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Motivating Teams: Competition and Cooperation

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Abstract

The purpose of this research study was to explore the potential merits, namely in regard to individual worker motivation, of an approach to leading teams utilizing both competitive and cooperative structures. A literature review was conducted to establish a foundation of pre-existing research on the definitions, benefits, and drawbacks of competition and cooperation in professional organizational settings, as well as how employee motivation relates to self-interested and prosocial orientations to group membership. This research influenced the development of a hypothesis statement: Since teamwork represents a mixed motive situation of self-interested and prosocial orientations, team leaders will observe higher levels of individual worker motivation by applying a mixed approach, fostering both competitive and cooperative forces. This hypothesis was tested with quantitative analysis of self-reported survey data, which sought to identify motivational outcomes resulting from competitive and cooperative influences. Interpersonal intrateam relations was a prevailing theme in the research, though intrapersonal, inter-team, and inter-organizational relationships are also discussed.

Key words: competition, cooperation, teamwork, motivation, self-interest, prosocial, leadership

Motivating Teams: Competition and Cooperation

Introduction

Background

The contemporary western organization has increasingly adopted teamwork as the preferred organizational structure over the past several decades (Snow, 2015). With the shift away from disconnected individual contributors has come a parallel transition from competitive to more cooperative group orientations (Snow, 2015). Scholarly research investigating the merits, downsides, and interplay of competition and cooperation has been conducted for at least the past seventy years, with Martin Deutsch's 1949 *A Theory of Co-operation and Competition* appearing as an oft-cited source. The prevailing theme in historical research on this subject, which appears to have been particularly popular in the 1950s through 1980s, is that cooperative models are superior to competitive models when motivation, achievement, productivity, and interpersonal relations (including citizenship behaviors) are considered as dependent variables (Cardador and Wrzesniewski, 2015; Hu and Liden, 2015; Johnson, Maruyama, Johnson, Nelson & Skon, 1981; Levi, 2017; Zhao, 2015). Much of the foundational research was conducted in contrived laboratory settings and the accumulated findings have encouraged comparatively less field research in recent years (Kistruck, Lount, Smith, Bergman & Moss, 2016).

Personal Influence

I have held a formal leadership role at Crotched Mountain Foundation in Greenfield, New Hampshire since 2014, with the current title Director of Outreach and Enrollment. I act as both leader and follower as I chair the organization's enrollment committee and sit on the residential-school leadership team. I regularly observe mixed-motive situations play out within the process of evaluating, accepting and admitting new students. Representatives from several departments,

each of whom acts as a team leader, sit on the enrollment committee and are tasked with cooperatively assessing referrals for new students, voting to accept or deny, and setting dates for admission. Each member, myself excluded, invariably experiences the challenges of a dual mandate. In one respect, considering their roles as departmental team leaders, they must make decisions which support the interests of their respective followers. One example of this would be the Director of Student Services who oversees case management staff—this person is, in part, motivated to keep caseloads low and manageable. But as a member of the committee charged with supporting the achievement of operational and strategic goals, the Director of Student Services is also motivated to vote toward increasing the student census to support revenue generation. While there is certainly overlap in these seemingly dueling goals—the organization's overall fiscal health is arguably a benefit shared by all staff—a fundamental duality still exists which can create opposing forces in the decision-making process. As the leader of this group whose primary focus is census growth, I am not encumbered by such forces. Ultimately, what I observe in what is meant to be a wholly cooperative and collaborative process, is a lack of motivation and engagement at the individual level. Rather than expecting that each member put their self-interest aside (including the interest of their respective teams), I instead hope to explore what value could be realized by intentionally including some measure of competition in the enrollment committee processes. These competitive forces could be manifested in a number of ways including intrapersonal (between one's prior and future performance), intrateam (between or among members of the committee), inter-team (between the committee and other similar workgroups in the organization), or interorganizational.

Importance

Perhaps the most vital aspect of a contemporary team leader's charge is to effectively motivate followers toward the achievement of operational and strategic goals (Gabriela and Dorinela, 2017; Levi, 2017). If leaders follow the prevailing idea that cooperation is always superior to competition in the team milieu, then they may, with the best of intentions, limit the development of individual motivation and intragroup cohesion. Leaders must be aware of the benefits and drawbacks of both approaches and how they can be intentionally fostered dynamically or simultaneously, rather than choosing between two seemingly dichotomous options.

Goal

The goal of this paper is to explore the potential virtues of an approach to leading teams which blends competitive and cooperative forces or organizational reward models. It will build upon previous research in an effort to determine if intentionally and dynamically employing each approach in a simultaneous or complementary way can result in positive outcomes for teams and organizations, with worker motivation being the primary variable of concentration. As Levi states in *Group Dynamics for Teams*,

> "Competition encourages participants to be more enthusiastic about working together, while competition focuses participants on the task and challenge. The combination of cooperation and competition rewards accomplishes both objectives" (2017, p. 94).

Literature Review

Introduction to Literature Review

The research completed for this literature review was largely conducted electronically, utilizing the Granite State College library portal. Search parameters were initially put in place to

limit results to only those that were peer-reviewed, based in the United States or other western country, and published within the past five years. In an effort to expand the research base for this paper, additional sources were reviewed which were published prior to 2014 and based in non-western countries, but were peer-reviewed. Included in this literature review are theoretical articles as well as both qualitative and quantitative studies. In the quantitative studies, experiments based on both field experiments and laboratory settings were included. Headings which correspond to the overall research question of this paper will divide the literature review accordingly.

The first sections focus on definitions, benefits, and drawbacks of two approaches to structuring teams, competition and cooperation. Subsequent sections focus primarily on workplace motivation and relevant subtopics. The objective of this literature review is to provide a foundational understanding of the prevailing ideas regarding competitive and cooperative professional team environments as well as widely accepted tenets of individual and team motivation. The overall question underscoring this paper is whether or not a mixed approach, including both competitive and cooperative structures is likely to foster high motivation within a team.

Defining Competition

There appears to be a high level of agreement, consistency, and overlap present in regard to the definitions of competition and cooperation which are relevant to this paper. In Lau and Kleiner's 2014 paper on how to make workplace competition healthier, they define competition as an "effort of two or more independent parties to achieve a desired result" (Lau & Kleiner, 2014, p. 22). They further note that competition tends to result in one winner and many losers, with the "success of one participant inherently [coming] from the failure of the other

participants" (Lau & Kleiner, 2014, p. 22). Martin Deutsch's oft-cited 1949 paper A Theory of Co-operation and Competition more concisely states that this structure exists when the goals of individuals or teams are inversely related (Deutsch, 1949). Levi too focused on the interpersonal nature of competition, defining it simply by the goal of outperforming others (Levi, 2017).

While interpersonal competition is perhaps the most obvious form, Lau and Kleiner also suggest an intrapersonal approach, occurring in the context of self-assessment (2014). Interpersonal competition tends to be marked by the pursuit of extrinsic monetary and non-monetary rewards such as recognition, promotion, and bonuses, while intrapersonal competition is more likely to be driven by a personal need for achievement (Pardee, 1990; Steinhage, Cable & Wardley, 2017). In the context of scarce resources, which can be interpreted broadly to include limited opportunities for career advancement or a supervisor who provides limited recognition, competition may be defined as the quest to maximize one's share of the available rewards (Snow, 2015). When resources are scarce, competition is more likely to be structured in zero-sum fashion, when the gains of one party represent losses of the opposing party (Lau & Kleiner, 2014).

