Teetering between Cooperation and Competition:

How Subtle Cues Unexpectedly Derail Coopetitive Workplace Relationships

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Abstract

In organizations, employees cooperate to accomplish shared objectives, but simultaneously compete for

scarce resources (e.g., mentors, promotions). In navigating this dynamic, we argue that subtle cues that

often escape managerial notice shift colleagues from collaboration to competition. In contrast to past

research that has studied competition and collaboration in organizations separately, we argue that this

approach overlooks the prevalence of "*coopetitive"* workplace relationships: relationships characterized

by *both* collaboration and competition. We document the prevalence of coopetitive workplace

relationships, and demonstrate that subtle cues shift employee behavior. In a field experiment, we show

that subtle social comparison cues reduce co-worker peer nominations by 60%, but in a laboratory

experiment find that this effect is attenuated for highly effective groups. A thin line separates whether we

view our colleagues as "collaborators" or "competitors," and our findings highlight a significant challenge

for managers who may subtly and unwittingly foster competition among their employees.

Keywords: competition; collaboration; rivalry; groups; social comparison

Collaboration is critical to the success of modern organizations. In almost every sector of the economy, vital work is accomplished through collaboration (Devine, Clayton, Philips, Dunford, and Melner, 1999; Gordon, 1992; Lawler, Mohrman, and Ledford, 1995; Mohrman, Cohen, and Mohrman, 1995; Ilgen et al., 2005; Edmondson and Nembhard, 2009). In fact, more than 50% of employees at organizations in the U.S. report spending a portion of their workday in collaborative groups (Steward, Manz, and Sims, 1999). As Wal-Mart CEO and Founder Sam Walton explained, "individuals don't win in business, teams do. We're all working together, and that's the secret" (Carpenter and Coyle, 2011).

Yet despite the importance of workplace cooperation, employees also compete with one another for limited resources. Employees may compete for attention from a senior mentor, a promotion, a raise, an award, a desirable assignment or even something as mundane as a better parking space. Competition is an inevitable part of organizational life (Kilduff, Elfenbein and Staw, 2010), particularly in the types of organizations that attract driven employees with high aspirations. Although competitive pressures pervade organizations, the potential to trigger competition among employees is not always salient to managers. Managers seeking to foster a collaborative work environment set policies and communicate with employees in ways that may trigger competition (Luthans and Stajkovic, 1999).

At the firm-level, scholars have conceptualized *coopetition* – simultaneous cooperation and competition with other firms – and argued that coopetition can spur growth and generate competitive advantages (Yami, Castaldo, Dagnino, and Roy, 2010). In extant work, coopetition has been used almost exclusively to describe and analyze the behavior of *organizations*. [1] We argue that an analogous blend of cooperative and competitive dynamics exists among individuals within organizations. More specifically, as co-workers navigate their interpersonal interactions, we propose that a fundamental tension arises as a result of the need to both cooperate and compete. The same colleague who is a collaborator on important projects is often a competitor for promotions, compensation, and recognition.

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[1] See Hatcher and Ross (1991) and Smith and Bell (1992) for exceptions.

For firms, formal arrangements (e.g., joint ventures, research consortia and licensing agreements) can guide inter-firm behavior. Clear rules and boundaries can guide firms as they decide when and where to collaborate and when and where to compete (see Dowling et al., 1996; Ferguson and Morris, 1994; Tsai, 2002; Hagedoorn, 1993). Similarly, formal tools, such as flowcharts and decision trees, outline distinct business lines that delineate competitors (Tsai, 2002). In contrast to firms, which can use guidelines and formal rules, individuals face ambiguity with respect to when and how to engage collaboratively and when and how to engage competitively with their colleagues. Individuals lack explicit guidelines and coordinating mechanisms. As a result, co-workers may unknowingly or ineffectively adopt multiple stances within the course of a project, creating the potential for exploitation (cooperating when others compete), interpersonal conflict, and burnout.

Missing from the literature is an empirical investigation of how these "missing guidelines" to govern coopetition at the individual-level may impact the way that employees navigate their relationships. Unlike firms, employees find ambiguity psychologically taxing, as they place tremendous import on workplace relationships (Gersick, Dutton, and Bartunek, 2000; Van Maanen and Schein, 1977). With confusion and ambiguity characterizing the coopetitive dynamics individuals must navigate, we argue that employees may be prone to shift their perceptions and actions in response to subtle and unintended cues. Drawing from social comparison theory (Festinger, 1954; Suls and Wills, 1991) and theories of shared identification (Marks, Mathieu, and Zaccaro, 2001; Wittenbaum, and Stasser, 1996), we hypothesize that employees perceive their relationships with co-workers to be labile in coopetitive arrangements. As a result, we postulate that employees' perceptions of their colleagues are easily affected by subtle cues.

In this investigation, we explore the influence of social comparison cues in shifting perceptions of colleagues. Social comparisons can harm relationships (Tesser, Millar and Moore, 1988; Dunn, Ruedy, and Schweitzer, 2012) and trigger hostility (Testa and Major, 1990; Wills, 1981), and we expect social comparison cues to shift colleagues' perceptions of their peers from collaborators to competitors. In many cases, as individuals shift from cooperation to competition, they may become less effective in advancing organization goals.

In this paper, we investigate coopetition in three laboratory studies and one field study. We document coopetition in the workplace; we find that subtle cues can shift how individuals perceive their peers; and we demonstrate that subtle cues not only shift perceptions, but also harm collaboration in the workplace.

Many organizational practices are designed to improve morale and promote collaboration (Luthans and Stajkovic, 1999; Peterson and Luthans, 2006). These practices, however, such as providing public praise for a job well done or running an awards programs, have the potential to stimulate competition between employees. Were managers (a) aware of the precarious balance between cooperation and competition that characterizes many employee relationships and (b) able to manage how and when employees compete or cooperate (as is often the case with coopetition between firms), there would be little cause for concern. However, past research has shown that managers are often poor interpreters of employee dynamics. Many situations where managers anticipate individuals will work together collaboratively are instead marked by competitive dynamics, or vice versa (e.g. Amason, 1996; Bettenhausen, 1991; Bettenhausen and Murnighan, 1991; Jehn, 1995, 1997; Nemeth and Owens, 1996; Wageman, 1995). For example, in a study of teams that were given the responsibility to self-manage an effective and fair distribution of work and rewards, it was found that contexts in which competitive dynamics and conflict were embraced led to conflict efficacy, which in turn resulted in more cooperation and effective performance (Alper, Tjosvold, and Law, 2000).

