cited reason for leaving one’s job, and unfairness can be attributed to \$16 billion in employee replacement costs (Scott, Klein, & Onovakpuri, 2017). Exacerbating this concern is the fact that industries such as tech exemplify the difficulty in measuring individual contributions due to the nature of the work (Whitehurst, 2015), and jobs in such industries are only going to continue to grow at a rate “much faster than the average” (“Computer,” 2019).

Lastly, the study design highlights that one critical part of objectively measuring each team member’s contribution involves the ability to monitor the performance metrics upon which rewards are based. There are a variety of resources that provide guidance on measuring individual team member contributions. One such resource is the US Government’s Office of Personnel Management. They recommend measuring team member inputs such as “the number of ideas contributed by the employee, the turn-around time for the individual's product, the accuracy of data supplied to the team” (“Performance,” n.d.). In technology-related work specifically, there is also guidance on how to leverage data collected via collaborative software (e.g., contributions made to

coding) as a way to more objectively measure team member contributions (Parizi, Spoletini, & Singh, 2018).

The common theme among this guidance is to not only measure results, but to also measure behaviors within the processes leading to the results (Ferrazzi, 2012). One approach to measuring such behaviors, that can be particularly useful in virtual teamwork, is to break down the work into micro-tasks rather than trying to parse apart innumerable contributions that took place over a longer period of time (Watkins, 2013). By focusing on incremental contributions, supervisor can gain a more precise understanding of how each team member is contributing. Such an approach can also allow for incremental rewards that are equitable for the work done in a very specific period of time and can also maintain a more direct linkage between performance and rewards.

Of course, in situations where the work is so highly interdependent that the contributions of ones' teammates factor into one's own level contributions, supervisors must consider a more complex approach for rewards. For example, a limited number of previous studies have explored hybrid rewards (e.g., Pearsall et al., 2010), where there is a reward for individual contribution (i.e., equitable rewards) as well as a reward for overall team performance (i.e., equal rewards). Although hybrid rewards may dilute the direct performance-to-reward linkage, using such a reward structure in conjunction with micro-tasks may help to maintain equitableness.

Limitations & Future Research Directions

As with any study, the current study had its limitations regarding external validity. First and foremost, while conducting TBR research in a lab setting is extremely common (Nyberg, Maltarich, Abdulsalam, Essman, & Cragun, 2018), doing so has inherent setbacks. For example, teammates only worked together for a maximum of 45 minutes, which neither simulates the kinds of interpersonal relationships developed in true workplace teams, nor carries with it a realistic weight of having to continue working together for an extended period of time in the future. Additionally, in tandem with the lab setting limitation, the participants were undergraduate students, and this introduced other limitations. For example, students were guaranteed to receive course credit regardless of any monetary rewards they received, which may have mitigated the influence of the rewards had on their behaviors and in triggering the role of individual differences. Relatedly, it is possible that students may not have believed that they would get to keep the monetary rewards, therefore reducing the impact as well. Future research replicating the current study in a field setting with actual employees would be very valuable.

The design of the tasks themselves also lacked external validity. While the tasks met the current criteria of requiring teammates to work together (Task 1) and creating opportunities for helping (Task 2), building a Lego storefront is not a realistic work task and does not simulate the type of team-based project that employees may work on together. Furthermore, the opportunities for helping ended up only “costing” participants an average of 46 seconds ($SD = 31$ seconds), whereas reward levels decreased every five minutes, or 300 seconds, that passed. In other words, many people may have helped on

Task 2 regardless of their Task 1 rewards because the amount of effort required to help was not sufficiently consequential.