Rivalry. If two or more parties are vying for the same rewards, and this phenomenon occurs with any level of repetition, we are then introduced to the concept of rivalry (To, Kilduff, Ordóñez & Schweitzer, 2018), which intensifies competitive spirit to a higher degree which may then endure beyond the given contest's conclusion and become an established social norm (Kilduff, 2014). In addition to repeated competition between actors, other antecedents of rivalry include similarity between competitors and narrow margins of victory in a given competition (Kilduff, 2014). Similarity between competitors is most relevant when competition occurs within a larger group or team, what Balconi, Crivelli and Vanuetelli referred to as a process of social

comparison (2017). In their 2017 paper outlining the neurological and personality-based effects of participating in competition, individuals' self-assessments became tied to their perceived standing within the group (Balconi, Crivelli and Vanuetelli, 2017). The outcome of in-group competition became a more significant determining factor of self-assessed performance than objective measures of work quality—the competition itself overshadowed the tasks, essentially a process, rather than product, focus.

When measuring motivation and performance, of both individuals and teams, rivalry competition differs from nonrivalry competition (Kilduff, 2014). As Kilduff stated in a 2014 paper, based on a self-reported general population survey as well as a large-scale archival study of long-distance running competitions, "In real-world rivalries, there seems to be a relationship and history between the competitors which motivate them beyond tangible stakes" (Kilduff, 2014, p. 944). Kilduff goes on to state that competition between individuals with a history of competing is linked with increased motivation and performance.

The effects of rivalrous relationships extend beyond the timeline of the given competitive activity. Kilduff coauthored another paper in 2018 which examined the long-term effects of rivalry through archival analyses of postseason tournament data in a variety of high-stakes sports contexts. The findings suggested that rivalry competition between teams is linked with increased motivation and performance in both the short- and long-term, including in competitions with other teams outside the original rival relationship (Pike, Kilduff and Galinsky, 2018). But rivalry between team members may also contribute to the breakdown of social relations, thus negatively affecting team cohesion (Levi, 2017). Any level of rivalry occurring between or among members of the same team is negatively correlated to that team's sense of unity and shared fate (Kistruck, Lount, Smith, Bergman & Moss, 2016; Levi, 2017).

Described as natural, inevitable and inescapable (Lau & Kleiner, 2014; Steinhage, Cable & Wardley, 2017), competition and rivalry affect people and teams at the basest of levels and has been linked with increased psychological and physiological activation, preparing the body for higher cognitive and physical performance (Balconi, Crivelli & Vanutelli, 2017; Steinhage, Cable & Wardley, 2017). This is relevant in a broad variety of organizational settings, from sports teams to strategic planning committees.

Defining Cooperation

Cooperation has roots in evolutionary biology, as stated by A Naturalistic Theory of Economic Organization, "Humans are social animals with cooperative dispositions derived from a long history of living in tribal scale groups […]" (Stoelhorst and Richerson, 2013, p. 547). Deutsch defines cooperation as when the goals of individuals or teams are positively related, such that they share success rather than compete for it in a zero-sum game (Deutsch, 1949). Since both or all parties succeed together in a cooperative structure, each individual participant or entity helps the others to achieve the mutually beneficial outcomes (Snow, 2015). They offer help in the form of sharing capabilities, resources, information, or other efforts, leveraging the individual contributions of all participants toward a greater mutual benefit (Osarenkhoe, 2010). But such behavior is not borne out of just one's proclivity for teamwork, rather, as Snow states in a scholarly essay summarizing forty years of relevant research, "The primary determinant of cooperative behavior, with respect to both individuals and organizations, is that the desired or chosen task cannot be accomplished alone" (Snow, 2015, p. 434). Cooperation then, could be said to be dependent on the nature of and requirements to accomplish the given task.

Benefits and Drawbacks of Competition

Concerning the types of competition referenced in this paper—intrapersonal, individual contributor, interorganizational, inter-team, and intrateam—the literature reveals a number of consistent findings. In general, it appears to be well accepted that competition may be correlated with increases in focus and motivation at the individual level and production, efficiency, and profits at the organizational level, especially in a resource scarce environment (Balconi, Crivelli & Vanutelli, 2017; Kistruck, Lount, Smith, Bergman & Moss, 2016; Lau and Kleiner, 2014; Levi, 2017).

Intrapersonal competition. This form of competition is defined by workers competing against their own past results, rather than trying to surpass another individual or group (Lau and Kleiner, 2014). While the same level of motivation increase may not be observed in the absence of interpersonal interaction (Stoelhorst and Richerson, 2013), intrapersonal competition may still trigger the heightened psychological and physiological responses underlying increased focus and effort (Steinhage, Cable & Wardley, 2017). This form of competition is largely immune from the drawbacks associated with interpersonal competition, as team social relations are unlikely to be affected by individual members working to best their own prior performance. But just as with other forms of competition, individuals may divert their focus away from team goals when the primary motivator is personal achievement (Levi, 2017; Osarenkhoe, 2010).

Individual contributor competition. As this research paper is focused on the motivational effects of competition and cooperation within and between groups, competition between or among individual contributors, such as in a traditional sales environment, is not a prevailing theme. Levi notes that competition in the workplace is least likely to lead to negative outcomes when "jobs are independent rather than interdependent" (Levi, 2017, p. 89). Individual

contributors may be highly motivated by the chance to secure or maximize organizational rewards based on individual performance measures (Lau and Kleiner, 2014). If this reward structure is set up as a zero-sum game with individuals competing for a finite amount of incentives, then competition among individual contributors may lead to misaligned agendas and purposeful sabotage of coworkers (Levi, 2017).

Interorganizational competition. Competition at the organizational level is considered one of the healthiest or least harmful forms (Lau & Kleiner, 2014) and tends to foster "especially high levels of [intrateam or intraorganizational] cooperation" (Goette, Huffman, Meier & Sutter, 2012, p. 949). There are recognized benefits resulting from competition between or among organizations, the cornerstone of a capitalist economic system, which results in not only benefits to consumers (Levi, 2017), but also more rapid advancement and innovation of a given field (To, Kilduff, Ordóñez & Schweitzer, 2018). One such example is the relatively rapid advancement in personal computer processor technology, largely fueled by the competitive relationship between industry giants Intel and Advanced Micro Devices (To, Kilduff, Ordóñez & Schweitzer, 2018).

Inter-team competition. When groups within an organization compete as separate cohesive units, the members of the respective teams are brought closer together through a sense of relatedness and shared outcomes (Kistruck, Lount, Smith, Bergman & Moss, 2016; Levi, 2017). But as Levi states, these benefits may only be realized in the short-term (Levi, 2017). When a group becomes intensely focused on competing with another group, intrateam social relations, though friendly, may cause regression in communication as loyalty and conformity become more valued than honest discourse (Levi, 2017). "Creativity and innovation may be stifled by competition" (Levi, 2017, p.89) in such a scenario. Levi notes that teams will experience eventual negative outcomes whether they win or lose, as winners tend to ignore their

problems and losers tend to blame and scapegoat individual members (Levi, 2017). Just as rivalry may develop between or among *individuals* in a competitive environment, this phenomenon occurs with inter-team competition as well. Such a scenario can lead to a misalignment or obfuscation of broader organizational goals as teams shift their focus toward realizing a competitive advantage over one another, such as purposefully limiting the sharing of information or resources, to the detriment of what should be common goals (Levi, 2017; Osarenkhoe, 2010). Inter-team rivalry can negatively impact interpersonal relations between or among the groups (Lau & Kleiner, 2014) but, as To, Kilduff, Ordóñez and Schweitzer describe in their results of a long-term field study of the National Football League as well as a laboratory study involving college rivalries and blackjack betting behavior, rivalry also leads to increased risk-taking (which may positively correlate with innovation) as well as higher motivation and performance (2018). Rivalrous competition can be associated with excitement, especially when oriented toward positive outcomes (such as winning a bonus or promotion), which may also contribute to greater innovation and creativity (Steinhage, Cable & Wardley, 2017; Webb, 2016). But rivalry also may lead to negative psychological and/or physiological effects such as "stress-related burnout due to chronically elevated arousal" (To, Kilduff, Ordóñez & Schweitzer, 2018, p. 9). In a finding contradictory to the football and blackjack betting experiments conducted by To Et. al, Cardador and Wrzesniewski note that competing against rivals may also foster an unhealthy level of risk-averse behavior, as participants tend to prioritize opportunities with the greatest chance of success or ease, while avoiding those that carry a chance of failure (Cardador & Wrzesniewski, 2015).