We find that employees' perceptions of one another as collaborators or competitors are surprisingly unstable. As employees teeter on the brink of collaboration and competition, cues that managers send inadvertently shift the balance in unintended (and potentially even harmful) directions. While substantial, but largely separate literatures have studied collaboration (e.g., Hackman, 2002) and competition (e.g., Becker and Huselid, 1992), there have been only rare forays simultaneously exploring collaboration and competition in the workplace (Hatcher and Ross, 1991; Smith and Bell, 1992), and missing entirely are investigations of the shifting nature of collaboration and competition in the workplace. While aforementioned research has developed our understanding of how to improve

collaboration and of the benefits and risks associated with competition, scholarly research has largely failed to elaborate on a *dynamic* conceptualization of workplace relationships to account for the shifting and unstable nature of co-worker interactions. We build on the foundational work of others to demonstrate that coopetitive relations between colleagues, unlike those between firms, are fundamentally labile and moreover, are subject to the whims of extremely subtle and sensitive cues. Specifically, such cues can unintentionally prompt individualistic or collectivistic mindsets, swinging co-workers from a cooperative stance to a relatively more competitive stance, and back again.

Competition and Collaboration in Organizations

Vital organizational work is rarely accomplished without collaboration among co-workers (Devine, Clayton, Philips, Dunford, and Melner, 1999; Gordon, 1992; Lawler, Mohrman, and Ledford, 1995; Mohrman, Cohen, and Mohrman, 1995; Ilgen et al., 2005; Edmondson and Nembhard, 2009), so it is unsurprising that a substantial literature has explored how to develop the most effective collaborations in organizations (e.g., Gardener, Gino and Staats, 2012; Hackman and Katz, 2010; Thomas-Hunt and Phillips, 2003; Bhappu, Zellmer-Bruhn, and Anand 2001; Levine and Moreland, 1998; Edmondson, Dillon and Roloff, 2007). Research in this area demonstrates, for example, that increasing familiarity among group members improves collaborative outcomes (Huckman and Staats, 2011; Huckman, Staats, and Upton, 2009; Gruenfeld, Mannix, Williams and Neale, 1996), and that group norms that focus on shared interests (Chatman, Polzer, Barsade and Neale, 1998) and value critical thinking (Okhuysen and Eisenhardt, 2002; Postmes, Spears and Cihangir, 2001) enhance productivity. Structural characteristics, such as group size (Menon and Phillips, 2011) and reward systems (Johnson, et al., 2006; Beersma et al., 2009) have also been shown to influence how effectively groups cooperate. In short, a considerable body of work has developed our understanding of how to make collaborations more effective.

A largely separate literature has deepened our understanding of competition in organizations. Within organizations, employees frequently compete with one another for rewards, status and recognition (Anderson and Kilduff, 2009). Competition is an enduring feature of organizations, and competition can be both constructive and destructive (Kilduff et al., 2010; Beersma et al., 2003). Competition can improve

performance (Becker and Huselid, 1992; Eriksson, 1999; Tjosvold, Johnson, Johnson and Sun, 2003; Vidal, and Nossol, 2011), especially when organizations reward constructive behaviors that require effort (Kerr, 1975; Drago and Garvey, 1998). However, competition can also promote harmful behaviors, such lying and cheating (Kohn, 1992, 1993; Schweitzer, DeChurch and Gibson, 2005; Kilduff, Galinsky, Gallo and Read, 2012) as well as increased risk-taking (Becker and Huselid, 1992) and reduced accuracy (Beersma et al., 2003).

Existing research has primarily treated the constructs of competition and collaboration as mutually exclusive (see for example Becker and Huselid, 1992 on competition and Hackman, 1990 on collaboration). Implicitly, the literatures on cooperation and competition have presumed that individuals classify their relationships with respect to their co-workers as fixed—a given colleague is either a collaborator or a competitor. We challenge this assumption. We argue that in many cases, co-workers view one another as *both* collaborators *and* competitors, engaging in coopetition – a category of relationship that has previously been discussed as describing firm interactions, but not employee interactions (Yami, Castaldo, Dagnino, and Roy, 2010).   Employees are tasked with managing the complexities of coopetition while lacking clarity on when to act cooperatively and when to act competitively, suggesting that they may perceive a "thin line" differentiating each orientation, with frequent shifting between cooperative and competitive orientations. Therefore, we hypothesize the following:

> *Hypothesis 1: Employee perceptions of one another as collaborators or competitors are*
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> *fundamentally labile, with frequent shifts between collaborative and competitive orientations.*

Moreover, it is critical to gain an understanding of how individuals navigate these labile relationships and the delicate forces that can shift individuals back and forth between cooperation and competition.

Cues that May Trigger Competition or Cooperation in Organizations

There are many cues in organizations that are likely to shift the balance between collaboration and competition. Past research has shown that even small contextual cues can profoundly influence how

competitively individuals encode their relationships (Kilduff et al., 2010). For example, describing the prisoner's dilemma game as "The Wall Street Game" triggers significantly more competitive behavior than describing the same game as "The Community Game" (Lieberman, Samuels and Ross, 2004), where participants are more likely to behave cooperatively. Similarly, contextual cues, such as a target's similarity to one's self, the frequency of competitive interactions, and the extent to which past competitions have been evenly matched can promote rivalry and aggressive competition (Kilduff et al., 2010). This past research suggests that subtle cues in organizations may be powerful enough to cause individuals to change whether they view a given colleague as a collaborator or a competitor.

We study contexts in which collaborative and competitive rewards co-exist. We describe how one type of minimal cue can shift individuals from a cooperative orientation to a competitive one, and correspondingly, how another type of minimal cue can counterbalance this, shifting competitors into a more cooperative state. In the former case, we specifically first explore the impact of subtle prompts to imagine a colleague winning an organization-wide performance award. These are in effect cues prompting upward social comparisons. For the latter, we examine the moderating effect of team performance in attenuating the competitive impact of upward social comparisons, and hence inspiring a more cooperative orientation.