Along these lines, it will be valuable for future research to examine misallocated ERs in the context of longer-term tasks and projects with more substantial opportunities (i.e., costs) for helping. This is especially imperative considering that while almost every TBR study, including the current study, has only involved one or two tasks, reward distribution in the workplace and team development generally occur through a recursive process over longer periods of time (DeMatteo et al. 1998). Such a context would also allow for the aforementioned theoretical integration of organizational justice theory with temporal frameworks such as the aforementioned structural adaptation theory. Furthermore, working together for an extended period of time would allow for team members to reduce uncertainty about the attributions they are making about their teammates (Perse & Rubin, 1989). Lastly, and possibly related to the attributions made about one's teammates, regular interactions (or even anticipated regular interactions) could empower unfairly rewarded team members to speak up and say something to their supervisor, teammate, or both about the inequity they perceive (Withey & Cooper, 1989). In other words, a cycle of voice, not to mention subsequent response, would be more likely initiated if there was a salient possibility of being exposed to repeated inequitable treatment.

Another limiting component related to the task design was team size. Although teams have commonly been defined as simply having two or more individuals (Cohen & Bailey, 1997) and can exhibit similar team processes as large teams (e.g., Kozlowski &

Ilgen, 2006), arguments have been made that two people do not introduce sufficient complexity in interpersonal actions (e.g., Moreland, 2010). One strength of smaller teams in TBR studies, however, is there is greater salience of how rewards connect to performance (DeMatteo et al., 1998). On the other hand, a weakness of smaller teams as it relates to measuring the impact of rewards, is that team members are more likely to interact, have stronger bonds among team members, and cooperate at baseline (Colquitt, Noe, & Jackson, 2002; Klein, Conn, Smith, Speer, & Sorra, 2001). That is to say, that the context of being on a team may overpower the impact of the rewards, and this may have been the case in the current study. Additionally, the supervisor of a small team could play a much more salient role, and the visibility of team members may have reduced the likelihood that a team member would “act out” by not performing their task or helping their teammate.

Better understanding the impact of misallocated ERs under varying team sizes, and especially larger teams, would be a worthwhile goal for future research. One argument for doing so is that the extent to which team members free ride is likely to be greater in larger teams than in the two-person team studied here. Another argument is that team members may form an alliance against free-riding team members that could shift the team dynamics and, in turn, impact the reward allocation. A third argument is that the ability of a supervisor to properly allocate rewards (and the believability of not doing so in an experimental setting) would likely vary with team size as well. Ultimately, studying larger teams would help to better parallel the realities associated with a larger societal

context of teams in the workplace (Klimoski, 2012; Tannenbaum, Matthieu, Salas, & Cohen, 2012).

Lastly, there were several limitations in the measurement methods and measures used in the current study. The most limiting of these was the inability to measure perceptions of fairness immediately after the allocation of rewards for Task 1. Pilot testing demonstrated that asking participants to rate the fairness of rewards in Task 1 too readily unveiled the true purpose of the study (i.e., to test how team member react to misallocated ERs), so the measures were moved to after both tasks had been completed and both rewards received. Relatedly, in an effort to be as concise as possible in the number of survey measure items, only procedural and distributive justice were measured; this excluded interactional justice—the degree to which employees are treated fairly by others (Colquitt et al., 2001; Greenberg, 1993)—which could illuminate important team dynamics in inequitable TBR situations. Ultimately, future research would benefit from determining ways to measure perceptions of fairness more immediately after the focal rewards as well as expanding on the types of fairness examined.

CONCLUSION

By providing research on misallocated ERs in the context teams working on interdependent tasks, and in responding to calls for the integration of organizational justice theory into TBR research, the current study made modest theoretical and practical contributions. The results demonstrated that although inaccurately measuring individual team member contributions may not be a barrier to desirable short-term team-related outcomes such as performance on one's own part of a team task or helping, long-term outcomes such as team member retention, and especially retention of higher performers, may be put in jeopardy. Hopefully the current study will encourage future research to examine misallocated ERs and other potential barriers to effective TBRs as workplace teams become more prevalent and fairness gains prominence as an indispensable value in the workplace.