Inter-team competition also leads to potential ethical issues as individual members of each group or team tend to develop an in-group and out-group orientation, defined by the

phenomenon in which members view their own group in "overly positive terms" (Levi, 2017, p. 89) and other groups in "overly negative terms" (Levi, 2017, p. 89), underpinned by a given member's sense of self-worth as a function of group identity (Levi, 2017). As Goette, Huffman, Meier, and Sutter describe in their 2012 article which sought to fill a gap in the literature regarding the dark side of group membership, "a taste for harming the out-group emerges" (2012, p. 948). This was also observed in a seminal study in 1961 commonly referred to as the Robbers Cave Experiment which explored inter-group behavior among boys at a summer camp (Sherif, Harvey, White, Hood & Sherif, 1961). This phenomenon reinforces a 2014 article in the Journal of Business Ethics which explored the antecedents of what the authors termed "situational moral disengagement" (Kish-Gephart, Detert, Trevino, Baker & Martin, 2014 p.267). Essentially, situations involving incentivized personal gain can trigger individuals and teams to temporarily disregard their internalized moral standards or norms. Furthermore, competitive structures that tend to elicit anxiety from participants, such as those characterized by the avoidance of negative consequences, are more likely to lead to unethical behaviors. Steinhage, Cable, and Wardley describe this phenomenon noting the 2016 fake account scandal at Wells Fargo as a recent example,

> competition increases physiological and psychological activation […] [and] employees can achieve their results in different ways. At Wells Fargo, for example, employees delivered higher sales numbers by secretly creating millions of unauthorized bank and credit card accounts — an unethical path toward results that has very high long-term costs. (2017, p. 3)

Intrateam competition. Perhaps the most deleterious form of competition within a professional organizational setting is intrateam. Lau and Kleiner note that this type of

competition can create stress, promote adversarial relationships, reduce quality, and negatively affect participant self-esteem (Lau & Kleiner, 2014). Balconi Et al. add that intrateam competition "may implicate a lower sense of in-group partnership" (Balconi, Crivelli and Vanuetelli, 2017, p. 2) and thus, strain social relations and working relationships. As explained in several contexts throughout Levi's *Group Dynamics for Teams*, a workgroup's social relations and the interdependent nature of work are perhaps the most significant predictors of high cohesion and general team performance (Levi, 2017). When members of the same team compete, the group is essentially separated into a collection of lone contributors, thus partially negating the well-demonstrated benefits of the team approach in general (Lau & Kleiner, 2014). Johnson, Maruyama, Johnson, Nelson and Skon described their 1981 meta-analysis which compared cooperation to competition that "there is no significant difference between interpersonal competitive and individualistic efforts" (1981, p. 47).

Benefits and Drawbacks of Cooperation

In contemporary organizations—at least those operating in western locations or cultures—there has been an observable shift in internal structure toward teamwork, especially over the past thirty years (Agarwal, McDowell & Miller, 2016; Fjeldstad, Snow, Miles & Lettl, 2012; Snow, 2015). As organizations move away from command-and-control hierarchies (where a small number of top leaders make all or most decisions) or functional networks of individual contributors (no defined teams), they position themselves to experience both the benefits and potential drawbacks of cooperative and collaborative workgroups.

Social relations. As Levi stresses in *Group Dynamics for Teams*, well-developed intrateam social relations is a key predictor of cohesion and performance (Levi, 2017), and the author notes that "cooperation provides the foundation for the social relations of team members"

(Levi, 2017, p. 91) and "the essence of teamwork is the cooperative interaction of team members" (Levi, 2017, p. 83). Cooperative approaches strengthen interpersonal connection within the given group (Balconi, Crivelli & Vanutelli, 2017). Once there are established norms and team members have a base level of familiarity with one another, cooperative structures tend to encourage supportive communication, promoting "trust, cohesiveness, and mutual support" (Levi, 2017, p. 93). Communication while engaging in cooperative efforts is more outwardly helpful and also more frequent, leading to better coordination of tasks, increased personal satisfaction subsequent to membership, and improved overall performance (Levi, 2017). Secondary to the higher levels of communication and trust within a cooperative team, information is shared more freely via discussion, which then encourages accuracy over speed, as tasks or projects are approached from several perspectives and agreements are reached before work proceeds (Levi, 2017). Another benefit resulting from increased intrateam communication is the enhancement of organizational collective knowledge (Osarenkhoe, 2010).

Organizational citizenship behavior. In addition to performance, self-reported satisfaction, and benefits derived from the sharing of information, another dependent variable tied to cooperation studied in the literature is organizational citizenship behavior (OCB). Dennis Organ's 1998 book, *Issues in organization and management series. Organizational citizenship behavior: The good soldier syndrome*, defines OCB as the phenomenon in which individuals help or assist coworkers, for the good of the organization, without implicit or explicit promise of reward (Organ, 1988). Such behavior is correlated with the prosocial orientation linked with cooperative structures (Effelsberg, Solga & Gurt, 2014). It should be noted, however, that OCB or other behavior broadly categorized as team altruism may also be triggered by more self-interested motives, most notably impression management (Effelsberg, Solga & Gurt, 2014; Levi,

2017). In such cases, individuals may compete for recognition. The presence of any such competitive forces within a cooperative structure, whether for a more abstract reward like recognition or something more tangible like monetary gain, will reduce the observable benefits of cooperation. As noted in *Group Dynamics for Teams* as well as in Cardador and Wrzesniewski's 2015 study exploring the correlation between competition and OCB, cooperation is limited, even undermined, by the presence of competition, "especially when goals are not shared" (Levi, 2017).

Drawbacks of cooperation. Research into the drawbacks or pitfalls of cooperative team structures returned comparatively few findings. Compared to a competitive model, cooperation is not as effective at eliciting individual high performance (productivity, efficiency) in the short-term (Balconi, Crivelli & Vanutelli, 2017), though the motivation derived from competition is not considered sustainable in the long-term, especially for those teams or members that don't tend to win (Levi, 2017). When competition is present, whether intentional or not, be it intrateam or inter-team, efforts toward transitioning to a cooperative model are likely to be challenging. This is explained by the "'cutthroat competition' effect" (Levi, 2017, p. 87), teams will more easily move toward competitive norms than cooperative norms, especially once such norms are firmly established (Levi, 2017). This is due to an established lack of trust among members, brought on by a history of self-interested competition (Levi, 2017). This phenomenon could represent a barrier to a team leader seeking to intentionally put cooperative norms or processes in place. Other recognized drawbacks of cooperative team structures include unhealthy agreement and social loafing.

Unhealthy agreement. Cooperation is linked with strong intrateam social relations but, as Levi notes, "Even a highly cohesive and cooperative team can perform poorly" (Levi, 2017, p.

92). This occurs when the focus on positive interpersonal communication becomes too high, potentially overshadowing team goals (Levi, 2017). And just as is observed in the presence of inter-team competition, this intensified group cohesion hinders honesty in favor of conflict avoidance and loyal adherence to friendly group norms (Levi, 2017; Webb, 2016). This represents one of the primary pitfalls of cooperation—unhealthy agreement. When consensus building becomes more important than problem-solving, members of cooperative teams may find themselves acting within the Abilene Paradox, the phenomenon of a group making collective decisions that are not aligned with the opinions or feelings of its individual members (Levi, 2017).