Past research indicates that engaging in upward social comparisons is unpleasant and can threaten an individual's self-image (Tesser, Millar, and Moore, 1988), in turn harming co-worker relationships, affecting levels of trust (e.g. Ashforth and Mael, 1989; Rotter, 1980), and trigging hostility (Testa and Major, 1990; Wills, 1981). According to Tesser's (1988) self-evaluation maintenance model (SEM), upward social comparisons are particularly aversive and threatening to an individual's self-image when the comparison domain is self-relevant and the comparison target is someone psychologically close, such as a peer. In our investigation, we explore minimal prompts to engage in social comparisons with similar individuals within the same organization. We expect these comparisons to involve: (a) targets who are psychologically close to the individual making the comparison and (b) a domain that is self-relevant. As a result, we expect participants who respond to cues prompting upward social comparisons in our research

to experience a more "individualistic" mindset (Triandis, 1989; 1994) and be motivated to denigrate the target of the comparison to restore one's own, positive self-image (Fiske, Kitayama, Markus, and Nisbett, 1998; Tesser, 1988). Related research has found that focusing on the self as an individual while experiencing unfavorable social comparisons can harm relationships (Dunn, Ruedy and Schweitzer, 2012; Buunk and Gibbons, 2007; Festinger, 1954; Garcia, Song and Tesser, 2010; Hogg and Terry, 2000; Moran and Schweitzer, 2008; Parrott and Smith, 1993; Tai, Narayanan and McAllister, 2012), trigger hostility (Salovay and Rodin, 1984), reduce information sharing (Dunn and Schweitzer, 2006), promote deception (Moran and Schweitzer, 2008), and motivate a desire to harm the target (Cohen-Charash and Mueller, 2007) of the comparison.

Taken together, we predict that prompting upward social comparisons will increase the likelihood that collaborators adopt an individualistic mentality and see their colleagues as competitors. Relatedly, subtle cues motivating collectivistic, group associations (such as perceptions of strong team performance) will be less likely to promote an individualistic mindset, instead promoting shared identification, liking, and affinity for the team (Marks, Mathieu, and Zaccaro, 2001; Wittenbaum, and Stasser. 1996), hence attenuating competitive feelings (Fiske, Kitayama, Markus, and Nisbett, 1998). We propose that the balance will shift back to a cooperative stance, with more contentedness in team performance, increased salience of the collective (rather than the individual), and less incidence of social comparisons.

Importantly, social comparison triggers are readily cued by managerial actions and easily overlooked. In our investigation, we consider a common social comparison cue, and we find that managers fail to anticipate the competitive consequences of these cues for their subordinates. We began our investigation with a pilot study with executive and full-time MBA students (N=64, 42% female; average age of 34 years) who had a median of 9 years of work experience. We found that managers fail to recognize how readily social comparison cues can trigger competition among employees. In our pilot study, we asked participants to "Imagine that you are a manager at a large organization. Your organization is about to launch an employee awards program in which employees can nominate one another to recognize their workplace performance. As a manager who will oversee this program, what are

the top issues that come to mind for you when it is time to launch the employee awards program? Please

list all of the issues that come to mind." We coded the open-ended responses. The vast majority of

managers (87%) made no mention of competition or competitive dynamics.

We then asked our panel to rank the importance of a set of considerations. Specifically, we gave

participants a list of seven items, such as "Representing company values and company culture" and

"Producing top results" that are commonly cited as relevant for award programs (e.g. Ugboro and Obeng,

2000). We included competition with other employees as an additional consideration.[2] We then asked

participants to rank these items from most to least important. Consistent with the open-ended results, few

managers rated the prospect of competition as a significant concern. The vast majority (84%) rated

"competition with other employees" as the least important concern, and 92% rated "competition with

other employees" among the bottom three items of the list. Taken together, these findings suggest that the

prospect of triggering competition among employees is not salient for managers.

Peer Nominations

Nominating a peer for a reward is a special type of pro-social behavior that requires colleagues to

recommend their peers for recognition that they themself are often hoping to receive. Rewards in

organizations are both common and highly effective in motivating employees (Garcia, Tor, and Gonzalez,

2006; Greenberg, Ashton-James, and Ashkanasy, 2007). In many cases, it is managers or objective levels

of performance that determine awards and promotions. In other cases, however, peer evaluations inform

these critical organizational outcomes.

Peer nominations for organizational rewards are both practically and theoretically important.

Practically, peer nominations represent a ubiquitous organizational tool used to identify and reward high

performers. For example, 90% of Fortune 500 companies incorporate peer feedback into their

performance evaluation systems (Wright, 2008). Awards programs that rely on peer nominations

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[2] The full list of items included: "Recognizing outstanding performance and contributions"; "Representing company values and company culture"; "Keeping employees informed; communication"; "Producing top results"; "Input from employees about what could be done better"; "Competition with other employees"; and "Employee retention; making sure we keep employees engaged and onboard".

represent a common method for motivating employees, retaining high performers, and showcasing model

behavior (Garcia et al., 2006; Greenberg et al., 2007). For peer nomination programs to fulfill their

objectives, employees need to nominate deserving peers. Theoretically, peer nominations are particularly

well suited for our investigation because peer nominations are likely to be heavily influenced by the

extent to which individuals identify their peers as collaborators or competitors.

Surprisingly, little prior work has explored the peer nomination process. In addition to having

practical relevance, peer nomination decisions represent an ideal decision process for investigating the

delicate balance between collaboration and competition. When individuals perceive their peers as

competitors, we expect them to be less likely to nominate others for rewards; when individuals perceive

these same peers as collaborators, we expect them to be more likely to nominate others for rewards.

Across two behavioral studies, we describe the influence of subtle cues prompting upward social

comparisons on the decision to nominate a colleague for an award.

We expect the subtle social comparison cues we study to cause individuals to identify peers as

competitors for organizational rewards rather than collaborators. Specifically, we postulate that even

subtle cues to engage in upward social comparisons will trigger an individualistic mindset by prompting

self-versus-other appraisals (Triandis, 1989; 1994). Due to this individualistic mindset, we expect that

employees will be less likely to help peers (Markus and Kitayama, 1994), and consequently, we expect

such cues to decrease the likelihood that individuals will nominate their peers for an award. Thus, we

hypothesize the following:

> *Hypothesis 2: Subtle cues that prompt individuals to engage in upward social comparisons will*
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> *reduce individuals' willingness to nominate their collaborators for performance-based rewards.*

We postulate that the same subtle cues that cause individuals to engage in upward social

comparisons may be counterbalanced by features of the tasks they perform. Specifically, we expect that

teams with strong performance and overall effectiveness will form strong group associations, developing

more shared identification, liking, and affinity for their teammates (Marks, Mathieu, and Zaccaro, 2001;

Wittenbaum, and Stasser. 1996). Members of high-performing teams will thus be less likely to adopt an

individualistic mindset, instead embracing a more collectivist mindset, and identifying peers as collaborators with a higher propensity. Members of effectively performing teams should then have a more positive and cooperative stance toward a peer receiving an accolade than members of poorly performing groups who are likely to have a more extreme competitive reaction with a tendency to emphasize individualism and the potential to experience more negative affect (Chatman, Polzer, Barsade, and Neale, 1998) when imagining a peer receiving recognition. As a result, we expect members of more effective groups to be less threatened by upward social comparisons and predict that individuals in these high-performing groups will be more likely than those in low-performing groups to nominate their peers for awards in the face of subtle social comparison prompts. Thus, we hypothesize the following:

> *Hypothesis 3: Cues prompting upward social comparison will curtail peer nominations more*
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> *when collaborations are unsuccessful than when they are successful.*

We first test our contention that labile relationships with colleagues can be easily shifted (Hypothesis 1) by documenting the prevalence of workplace relationships in which peers view their colleagues as both collaborators and competitors. We then test Hypothesis 2 in experiments set both in the field and the laboratory, and we test Hypothesis 3 with a laboratory experiment.