APPENDICES

Appendix A: Question Set #1 Analyzed Questions

Subject ID # _____
(to be provided by the supervisor)

Thank you for agreeing to participate in this partner-based building task. If you have any previous experience participating in Lego building studies, ours or otherwise, please disclose that information below.

All information provided below will be kept anonymous:

Rate the following items from 1 to 5, where 1 is “I have never built with Legos” and 5 is “I have built with Legos a lot.”

To what extent to which you have previously built with Legos?

=====

Regardless of previous building experience, please provide the following information. Sharing this information is voluntary, but helpful to the current research effort.

Gender _____

Rate the following items from 1 to 5, where 1 is “Strongly Disagree,” and 5 is “Strongly Agree.”

To what extent do you agree with the following statements regarding the treatment of employees:

- An employee’s work effort should depend partly on how well the organization deals with his or her desires and concerns.
- An employee who is treated badly by the organization should lower his or her work effort.
- How hard an employee works should not be affected by how well the organization treats him or her.
- An employee’s work effort should have nothing to do with the fairness of his or

her pay.

- The failure of the organization to appreciate an employee's contribution should not affect how hard he or she works.

Rate the following items from 1 to 5, where 1 is "To a small extent," and 5 is "To a large extent."

To what extent do you see yourself as someone who...

- Is helpful and unselfish with others
- Starts quarrels with others
- Has a forgiving nature
- Is generally trusting
- Can be cold and aloof
- Is considerate and kind to almost everyone
- Is sometimes rude to others
- Likes to cooperate with others

The questions below ask what you'd like for your relationship to be in any partner task in which you might work.

On each question, divide 10 points between the two choices (choice A and choice B) by giving the most points to the choice that is most like you and the fewest points to the choice that is least like you. For example, split points 7 & 3.

You can, if you'd like, give the same number of points to both choices (for example, 5 points to choice A and 5 points to choice B). And you can use zeros if you'd like (10,0).

Be sure, though, to allocate all 10 points per question between each pair of possible responses.

For any partner task in which I might work...

1. It would be more important for me to:
A. Get help from the partner _____
B. Give help to the partner _____
2. It would be more important for me to:
A. Help the partner _____
B. Watch out for my own good _____

3. I would be more concerned about:
- A. How much help I received from the partner _____
 - B. How much I helped the partner _____
4. The hard work I would do should:
- A. Benefit both of us _____
 - B. Benefit me _____
5. My personal philosophy is:
- A. If I don't look out for myself, nobody else will _____
 - B. It's better for me to give than to receive _____

Appendix B: Rules for Task 1

You are part of a building team. You will be constructing this Lego city storefront (*see the box*). In the first task, you will establish your teamwork by working together on building one quarter of the storefront. In addition to any course credit you are receiving for this study, you can also earn cash rewards based on your performance.

In order to qualify for a cash reward at the end of each task, you need to follow these rules:

Rules for Procedure & Earning Cash Rewards:

- Your goal is to finish the task in under 20 minutes.
- For each task, you will receive the building instructions and pieces necessary for completion.
- Each task must be completed before instructions and pieces for the next task will be provided.
- In order for a task to be considered complete, you must have 100% accuracy--all the pieces in the right places.
- This reward will be split based on your contributions to the team effort.

The total amount of the reward will be determined by how quickly you complete the building task, as shown in the pay schedule below:

Finish in 0-5 minutes: Split \$12

Finish in 5-10 minutes: Split \$8

Finish in 10-15 minutes: Split \$4

Finish in 15-20 minutes: Split \$2

Finish in over 20 minutes: No Reward

Appendix C: Visual Lego Building Instructions for Task 1

Visual instructions can be accessed using the following link:

http://lego.brickinstructions.com/m/lego_instructions/set/31050/Corner_Deli

And downloaded using the link for 31050_1.pdf

For Task 1, the team should use the following construction steps:

- 1-5
- 11-17
- 37-39

Appendix D: Rules for Task 2

We are also interested in how you work individually, and Task #2 will give us that baseline.