Social loafing. When organizational rewards for the successful completion of operational or strategic tasks shifts from the individual to the group (from a competitive reward structure to a cooperative one), another potential drawback of cooperation may be observed in the form of social loafing (Beersma, Hollenbeck, Humphrey, Moon & Conlon, 2003; Levi, 2017). Defined as "free-riding on the accomplishments of other team members" (Beersma, Hollenbeck, Humphrey, Moon & Conlon, 2003) or "the reduction of individual contributions when people work in groups rather than alone" (Levi, 2017, p. 64), social loafing may be observed in a professional team setting in a manner akin to the best-known research on this topic which analyzed individual contribution within the group setting (compared to individual settings) during activities such as clapping and shouting (Latané, Williams & Harkins, 1979). Levi describes one piece of this study which quantified volume level of shouting individually compared to within a group,

> Ask individuals to shout as loud as they can when they are alone, and record the volume. Next, ask two individuals at a time to do the same task and record the volume; the volume will be 34% less than when two individuals shout alone.

> Finally, ask individuals to perform the same task in six-person groups and record the volume; it will be 64% less than when six individuals are shouting alone. (Levi, 2017, p.64)

Social loafing is most likely to occur when organizational rewards are given to teams rather than individual contributors (Levi, 2017). Individual members may engage in loafing behaviors because they believe their efforts (or lack thereof) will be hidden in the collective output of the team (Levi, 2017). And if rewards are received by all team members regardless of individual contribution, rational self-interest may sway one or more members toward maximizing their reward while minimizing their effort (Levi, 2017; Snow, 2015). Beersma Et. al. notes,

> Ironically, one of the well-known prescriptions for avoiding social loafing is to identify individual contributions to a group's performance and reward or punish these contributions accordingly. If this prescription is valid, it calls into question the generic idea that in interdependent teams, collaborative reward structures are going to be most effective for all individuals. (Beersma, Hollenbeck, Humphrey, Moon & Conlon, 2003, p. 573)

Related to social loafing are the phenomena of "'free riders'" (Levi, 2017, p. 64) and the "'sucker effect'" (Levi, 2017, p. 64). As explained in *Group Dynamics for Teams*:

> People can become 'free riders' who perform little in a team because they do not believe their individual efforts are important, and they know they will receive their share of the team's reward regardless of their efforts. The 'sucker effect' is when good performers slack off in teams because they do not want others to take advantage of them. This can lead to all team members reducing their contributions to the task. (Levi, 2017, p. 64)

A potential root cause of these cooperative pitfalls noted within the literature is deficient or misplaced motivation.

Workplace Motivation

As the primary inquiry of this paper concerns how competitive and cooperative team structures relate to motivation, additional literature was sought regarding accepted theories of motivation, its broadly defined types, and comparisons of self-interested versus prosocial orientations.

In Hu and Liden's 2015 experimental study investigating a possible correlation between prosocial motivation and team effectiveness, the authors note that a "key driver of effective team outcomes is the motivation of team members" (Hu & Liden, 2015, p. 1102). Motivating workers is one of the most elemental roles of the contemporary leader (Levi, 2017) and several research studies have been performed to assess the effectiveness of various leadership styles in terms of worker motivation as a self-reported dependent variable (Effelsberg, Solga & Gurt, 2014; Seibert, Wang & Courtright, 2011). Widely accepted theories reviewed for this paper included Maslow's Hierarchy of Needs and McClelland's Three Need Model.

Maslow's hierarchy of needs. The first iteration of Maslow's now ubiquitous hierarchy of needs appeared in a 1943 issue of *Psychological Review* (Maslow, 1943). He described a hierarchical model for understanding human motivation, broken down into five categories of needs areas: physiological, safety, social (or belongingness), esteem and self-actualizing (Aanstoos, 2018; Maslow, 1943). He postulated that a person's needs must be met in that order, with the given area being satisfied before moving up the proverbial pyramid (Aanstoos, 2018). The lowest need, physiological, describes the necessities for being such as food and shelter. Safety describes protection from dangers, physical or economic for example. Once these lower

order needs are satisfied, they no longer serve as motivators for human behavior (Pardee, 1990). Social needs are the first of the higher order and describe interpersonal interaction, friendship, love, and a general sense of association or belonging (Maslow, 1943). Next in the hierarchy is esteem, which is intrapersonal in nature and describes one's needs for achievement, independence, and self-confidence (Maslow, 1943; Pardee, 1990). At the top of the hierarchy is self-actualization, which is the "need to realize one's potentialities for continued self-development" (Pardee, 1990, p. 6).

McClelland's three need model. McClelland's 1961 book, *The Achieving Society*, described a need-based theory of motivation based on three factors: achievement, power, and affiliation (McClelland, 1961; Khurana and Joshi, 2017). The need for achievement is characterized by a "compelling drive to succeed" (Khurana and Joshi, 2017, p. 110) which can be related to intrapersonal competition. The need for power describes one's drive to impact or influence others (McClelland, 1961) and can be related to interpersonal competition (Khurana and Joshi, 2017). The need for affiliation describes one's drive to build and maintain positive social relations with others and to feel accepted (McClelland, 1961), similar to Maslow's social needs, and can be related to cooperative teamwork (Khurana and Joshi, 2017).

Intrinsic and Extrinsic Motivation. Motivation can be broadly categorized as either intrinsic or extrinsic. Intrinsic is defined as "motivation from personal interest rather than external reward" (Levi, 2017, p. 239) or motivation with "a focus on the self or the task" (Hu and Liden, 2015, p. 1103) or engaging in an activity for the purpose of enjoyment or other associated feelings (Snow, 2015). Intrinsic motivation is most likely observed when team members believe their individual contribution to the team's work is important and valuable (Levi, 2017), and experiencing this type of motivation may enhance the effort put forth by members (Levi, 2017).

Extrinsic motivation is observed when the primary purpose of engaging in an activity is reward (Levi, 2017; Snow, 2015), often in the form of monetary gain (Snow, 2015) or promotion (Steinhage, Cable & Wardley, 2017). To motivate workers extrinsically, organizations must invest fiscal resources on a continuous basis. For this reason, it can be said that intrinsically motived workers represent a unique value to organizations as the inputs required to motivated them are arguably less expensive (Ren, 2010). These two types of motivation are not mutually exclusive (Snow, 2015) and may be observed independent of one another. They are also not firmly linked, respectively, to either competitive or cooperative team structures (Levi, 2017).

Self-interested and Prosocial Orientations. Related to motivation are the concepts of self-interested and prosocial orientations to work. They are defined by the nature of the desire behind the exertion of efforts, with the former based on benefiting oneself and the latter benefitting others (Hu and Liden, 2015). Self-interest is present within both competitive and cooperative models. As Snow notes, **"**Parties engaged in cooperation still act in their own self-interest, but their interdependence requires different ways of making decisions and handling information than in competitive situations" (Snow, 2015, p. 434). Just as intrinsic and extrinsic motivation can be experienced simultaneously, the same phenomenon is observed with self-interested and prosocial orientations, which are "interactive rather than dichotomous" (Cardador & Wrzesniewski, 2015, p. 268). In Ren's 2010 article on value congruence, the author references agency theory as a means of explaining the role of self-interest in professional settings, stating that this theory "suggests that employees may value self-interests more than that of the organization" (Ren, 2010, p. 94). There appears to be a prevailing notion in the literature that self-interest tends to prevail over selfless or prosocial behaviors (Effelsberg, Solga & Gurt, 2014). Lau and Kleiner note that self-interest is tied to ambition and self-preservation (Lau and

Kleiner, 2014) and that it tends to be observed more during economic contractions (Lau and Kleiner, 2014). While self-interest may generally be described in a negative connotation, it may also produce high levels of individual motivation (Kish-Gephart, Detert, Trevino, Baker & Martin, 2014). These authors note how self-interest intersects with reward systems, stating "The challenge remains how to [alter self-interested reward systems] without eliminating entirely the positive motivational benefits of self-interest" (Kish-Gephart, Detert, Trevino, Baker & Martin, 2014, p. 281).