Study 1: Workplace Survey on the Co-Occurrence of Competition and Collaboration

To assess perceptions of peers within organizations, we surveyed a sample of employed Americans over the age of 18.

Method

We recruited 150 employed Americans over the age of 18 through Qualtrics, an online survey research company, to participate in an online survey. Twelve of these 150 subjects provided unintelligible answers to written questions (e.g., strings of a single letter) and were thus excluded from our final data set. Of the 138 workers who provided intelligible response data, 56% were female, the average age was 43 (SD=11 years, min=20 years, max=65 years), the average number of hours worked per week was 43 (SD=8 hours, min=20 hours, max=80 hours), and the average percentage of time spent working with others as opposed to alone was 61% (SD=28%, min=0%, max=100%). Respondents were 84%

Caucasian, 9% African American, 4% Hispanic, 2% Asian and 2% Other. The average salary of

participants in our subject pool was in the $40,000-$60,000/year range, and respondents' average level of

educational achievement was an associate's degree.

We asked survey respondents a number of questions about the nature of competition and

collaboration in their workplace. First, we asked respondents to think of as many co-workers as they

could with whom they had both competed and collaborated at work. We asked participant to list the

initials of these individuals (space was provided for respondents to list up to 15 sets of initials). We then

asked respondents to identify the single individual with whom their work relationship shifted the most

frequently between cooperation and competition and to answer a series of questions about the nature of

that relationship.

Results

On average, respondents in our survey listed the initials of 6.17 co-workers with whom they had

both competed and collaborated in the workplace (SD=4.27, min=0, max=15), a number far larger than

zero (t(137) = 16.95, p < 0.001). When asked how difficult it was to think of at least one colleague with

whom they had both competed and collaborated at work on a seven point Likert scale (1 = very difficult,

2 = difficult, 3 = somewhat difficult, 4 = neutral, 5 = somewhat easy, 6 = easy, 7 = very easy), the average

response was between "somewhat easy" and "easy" (mean=5.35, SD=1.66), and significantly easier than

"neutral" (t(137) = 9.57, $p < 0.001$). Ninety-eight percent of our participants identified someone with

whom they both cooperated and competed.

We next asked participants to identify the person with whom their relationship switched most

frequently between collaboration and competition at work (hereafter referred to as their "target

colleague"). We then asked participants to describe one incident at work that caused them to view their

target colleague as a collaborator (teaming up to achieve a valued outcome) and one incident that caused

them to view their target colleague as a competitor (a rival for achieving something valued); 72% of

participants were able to coherently identify both types of incidents (a single coder blind to our study's

purpose classified actual collaborative and competitive incidents). We present sample participant

responses to these two questions in Table 1. These examples underscore the prevalence of these shifting

relationships, in support of Hypothesis 1. Rather than perceiving colleagues as collaborators or

competitors, the vast majority of respondents identified many of their colleagues as both.

Insert Table 1 Here

Next, we asked participants to classify the intensity of both the competitive and collaborative

incidents they had identified on a five point Likert scale (1 = not at all, 2 = a little, 3 = moderately, 4 =

quite, 5 = extremely). Those who had identified both types of incidents classified the intensity of the

collaboration, on average, as moderate-to-quite intense (mean=3.54, SD=0.94) and classified the intensity

of the competition, on average, as moderate-to-quite intense (mean=3.22, SD=1.20). The correlation

between collaboration and competition intensity ratings was positive and significant (r = 0.35, p < 0.001).

These data suggest that workplace relationships frequently switch between cooperation and competition,

consistent with Hypothesis 1, and that these oscillations are often dramatic. Interestingly, participants

reported that their cooperative and competitive experiences were similarly intense.

To characterize the frequency of cooperative and collaborative incidents, we asked participants to

recall the last time they had both cooperated with and competed with their target colleague. Of the 72% of

participants who successfully identified both types of workplace incidents, 11% reported that they had

competed more recently than they had collaborated, 27% reported that competition and cooperation had

occurred equally recently, and 62% reported that they had collaborated more recently than they had

competed. These results suggest that collaboration is more common than competition within relationships

characterized by both competition and collaboration (one sample test of proportions: z = -10.45, p <

0.001). In fact, when we include all survey participants in our sample who recalled either type of

workplace incident (cooperation or competition), the median time reported since the last collaboration

with their target colleague was 3.5 days, compared to the median time since competition of 27.3 days.

Finally, we asked participants several questions about the type of person they identified as their

target colleague. On average, respondents classified these colleagues as peers (mean = 3.55 on 5-point

scale, 1 = very slightly or not at all, 5 = extremely). Further, they were colleagues who had been at an individual's organization approximately the same amount of time they had (mean=3.24 on 5-point scale where 1 = much less time, 5 = much more time) and who were nearly the same age (mean=2.86 on 5-point scale where 1 = much younger, 5 = much older), were nearly the same rank (mean=3.16 on 5-point scale where 1 = much lower rank, 5 = much higher rank), were similarly educated (mean=2.74 on 5-point scale where 1 = inferior education, 5 = superior education) and shared the same gender (79% of the time). In short, shifts between competition and collaboration occur with high frequency between similar colleagues.

Discussion

These data describe workplace relationships that shift between competition and collaboration. We find that these relationships are very common, consistent with Hypothesis 1, and that the intensity of both the cooperative and collaborative experiences is moderately high. We also find that within these relationships cooperation occurs more frequently than competition. Finally, we find that the targets of these competitive and collaborative relationships are peers who are very similar in terms of work experience, education, and demographics.

These finding document the existence and importance of relationships characterized by cooperation and competition in organizations. Our findings also suggest that within organizations a collaborative orientation is most common. Organizations serve to coordinate collaborative work (Kogut and Zander, 1996), and as a result employees within organizations are more likely to identify their colleagues as collaborators than as competitors. This presumption is supported by our finding that collaborative incidents are more frequent than competitive incidents. In the following three experiments, we examine how subtle cues can turn collaborators into competitors. Specifically, we examine how cues prompting social comparisons influence coopetition and an important collaborative behavior—choosing to nominate peers for workplace recognition.