In order to qualify for a cash reward at the end of each task, you need to follow these rules:

Rules for Procedure & Earning Cash Rewards:

- Your goal is to finish the task in under 20 minutes.
- Each task must be completed before instructions and pieces for the next task will be provided.
- In order for a task to be considered complete, you must have 100% accuracy--all the pieces in the right places.
- **You will be rewarded based on your individual performance.**

The total amount of the reward will be determined by how quickly you complete the building task, as shown in the pay schedule below:

Finish in 0-5 minutes: Receive \$8

Finish in 5-10 minutes: Receive \$6

Finish in 10-15 minutes: Receive \$4

Finish in 15-20 minutes: Receive \$2

Finish in over 20 minutes: No reward

Appendix E: Visual Lego Building Instructions for Task 2

Visual instructions can be accessed using the following link:

http://lego.brickinstructions.com/m/lego_instructions/set/31050/Corner_Deli

And downloaded using the link for 31050_1.pdf

For Task 2, the **participant** should use the following construction steps:

- 6-10
- 12
- 26-37
- 38-39

For Task 2, the **confederate** should use the following construction steps:

- 41-44
- 46-53
- 55-56
- 58-59

Appendix F: Question Set #2 Analyzed Questions

The following items are designed to get at how you feel about what you just experienced.

Rate the following items from 1 to 5, where 1 is “To a small extent,” and 5 is “To a large extent.”

- To what extent did the monetary reward in Task 1 reflect the effort you put into your work?
- To what extent did the monetary reward in Task 2 reflect the effort you put into your work?
- To what extent did the monetary reward in Task 1 seem appropriate for the work that you completed?
- To what extent did the monetary reward in Task 2 seem appropriate for the work that you completed?
- To what extent did the monetary reward in Task 1 reflect your contributions to the building task?
- To what extent did the monetary reward in Task 2 reflect your contributions to the building task?
- To what extent did the monetary reward in Task 1 seem justified, given the way you performed?
- To what extent did the monetary reward in Task 2 seem justified, given the way you performed?
- After Task 1, to what extent did you want to continue working with your building partner on the next task?
- After Task 2, to what extent do you want to continue working with your building partner on the next task?

During the process of rewards being decided and given for Task 1...

- To what extent were you able to express your views/opinion?
- To what extent did you have influence over the outcome?
- To what extent were the reward procedures applied consistently?
- To what extent was the process free of bias?
- To what extent was the reward based on accurate information?
- To what extent were you able to appeal the outcome of the rewards?
- To what extent did the procedures uphold ethical and moral standards?

During the process of rewards being decided and given for Task 2...

- To what extent were you able to express your views/opinion?
- To what extent did you have influence over the outcome?
- To what extent were the reward procedures applied consistently?
- To what extent was the process free of bias?

- To what extent was the reward was based on accurate information?
- To what extent were you able to appeal the outcome of the rewards?
- To what extent did the procedures uphold ethical and moral standards?

Appendix G: Question Set #3 Analyzed Questions

Rate the following items from 1 to 5, where 1 is “To a small extent,” and 5 is “To a large extent.”

- How well do you feel the researcher was able to measure individual performance in Task 1?
- To what extent do you hold the researcher accountable for the way rewards were distributed in Task 1?
- To what extent do you hold your building partner accountable for the way rewards were distributed in Task 1?

Rate the following items from 1 to 5, where 1 is “Very low, and 5 is “Very high.”

- **Your building partner's level of ability on Task 1**
- **Your building partner's level of motivation on Task 1**
- **Your building partner's level of ability on Task 2**
- **Your building partner's level of motivation on Task 2**

The following are open-ended questions.

- **Did your building partner ask for help? YES or NO**
 - **If YES, why do you think they did that?**
- **Explain your building partner's general behavior: (*write answer here*)**
- **Why do you think they behaved this way?**
- **What do you think this study is about?**

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BIOGRAPHY

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