Prosocial orientation shifts focus from rewards to the social aspect of work (Hu and Liden, 2015). Individuals who approach work from a prosocial perspective are better able to engage in teamwork (Hu and Liden, 2015) and tend to be motivated not just by self-advancement but also for "the opportunity to have a positive impact on the lives of others" (Hu and Liden, 2015, p. 1102). Prosocial behaviors observed in a team setting foster strong emotional ties among members (Levi, 2017) and may become established norms that act as social constraints on the behavior of members (Webb, 2016). In addition to the benefits observed on team interpersonal relations, prosocial behaviors have also been correlated with OCB in both laboratory and field research settings (Cardador & Wrzesniewski, 2015). Cardador & Wrzesniewski's research also suggests that when competitive forces are introduced to team activities (mixed-motive situations), the correlation between OCB and prosocial orientation is weakened, further supporting the finding that competition limits cooperation (Cardador & Wrzesniewski, 2015).

Gaps in the Literature

The focus of this paper was individual worker motivation as a dependent variable of competitive and/or cooperative team structures. A recent study (within the past three years),

based in the United States, which gathered self-reported data on motivation as a factor of team structure, was not located when performing the literature review. Nor was a recent study located which measured worker motivation as a factor of all the various types of competition (intrapersonal, interpersonal, intrateam, inter-team, inter-organizational) within one sample.

Methodology

The primary methodology used in this study was quantitative analysis of self-reported survey data. The survey was created by the author of this paper and asked participants a total of eighteen questions, fifteen of which asked them to report how various types of competition and cooperation related to their motivation to work. The wording of the questions as well as their sequence within the survey was based on the prevailing themes described in the literature review and aimed at gathering data to fill the observed gaps. The remaining three questions gathered demographic data including sex, age, and highest level of education completed. The survey was administered electronically and was open to any person aged eighteen years or older. A link was sent out via email to approximately one hundred twenty Granite State College graduate students and was also posted on the researcher's LinkedIn profile. A copy of the survey instrument is found in appendix A.

Assumptions

As the methodology for testing the hypothesis was a quantitative analysis of self-reported survey data, I assumed that the survey responses were honest and accurate. This assumption also applies to published research studies included in the literature review which measured worker motivation based on data from self-reported surveys. The survey instrument used by this researcher did not collect data regarding the type of field or industry the participants worked in,

so it was assumed that the inferences made from the resulting data could apply broadly to a variety of work settings.

Hypothesis

As teamwork represents a mixed motive situation of self-interested and prosocial orientations, team leaders will observe higher levels of individual worker motivation by applying a mixed approach, fostering both competitive and cooperative forces.

Results

A web-based survey using Qualtrics was conducted which gathered self-reported data concerning how competition and cooperation in the workplace related to perceptions of personal motivation. The survey was live for nine days and was completed by forty-six respondents. All entries were considered valid and were included in the analysis, though those that preferred not to identify as male or female were not included in analysis tied to sex as a variable. Demographic data on respondent sex, age, and highest level of education completed are found in appendix B.

The hypothesis of this study—that individual worker motivation would be highest within the context of a mixed approach, blending competition and cooperation—was explicitly tested within the survey. Respondents also gauged how several different sub-types of competition and cooperation affected their motivation to work, as well as their level of agreement with statements regarding self-interested and prosocial orientations to organizational behavior. More than half of the respondents answered that they would be best motivated by a mixed organizational structure which encourages both competition and cooperation, rather than competition or cooperation in an isolated form. Over one third of respondents answered that a cooperative organizational structure would best motivate them, more than five times the amount of responses which stated that a solely

competitive structure would best motivate them. Responses by percentage of the sample are shown in figure 1.

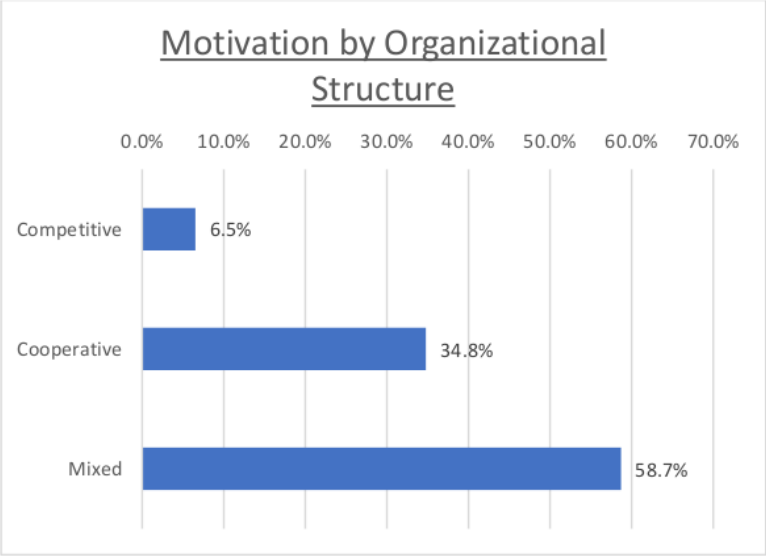

Figure 1 – This graph includes all forty-six responses to question seventeen in the survey.

While a relatively low number of respondents stated that a solely competitive organizational structure would best motivate them, the majority of respondents stated that competition in general, as well as the five sub-types—intrapersonal, individual contributor, intrateam, inter-team, and inter-organizational—all increased their motivation to work, as seen in figure 2.

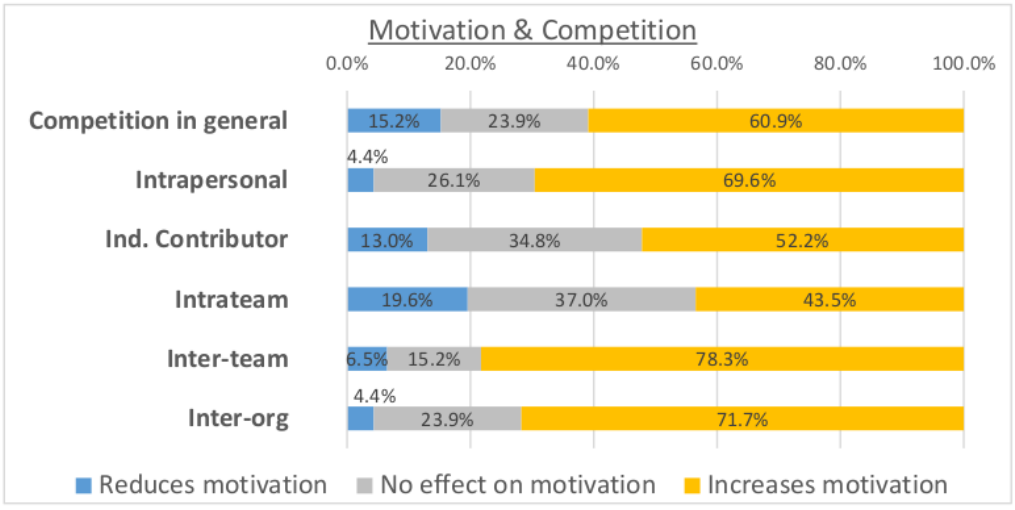

Figure 2 - *Five answer choices were available in the survey in a Likert-type scale ranging from significantly reduces motivation to significantly increases motivation. In figure 2, significantly reduces and tends to reduce were consolidated, as were significantly increases and tends to increase.*

Second to increasing motivation, respondents noted that competition in general and all sub-types had no effect on their motivation to work. The minority selection was reduction in motivation in every category shown in figure 2.