Study 2: The Influence of Social Comparison Cues on Coopetitive Dynamics

Before directly examining the influence of social comparison cues on co-workers' decisions, we examine their influence on perceptions. Specifically, we explore whether social comparison cues can shift hypothetical co-workers towards viewing one another in a more competitive light, consistent with Hypothesis 2. Simultaneously, we seek additional evidence to support our contention that co-worker relationships are characterized by coopetition, or fluid toggling between competitive and collaborative dynamics.

Method

We recruited 201 people through Amazon's Mechanical Turk to participate in an online survey in exchange for $0.35. All participants were asked to imagine the following scenario: "After recently joining a new organization, you and a co-worker have just completed a successful project." Participants were then asked to rate how they would conceptualize this co-worker on a coopetition scale from "1 – as a competitor" to "7 – as a collaborator".

Next, participants were randomly assigned to one of two experimental conditions. In the control condition (N=103), participants were asked to imagine that the Human Resources team at their organization had sent out an e-mail containing a picture of an employee accepting an award followed by text describing a new excellence recognition program and the opportunity to nominate others in their organization for "going the extra mile." In the cue condition (N=98), participants were asked to imagine receiving the same message with two additional lines of text. Immediately below the image of an award recipient, an italicized caption read "What if your co-worker were the winner of a large and prestigious award given to just one employee each year?" and directly below that we added a bolded line of text: "How would you feel if your co-worker won this award?" Upon reading this hypothetical email, participants in both conditions were asked how they would conceptualize the same co-worker on the same coopetition scale described previously.

Results and Discussion

First, we find considerable evidence that participants toggle between viewing the same colleague as a collaborator and then a competitor. Although the co-worker described in our scenario was initially

rated as a collaborator ($M_{both\_conditions,1st\_rating}$=6.01 on a 7-point scale from "1– as a competitor" to "7 – as a collaborator"), considering an email announcing an excellence recognition awards program significantly shifted perceptions of the employee towards the competitive end of this spectrum even in our experiment's control condition ($M_{control\_condition,1st\_rating}$=5.97 > $M_{control\_condition,2nd\_rating}$=5.07; two sample t-test; p<0.001).

Second, we find that the social comparison prompt included in our cue condition produced a stronger competitive shift on the coopetition scale than the control prompt. Specifically, the cue condition shifted participants an average of 2.04 points closer to the competitive end of the coopetition scale (from 6.06 to 4.02), while the control condition only shifted participants 0.90 points in this direction (from 5.97 to 5.07), a difference between conditions that is highly significant (two sample t-test; p<0.001). Figure 1 illustrates these results.

Insert Figure 1 Here

These findings again highlight the ease with which perceptions of co-workers can shift between competition and cooperation. Further, they demonstrate that cues prompting social comparisons trigger competitive shifts in coopetitive environments, consistent with our second hypothesis.

Study 3: Field Experiment

To test the behavioral implications of our Study 2 findings, namely that cues prompting social comparisons can shift perceptions of co-workers from collaborators to competitors and influence cooperative behavior, we conducted a field experiment at a manufacturing company located in the United Kingdom. This company launched an employee recognition program and allowed us to vary the email messages employees received at the program's initiation.

Method

Following Study 2, we manipulated the email messages that were sent to 326 employees across three work sites about the launch of a new "customer support excellence" rewards program. The emails announced the program's commencement and described how to nominate a colleague to win an award.

Previous company communications had described the new awards. The award winners were announced quarterly, and awards were associated with prizes (e.g., plaques, gift certificates) and recognition. The concept of "customer support excellence" was defined broadly so that employees who did not interact with external clients of the firm could still be recognized for supporting "internal" clients (other employees).

We randomly assigned half of the employees who received an email about the rewards program to the control condition and half to the condition containing a cue prompting social comparison. In the control condition, participants received an e-mail from human resources personnel containing a picture of an employee accepting an award followed by text describing the nomination process. In the cue condition, participants received the same message with two additional lines of text (validated as competition-inducing in Study 2 using similar language). Immediately below the image of an award recipient, an italicized caption read "Your Co-Worker?" and directly below that we added a bolded line of text: "How would you feel if your co-worker won this award?" For seven months following the distribution of these e-mail messages, we recorded every award nomination submitted by study participants.

Importantly, the managers launching this employee rewards program were hopeful that the cue condition would motivate increased empathy for co-workers and thus more pro-social behavior. We investigate managerial beliefs about this cue with a separate pilot study. For this pilot study, we recruited executive and full-time MBA students (N=76, 46% female; average age of 35 years) who had a median of 8 years of work experience. We showed these participants the message in the cue condition, and asked: "What is your opinion of this email message?" The vast majority (71%) thought that the message, as it was stated, looked fine for the purpose intended.

Results & Discussion

The employee rewards program generated 68 nominations during the seven month period we studied, and the employees we followed nominated between zero and ten of their co-workers for recognition. Most (57%) of the nominations were submitted during the first two months of the program,

but a steady flow of nominations continued throughout the study period. At the conclusion of the

program, the organization announced 14 finalists and 8 award winners.

We conducted an ordinary least squares (OLS) regression to predict the number of nominations

an employee submitted as a function of experimental condition, clustering standard errors by work

function (e.g., human resources, finance) to account for the possibility of correlation in nomination

decisions within employee work groups. We found that the message condition significantly influenced

nomination behavior ($\beta_{control}$=0.181, t=3.56, p<0.01). Employees in the control condition nominated

nearly three times as many colleagues as employees in the hypothetical social comparison condition (see

Figure 2).

Insert Figure 2 Here

Taken together, we find that prompting individuals to imagine watching a co-worker receive

recognition for excellence both induced heightened competitive feelings (Study 2) and dramatically

curtailed the number of co-worker nominations employees submitted (field study), contrary to the hopes

of management that this cue might increase pro-social behavior.

Group performance is likely to be an important moderator of the relationship between social

comparison cues and nomination behavior, however. We expect group performance to influence the

likelihood that individuals perceive their co-workers as praiseworthy collaborators rather than unworthy

competitors. Specifically, perceptions of impressive group performance motivate stronger group

associations, and will protect against an individualistic mindset. Thus, the prospect of imagining a

colleague winning an award is less likely to generate a self-versus-others competitive stance in high-

performing groups. Although we did not have access to performance data in our field study, we test this

prediction (Hypothesis 3) in a controlled, laboratory experiment.

Study 4: Laboratory Experiment

In a laboratory study, we explore how group performance moderates the relationship between

cues prompting social comparison and an individual's willingness to nominate her colleagues for

performance-based awards. We expect high performing teams to be more resilient to cues that promote a competitive orientation than low performing teams. High performing teams are more likely to develop a shared identity and like each other (Marks, Mathieu, and Zaccaro, 2001; Wittenbaum, and Stasser. 1996). As a result, we expect high performing teams to be less influenced by social comparison cues that promote a competitive orientation.

Method

We recruited 284 students to participate in an experiment through campus advertisements at a large university in the Mid-Atlantic region of the United States. We paid participants $10 for one hour of their time. We randomly assigned study participants (160 females, 124 males, mean age=20.6 years, SD=2.8 years) to groups of four. Each group of four completed the study together in an isolated room.

Working collaboratively, each group completed four rounds of a two minute online Boggle game (Hasbro, 2010). Boggle is a word game in which a 4 x 4 letter matrix is presented to participants. Participants are then challenged to identify words on the game board composed of adjoining letters. Each word must be at least three letters long and points are assigned based on the number of correct, unique words identified. Longer words earn more points. Prior studies have documented wide variance in Boggle performance (Tauer and Harackiewicz, 1999), making this game ideal for studying the moderating influence of group performance on social comparison cues and peer reward nominations.

Participants sat along the four edges of a small, rectangular table facing one another and each had a laptop in front of them where they viewed the same, shared Boggle board. Each group member took a turn as typist for one of the four rounds of online Boggle. Participants knew they would be paid $0.02 for every point their group earned (using standard Boggle rules) and that they would compete for a $10 individual creativity award that at most one player on their team of four could win. See Appendix A for a depiction of the online Boggle boards viewed by participants.

After completing the group Boggle task, each participant completed an individual survey. Half of the study participants were randomly assigned to the control condition and half to the cue condition. Random assignment took place within groups, so two participants from each four person group were

assigned to each condition. Participants in the cue condition were asked to imagine how they would feel if another person in their group won the $10 creativity award and to write a paragraph describing in detail "the way you imagine you would feel at the time of the award's announcement." We asked participants in the control condition to imagine the classroom where they most recently attended a lecture and write a paragraph describing it in detail.

Finally, we gave participants the opportunity to influence the winner of the $10 creativity award in their group. We endowed each of the four participants with 25 points to allocate to the other participants on their team or to a "no winner" option. The total number of points (out of 100) each player received in the form of nominations from Boggle collaborators represented his or her likelihood of winning the award. For instance, if the three other collaborators each assigned a participant 20 points, that participant would have a 60% chance of winning $10. Participants could not allocate points to themselves. By allocating points to the "no winner" option, participants increased the likelihood that no one else from their collaboration would win the award without altering their own chances of earning the prize. Thus, the decision to allocate any points to the "no winner" option was value-destroying. We provided participants with detailed nomination instructions and we required them to pass a comprehension quiz before they could proceed to nominate their peers (see Appendix B).

Results & Discussion

Boggle performance varied considerably across the four-person groups (min=58 points, median=97 points, max=162 points, SD=20 points), and the nature of individuals' experiences in these groups varied dramatically. In the most productive groups, the four individuals generated words at a dizzying speed of 24 per minute; in the least productive groups, the four individuals generated words at the sluggish rate of 9 per minute. That is, in high performing groups an individual would hear a unique word every 2-3 seconds, whereas in low performing groups an individual would hear a unique word every 6-7 seconds. This difference enables us to investigate how group performance moderates the influence of cues prompting social comparisons on nomination behavior.

We conducted an OLS regression to predict the allocation of points to the value-destroying "no winner" option as a function of assignment to the cue condition, group performance (measured in Boggle points scored) above the median, and the interaction between these variables (see Table 2). Our analyses control for player demographics (age and gender) as well as the order in which players served as their group's typist (which is highly correlated with allocating points to the "no winner" option).

We find that when groups performed poorly, cues prompting social comparisons significantly reduced players' willingness to nominate their peers for a prize (see Table 2 and Figure 3). However, this effect was attenuated when groups performed well. In groups with median or lower Boggle performance ($\leq$ 97 points earned), 65% of participants in the cue condition assigned some points to the value-destroying "no winner" option, whereas only 42% of participants in the control condition assigned points to this option. The regression-estimated effect for participants in the cue condition with median or below average performance was a 21 percentage point increase in the likelihood of assigning points to "no winner." However, this harmful effect is eliminated for teams with above median performance. Results from logistic regressions are very similar, though prior work suggests that logistic regression coefficients are inappropriate for testing interaction effects (Ai and Norton, 2003).[3] These findings replicate the results of our field study in a controlled laboratory setting and confirm our prediction that the combination of ineffective collaboration and cues prompting social comparison is particularly harmful to peer nominations.

Insert Table 2 Here

Insert Figure 3 Here

General Discussion

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[3] If we examine the number of points allocated to "no winner" rather than whether any points were allocated to this value-destroying option, we observe the same overarching pattern of results. Further, our results are meaningfully unchanged whether or not we cluster standard errors by team.

Rather than perceiving peers as either collaborators or competitors, our findings demonstrate that individuals perceive their peers to be both. Importantly, we find that the individuals with whom we are most likely to both collaborate *and* compete are peers who share similar educational, professional, and demographic characteristics. We also find that workplace relationships are unstable. Our work in both field and laboratory settings demonstrates that subtle cues prompting social comparisons can trigger individualistic mindsets, which tip the balance from cooperation to competition in coopetitive relationships. We demonstrate that this process impacts both perceptions and an important interpersonal behavior in organizations: peer nominations.

In a survey study, we demonstrate that subtle cues prompting social comparisons cause co-workers to view one another more competitively and less collaboratively, and in the field we show that such cues not only influence mindsets but also influence actions. Specifically, these cues reduce employees' willingness to nominate their peers for recognition in the workplace. In the field and in the laboratory, we demonstrate that individuals are less willing to nominate a co-worker for an award after considering how it would feel if a colleague received recognition for outstanding performance. Further, we find that higher team performance attenuates this relationship. By combining data from the field and the laboratory, we are able to establish the internal validity of our findings as well as their external validity and managerial relevance (Cialdini, 2009).

Our studies demonstrate that a delicate balance between competition and collaboration exists in many relationships between colleagues. In many organizational settings, individuals both cooperate and compete with their peers. Consistent with past work on shifting organizational identities (see a discussion in Wiesenfeld and Hewlin, 2003), we find that subtle, but important cues can influence whether these peers are perceived as collaborators or rivals, and these differences in perception have profound implications.