In a similar question-set on cooperation in general, as well as three sub-types—individual contributor, intrateam, and inter-team—the majority of respondents noted increased motivation, as seen in figure 3. Inter-organizational type cooperation was not included in the survey.

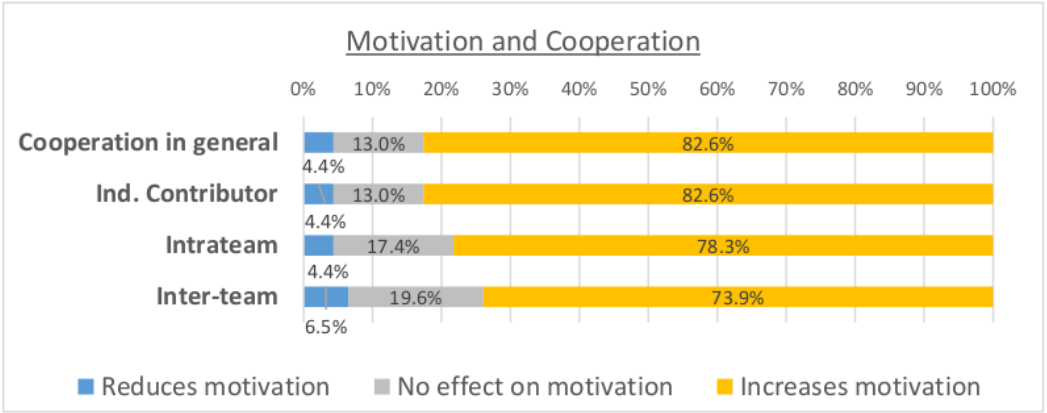

Figure 3 - Five answer choices were available in the survey in a Likert-type scale ranging from *significantly reduces motivation* to *significantly increases motivation*. In figure 3, *significantly reduces* and *tends to reduce* were consolidated, as were *significantly increases* and *tends to increase*.

Again, the second highest percentage of responses was that cooperation and all sub-types had no effect on motivation, and the minority selection was reduction in motivation.

Respondents were presented with four statements concerning self-interested and prosocial orientations to organizational behavior, which they stated their level of agreement with in a Likert-type scale. The responses by percentage of the sample are shown in figure 4.

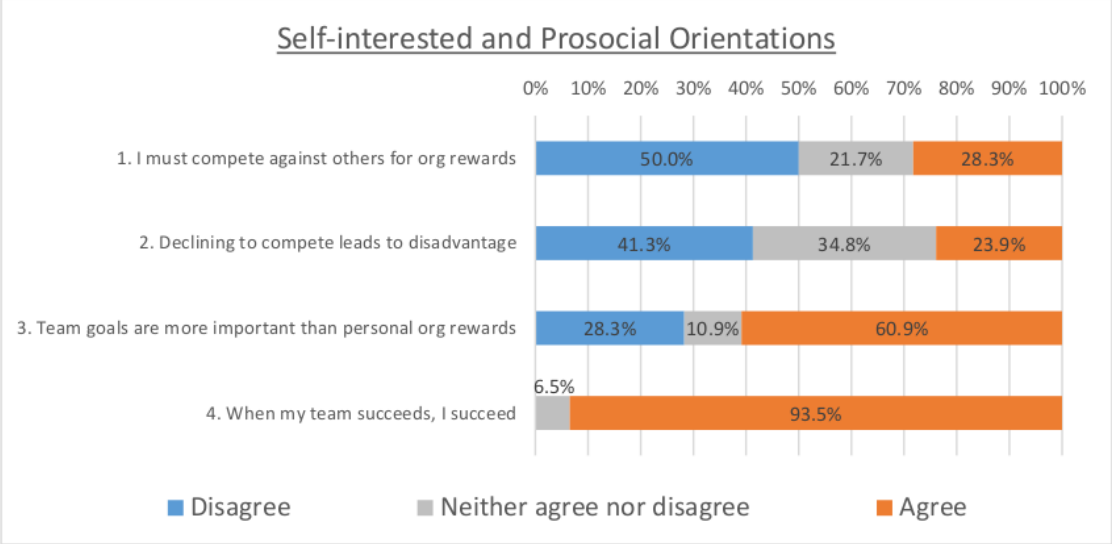

Figure 4 - Five answer choices were available in the survey in a Likert-type scale ranging from *strongly disagree* to *strongly agree*. In figure 4, *strongly disagree* and *somewhat disagree* were consolidated, as were *somewhat agree* and *strongly agree*.

The statement *I must compete against others for organizational rewards* garnered the greatest level of disagreement among the four statements concerning self-interested and prosocial orientations. The majority of respondents noted that they found competition motivating (figure 2), but this data shows that the majority of respondents may not be engaging in competition, at least not for organizational rewards. The word *must* in the statement suggested a question of the necessity to compete rather than just whether or not respondents compete for organizational rewards.

A relatively high level of disagreement was also seen in statement two, which in the survey read *If I don't actively compete against others at work, I will be at a disadvantage*. Over forty percent of respondents disagreed with this statement and over thirty percent neither agreed nor disagreed. Less than twenty-five percent of respondents believed that declining to compete would put them at a disadvantage, a notable statistic given that the majority of respondents found competition motivating (figure 2).

The full version of statement three in the survey read: *Achieving a shared goal as a team/workgroup is more important to me than earning personal organizational rewards*. Over sixty percent of respondents agreed with this statement, though word choice may have skewed this result's relevance away from the hypothesis, as respondents gauged importance rather than level of motivation.

The resulting data from statement four, *If my team succeeds, I succeed*, showed the single highest level of agreement in the survey as well as the lowest level of disagreement. Regardless of how respondents gauged the motivational qualities of competition and cooperation, close to one hundred percent of the sample saw team success and personal success as overlapping.

Given the relatively small sample size of the survey (forty-six respondents), descriptive statistics separated out by demographic variables has limited meaning; however, correlations observed in these data may inform the survey design of future studies with larger sample sizes. Figure four shows responses by percentage of respective sample for the motivational effect of competition in general.

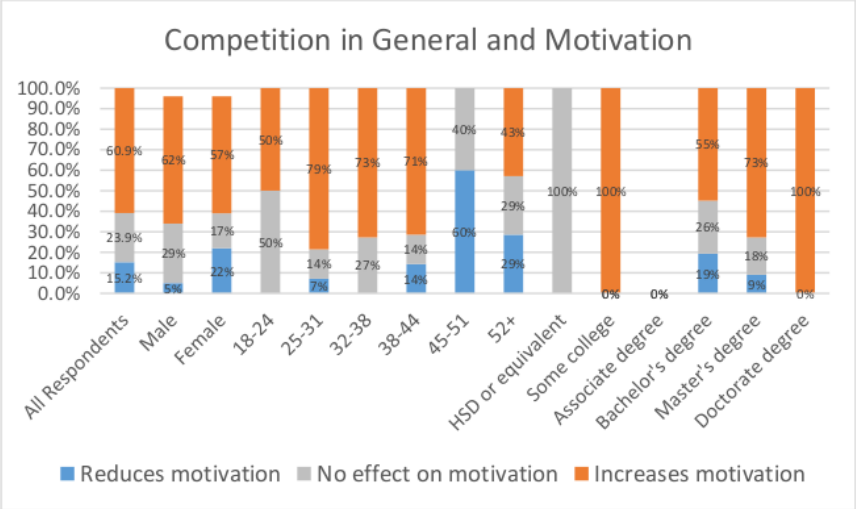

Figure 4 – Each category on the x axis after All Respondents represents a respective sample. As in, 62% of males in the sample, of which there were twenty-one, stated that competition in general increased their motivation.