Our research suggests that subtle triggers can shift colleagues' perceptions of their relationships. We explore explicit cues prompting social comparisons and demonstrate that these cues have the power to alter cooperative dynamics. However, future research should explore a broader set of common workplace

triggers of social comparisons. It is possible that many competitive cues, such as the introduction of competitive rewards programs, announcements about bonuses, layoffs, performance reviews, or even individual goal-setting exercises trigger shifts in the coopetitive dynamics within organizations by prompting individuals to engage in social comparisons.

Managers seeking to promote collaboration among employees in their organizations should be aware of the delicate balance that exists between competition and collaboration. To the extent that managers can avoid triggering comparisons between employees, they may boost performance when effective collaboration is critical.

More broadly, our findings demonstrate that managers need to structure incentives carefully. The same incentive systems that motivate individual performance can harm colleagues' willingness to collaboratively promote one another. Many common incentive and reward programs may shift coopetitive dynamics between colleagues, placing colleagues in a competitive mindset with potential negative ramifications, and future work should investigate this possibility.

Future research should also investigate critical questions surrounding the shifting and dynamic nature of collaboration and competition in the workplace. For example, future work should explore how individuals can best navigate these shifting relationships and how managers can most effectively structure incentives and work to account for this instability. It is quite possible that many factors, such as the nature of the work, the self-confidence of the individuals, and external threats influence these interpersonal organizational dynamics.

It would also be fascinating to explore the long-term effects of switching back and forth between competition and collaboration. Is there a stable equilibrium or does switching back and forth destroy value in relationships? Another interesting question is whether particularly intense competitive episodes harm subsequent collaborations? We hope that future research will begin to examine some of these interesting and open questions about the nature of workplace relationships.

Competitive rewards, such as bonuses and promotions, play a critical role in incentivizing employees in many organizations. Our findings highlight a potential harmful consequence of these

competitive rewards. Rewards programs and other subtle cues that trigger social comparisons may curtail important cooperative behaviors within organizations. The studies we present demonstrate that mere prompts to imagine the experience of watching a colleague receive recognition for excellence are enough to trigger potentially harmful individualistic mindsets and meaningfully reduce cooperation in the workplace. Our findings highlight the importance of social comparisons in the workplace and the need for future research to further explore the delicate balance between cooperation and competition.

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Table 1

Example Incidents Illustrating Collaboration and Competition with the Same Target Colleague

An incident at work that led you to view this colleague as a collaborator	An incident at work that led you to view this colleague as a competitor
[Target] and I only had one hour [to] fix the network so we had to work together to get it done quickly.	When [target] and I were both up for the same promotion and only one of us could get the job.
We've worked together on many projects and get along well. We both work overtime together to get the job done.	We were both competing for a job promotion. We both wanted the job and you could feel the tension in the work atmosphere.
We had a deadline that was raised two weeks, so rather than wait for our supervisor's help, the two of us brainstormed and came up with ideas and succeeded in record time.	Both of us were up for promotion, so we began to look at one another as rivals.
We both have the same job function and…there are often times when we need to help each other for the benefit of only one of us.	This is easy, as we both need to be #1 in order to be recognized as a top performer for my company.
I work in a sales job, and I was having difficulty closing a big sale. He pitched in and helped me close the deal, and I have done the same for him.	We were placed on different teams with the prize being holidays off. We worked next to each other so I was able to keep track of his progress.
There was a project [Target] was working on which had a direct effect on my own project so we decided to help each other in order to complete our projects early.	Last year there was an award given to the person who completed their project first. Even though [Target] and I work in different research areas it came down to the two of us.
[Target] and I are a team in our department at work, and work together to solve issues and complete projects.	[Target] is the assistant, while I am the associate. Sometimes I wonder if [Target] will be promoted to associate and I will either lose my job or be demoted.
The project was a retrofit of an old air conditioning system on subway cars that involved both our respective engineering fields to accomplish.	Job interview for a director level position at work where it was a "battle" over the respective disciplines of electrical vs. mechanical engineering.
We worked together to solve a problem out on the jobsite. We worked well together and used each other's ideas to come up with a solution that worked. We used our solution and made the correction.	We both competed for the same job position. It was much tougher for me because I am not related to the owners like he is.
Had to work on a project proposal for the client to win new business. He had experience in some areas and I in others. Worked together to create a winning bid.	New department opening and we both applied for the position. Had been friendly before but got adversarial when we both wanted the new job.

Table 2

The Effect of Cues Prompting Social Comparison on Destruction of Value in Collaborator Award

Nominations

	B	SE B
Cue Condition	0.212*	0.095
Points Earned Above Median	0.176*	0.088
(Cue Condition) x (Points Earned Above Median)	-0.342**	0.126
Player Age	-0.035**	0.008
Female Indicator	0.000	0.055
Boggle Typist Order Fixed Effects	Yes	
Observations	284	
R^2	0.103	

Note: The ordinary least squares regression results demonstrate the effect of a cue prompting social comparisons on whether participants allocated any points to the value-destroying option "no winner" when nominating a collaborator for the $10 creativity award. Standard errors clustered by group are in parentheses. The variable "Points Earned Above Median" is an indicator variable for earning more points than the median team, so the coefficient estimate for the "Cue Condition" indicator represents the treatment effect for low performers. * $p \leq .05$. ** $p \leq .01$
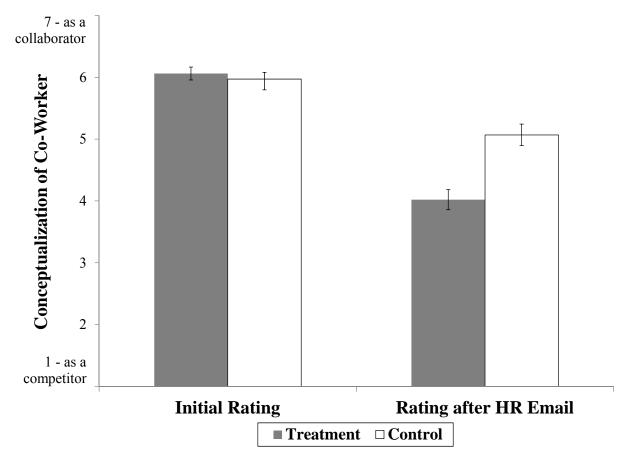
Figure 1. Mean participant ratings of co-workers on a coopetition scale before and after reading emails from Human Resources (HR) announcing the opportunity to nominate co-workers for a new excellence recognition program by experimental condition.
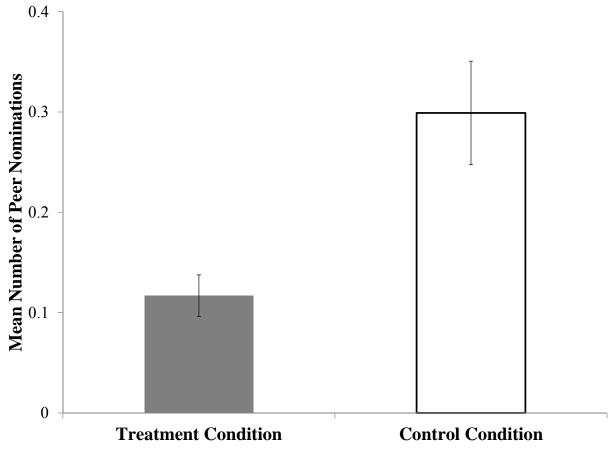
Figure 2. Mean number of peer nominations submitted by employees as a function of their experimental
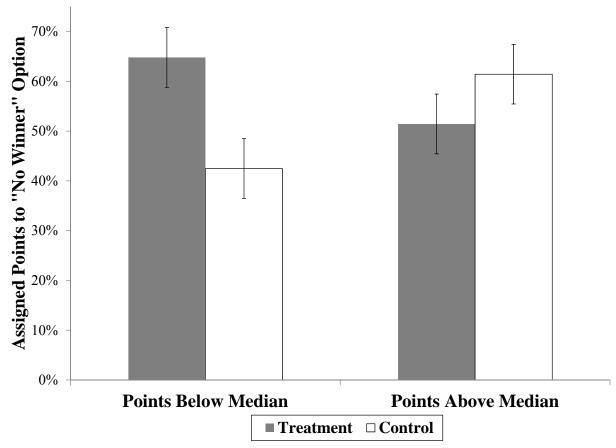
condition.

Figure 3. Percentage of participants who assigned points to the value-destroying "no winner" option by experimental condition and group performance.
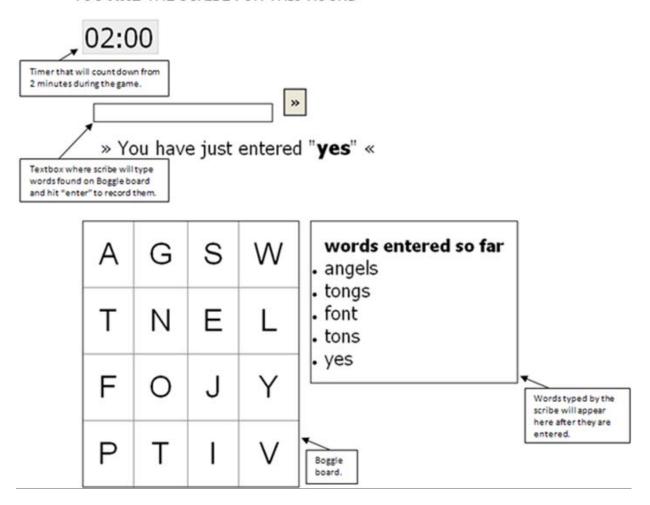
Appendix A

This depicts an example Boggle board that the scribe viewed. In this example, the scribe is Participant A in the online Boggle game from Study 4. All other players (non-scribes) viewed the same board with two differences: (1) other players' boards did not say "YOU **ARE** THE SCRIBE FOR THIS ROUND" and (2) other players' boards did not contain a text entry form for typing answers.

Board #1

Scribe: **Participant A** (ONLY the words typed by PARTICIPANT A will count towards the group score)

YOU **ARE** THE SCRIBE FOR THIS ROUND

02:00

Timer that will count down from 2 minutes during the game.

»

» You have just entered "**yes**" «

Textbox where scribe will type words found on Boggle board and hit "enter" to record them.

A	G	S	W
T	N	E	L
F	O	J	Y
P	T	I	V

words entered so far
- angels
- tongs
- font
- tons
- yes

Words typed by the scribe will appear here after they are entered.

Boggle board.

Appendix B

Description of Award Nomination Process Provided to Participants in Boggle Study (Study 4)

One of the participants from your Boggle group may win a creativity award. Winners will receive a $10 pay bonus and the privilege of leaving the study approximately 30 minutes early.
The winner of this award will be determined partly by your decisions, partly by the decisions of other members of your group, and partly by chance.

Here is how you will influence who wins the award:
You have 25 points to divide and assign to increase the odds of four possible outcomes:
1. Participant B from your group wins the award
2. Participant C from your group wins the award
3. Participant D from your group wins the award
4. No one from your group wins the award

Every other member of your group also has 25 points to divide. Each point allocated to a given outcome increases the chances of that outcome by 1%.

Examples:
- You can allocate all 25 points to one other member of your group. This increases the likelihood of that person winning the award by 25%.
- You can allocate all 25 points to "no one wins an award." This increases the likelihood that no one will win an award from your group by 25%.
- You can divide your points among the other members (for example – 10 points to Participant B, 5 points to Participant C, and 10 points to Participant D). This increases the likelihood that one of the other members of your group will win the award (specifically, Participant B's chances of winning increase by 10%, Participant C's by 5%, and Participant D's by 10%).
- You can divide your points among the other participants and the "no one wins option." This increases the likelihood that the other members of your group will win the award and that no one will win the award.

After each group member allocates his or her 25 points, we will use these points in a lottery. The person or outcome with the highest number of points will be the most likely to win. After every group member allocates his or her points, we will draw a random number to determine who, if anyone, from your group will win the creativity award.

In other words, the number of points you assign an outcome increases the likelihood of that outcome.

Please raise your hand if you have any questions.

1. If you assigned 25 points to Participant B, 0 points to Participant C, 0 points to Participant D, and 0 points to "no one wins", how much would the chances of each of the following outcomes increase?

Participant B wins: ☐ percentage point increase in odds

Participant C wins: ☐ percentage point increase in odds

Participant D wins: ☐ percentage point increase in odds

No One wins: ☐ percentage point increase in odds

2. If you assigned 10 points to Participant B, 5 points to Participant C, 0 points to Participant D , and 10 points to "no one wins", how much would the chances of each of the following outcomes increase?

Participant B wins: ☐ percentage point increase in odds

Participant C wins: ☐ percentage point increase in odds

Participant D wins: ☐ percentage point increase in odds

No One wins: ☐ percentage point increase in odds

[Participants were not able to move on to the nomination process until correctly answering all of the questions above.]