Figure five shows the same breakout of data but for the motivational effect of cooperation in general.

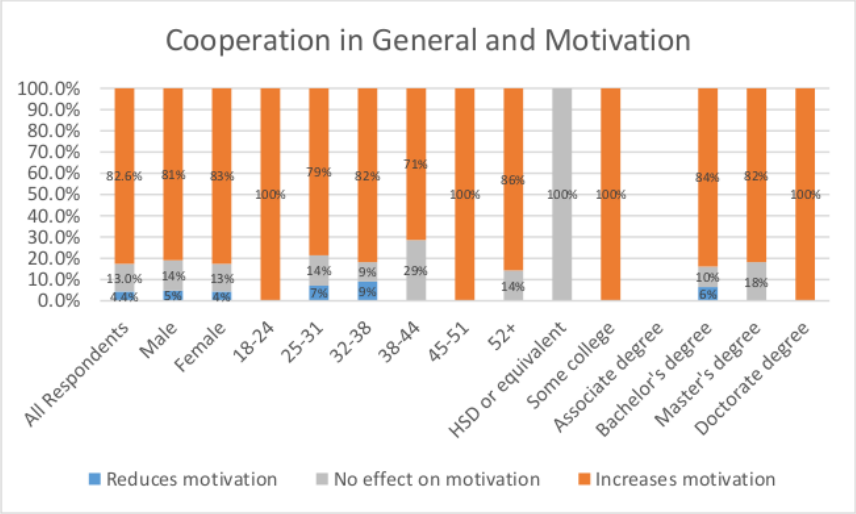

Figure 5 - Each category on the x axis after All Respondents represents a respective sample. As in, 83% of females in the sample, of which there were twenty-three stated that cooperation in general increased their motivation.

Figure six shows the same demographic factors linked with responses to the survey's summary question.

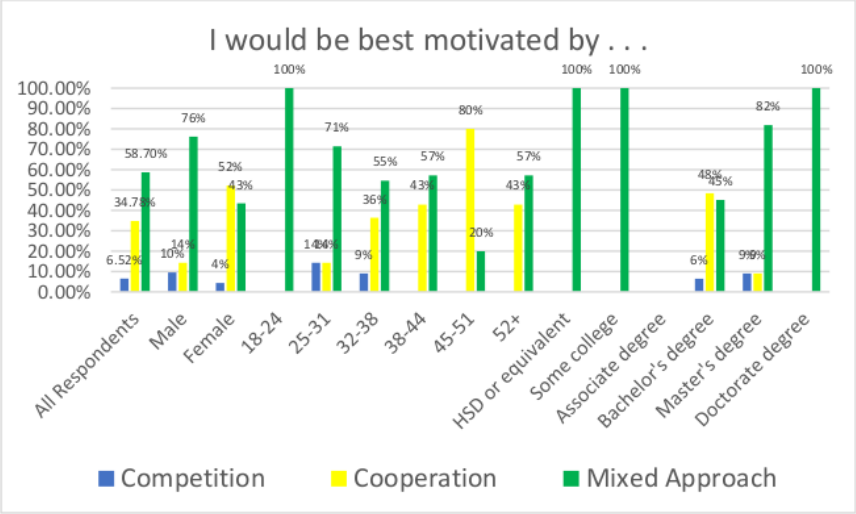

Figure 6 - *Each category on the x axis after All Respondents represents a respective sample. As in, 80% respondents aged 45-51 years in the sample, of which there were five, stated that they would be best motivated by cooperation.*

Discussion and Analysis

One of the primary roles of the contemporary team leader is to facilitate high levels of sustained motivation among followers (Levi, 2017). The results of this study contribute to existing research which discovered links between both leadership style and organizational reward structure with self-reported levels of worker motivation (Effelsberg, Solga & Gurt, 2014; Seibert, Wang & Courtright, 2011). This study represents progress toward closing an identified gap in recently published scholarly literature on the motivational effects of competitive and cooperative structures in the workplace, and specifically an exploration of the value of a combined approach. The survey administered for this study prompted respondents to report perceived motivational outcomes of not only workplace competition and cooperation in general, but also several sub-types for each, a quality not observed in any recent literature on the subject. The available data in this study supports the hypothesis that a combined approach to leading

teams, fostering both competitive and cooperative forces, is likely to foster higher levels of individual worker motivation than either single approach applied in isolation.

Merits of a Combined Approach

After respondents of the survey were prompted to consider how competition and cooperation, including several sub-types of each, affected their motivation to work, they were presented with a multiple-choice summary question which directly asked whether a competitive, cooperative, or combined approach would best motivate them. The majority of respondents favored a combined approach, a key finding for team leaders considering how best to structure organizational rewards so as to promote high motivation among team members. Also of note are the relative differences observed in the data tied to this particular survey question. A combined approach was favored over a cooperative approach by a margin of just under twenty-four percent (figure 1). The margin between a combined approach and a competitive approach was over fifty-two percent (figure 1). This finding suggests that within a combined approach, team leaders may observe the highest possible levels of motivation with an uneven balance favoring cooperative forces.

Competition and its Sub-types

Competition in general as well as five sub-types were explored in the survey, all of which relate to increased motivation in the sample (figure 2). Over sixty percent of respondents noting that competition in general increases their motivation to work is consistent with scholarly research on the topic (Balconi, Crivelli & Vanutelli, 2017; Kistruck, Lount, Smith, Bergman & Moss, 2016; Lau and Kleiner, 2014; Levi, 2017). Other benefits of competition found in existing research such as correlative increases in production and efficiency were not tested in this study.

Each sub-type of competition should be considered individually for potential inclusion in a team leader's approach to structuring how a team operates and how organizational rewards are earned.

Intrapersonal competition. With nearly seventy percent of survey respondents noting that competing with their own past results would increase their motivation, intrapersonal competition may be an effective means of fostering motivation. This form of competition carries the least amount of risk in regard to harming social relations among team members (Lau & Kleiner, 2014) while still fostering excitement at the prospect of winning, essentially treating one's prior performance as an internal rival (Steinhage, Cable & Wardley, 2017). With fewer than five percent of respondents reporting a reduction in motivation secondary to intrapersonal competition, team leaders within any organizational structure that tracks individual performance should consider intentionally fostering the drive to win against one's own benchmarks.

Individual contributor competition. Compared to intrapersonal, inter-team, and inter-organizational forms, this study's data on competition between individual contributors shows a relatively lower likelihood of increased motivation. This type of competition should only be fostered when the nature of the given work is independent rather than interdependent (Levi, 2017). This study did not collect data on the level of interdependence present in respondents' work settings. The percentage of respondents noting a perceived increase in motivation secondary to this type of competition was within five percent of the sum of responses noting either a reduction or no effect on motivation (figure 2). In an organization in which personal performance or contribution is tracked at the individual level, and rewards are scarce or organized in a zero-sum game scenario, competition between individual contributors may elicit higher levels of motivation (Lau and Kleiner, 2014) but along with the potential benefit comes the risk of unethical behaviors such as sabotage (Levi, 2017).

Intrateam competition. This sub-type of competition shows the least amount of linkage to increased motivation in the data, as well as the greatest number of responses noting decreased motivation. This is consistent with prevailing themes in the literature which note associated negative outcomes such as increased stress and reduced self-esteem (Lau and Kleiner, 2014). Johnson Et. al's meta-analysis comparing competition and cooperation noted the relative similarity between interpersonal competition and individualistic efforts (1981). This is consistent with the similarity observed in this study's data when comparing individual contributor and intrateam sub-types. Although intrateam competition shows the lowest level of increased motivation in this study's results, it should be noted increased motivation was still the most common single answer (combining *tends to increase and significantly increases* choices). As the survey did not gather data as to whether or not respondents actually experienced this (or any other) form of competition, the influence behind the responses is unknown. It is therefore possible that respondents never experienced intrateam competition and may be unaware of its deleterious effects on a team's social relations (Levi, 2017) and sense of group partnership (Balconi, Crivelli and Vanuetelli, 2017).

Inter-team competition. This sub-type of competition showed the greatest level of perceived increase in motivation in the sample, with nearly eighty percent of respondents noting their motivation to work would tend to increase or significantly increase. The relatively low number of neutral responses—that no effect on motivation would occur—is also telling in that respondents seem to be acutely aware of both the benefits and drawbacks of competing as a team against other teams within an organization. As no data was gathered on respondents' experiences with this form of competition, we can only speculate as to why such a high degree of positivity is observed in this particular finding. It's perhaps likely that respondents have experienced some of

the most common positive effects of inter-team competition such as a greater sense of relatedness and cohesion among one's team (Kistruck, Lount, Smith, Bergman & Moss, 2016; Levi, 2017) or the excitement of team rivalry (Steinhage, Cable & Wardley, 2017). Team leaders may want to foster a sense of competition between or among teams in a given organization, but they must be aware of the risks which include a stifling of creativity and innovation subsequent to a reduction in the sharing of information among teams (Osarenkhoe, 2010). Leaders should also be aware that the benefits associated with inter-team competition are often only realized in the short-term, leading to negative outcomes in the future such as unhealthy agreement and misalignment between team goals and organizational strategy (Levi, 2017).

Inter-organization competition. Second only to inter-team competition, inter-organizational competition garnered a high level of responses noting a perceived increase in motivation. Nearly twenty-five percent of respondents noted that this sub-type of competition would have no effect on their motivation. This may be due to a lack of experience with on the respondents' part with competing as an organization against another organization. Respondents were forced to choose an answer within the Likert-type scale without the option of noting that they had not experienced this type of competition. Inter-organizational competition is not only considered the least harmful form of competition next to intrapersonal (Lau and Kleiner, 2014), it also tends to increase intrateam or intraorganizational cooperation (Goette, Huffman, Meier & Sutter, 2012). Given the links between cooperation and increased motivation discovered in this study, team leaders should consider fostering a competitive spirit among workers that is aligned with organizational strategy.

Cooperation

Respondents gauged their perceived level of motivation in relation to cooperation in general as well as three sub-types. The results overwhelmingly favored increased motivation in all relevant responses, with over eighty percent of respondents noting increased motivation linked with cooperation in general and less than five percent noting a reduction in motivation. This theme was consistent throughout the three sub-types, with all of them showing at least seventy-three percent of responses noting increased motivation. Respondents may have experienced some of the benefits shown to be associated with workplace cooperation including improved social relations among teams (Levi, 2017) and enhanced organizational knowledge (Osarenkhoe, 2010). Organizational citizenship behavior (OCB) was a common theme associated with cooperation in the literature, though no questions in this study's survey touched on OCB directly.

Given the drawbacks of cooperation discussed in the literature, such as unhealthy agreement and social loafing (Beersma, Hollenbeck, Humphrey, Moon & Conlon, 2003; Levi, 2017)., it is possible that the respondents who noted a decrease in motivation secondary to cooperation and its sub-types experienced these pitfalls firsthand. We can only speculate as this survey did not gather specific information on respondent experiences.

Given the high percentages of responses in every question concerning the motivational effects of cooperation, team leaders should feel confident in the likely benefits of intentionally fostering structures in which the goals of individuals are the goals of the team are positively related (Deutsch, 1949). Strategic goals and the operational plans underpinning them should be organized in a manner that fosters interdependence, such that tasks or projects presented to a team cannot be accomplished effectively by disconnected individual contributors (Snow, 2015).

Self-interested and Prosocial Orientations

While self-interest tends to be most associated with competition and prosocial tends to be most associated with cooperation, there is overlap between these orientations which can be described as interactive in nature (Cardador & Wrzesniewski, 2015). The prevailing theme in the literature is that self-interest tends to overshadow prosocial behaviors, especially in resource scarce environments (Effelsberg, Solga & Gurt, 2014; Lau and Kleiner, 2014). Findings discovered in this study are not wholly consistent or inconsistent with this theme. With the question of whether not respondents felt that must compete against others for organizational rewards, the most common answer was agreement, though when considering percentage of the sample, an equal number of respondents selected disagreement or neutral (combined). A similar breakdown of responses was observed when asking the level of agreement with a statement about declining to compete leading to a personal disadvantage. The most common answer was agreement but the sum of disagree and neutral responses was greater by nearly ten percentage points. These findings could be related to respondent experience with organizational reward structures. Some respondents may have never worked in a setting in which rewards were scarce or earned in a zero-sum game, whereas the fifty percent that noted they did have to compete for rewards may work in more competitive settings set as individual contributor networks, such as certain types of sales-based organizations. Had this study gathered data on the particular field respondents worked in, a correlation may have been discovered.

This study's findings moved away from the prevailing theme of the dominance of self-interest when analyzing data regarding the relative importance of team goals to personal goals and the overlap of team success with personal success. Over sixty percent of respondents noted that achieving team goals are more important than earning personal organizational rewards,

clearly showing a preference for cooperation and prosocial orientation in terms of reaching pre-determined measures of performance. The statement *when my team succeeds, I succeed* showed the highest level of agreement in the study as a whole, with nearly ninety-five percent of respondents choosing somewhat agree or strongly agree. This finding is particularly notable in that the variation observed in the other fifteen survey questions was not apparent here. Given the high level of agreement, it must be considered that respondents may not have answered this question honestly. Give the wording of the statement, respondents may have felt compelled to agree given how common the positive narrative surrounding teamwork is in the contemporary workplace (Agarwal, McDowell & Miller, 2016; Fjeldstad, Snow, Miles & Lettl, 2012; Snow, 2015). The survey was anonymous, but respondents may still have been dishonest as secondary to potential effects on their self-perceptions.

Links to Theories of Motivation

If one's employment is unstable or provides less than sufficient income to cover basic physiological needs, then the lower order of Maslow's hierarchy will be a source of motivation (Aanstoos, 2018; Maslow, 1943). Workers are perhaps more likely to hold a self-interested orientation and subsequently engage in competition if their underlying motivation to work is driven by procuring life's necessities. Pursuit of basic needs and safety may also be more likely to lead to suspension of one's ethics, an all is fair type attitude toward competition (Kish-Gephart, Detert, Trevino, Baker & Martin, 2014). Without first satisfying the lower order needs, workers may be reluctant to engage in cooperative team efforts unless the associated rewards of that participation are explicitly apparent (Stoelhorst and Richerson, 2013).

If a given worker's employment is stable and provides enough income to cover basic physiological and safety needs, they will find motivation through the higher order needs of

Maslow's hierarchy (Aanstoos, 2018; Maslow, 1943). Social needs or a sense of belongingness are more likely to be met through cooperative rather than competitive team structures. While competitive forces reduce the quality of social relations and cohesiveness of a group (Balconi, Crivelli and Vanuetelli, 2017; Lau and Kleiner, 2014: Levi, 2017), cooperation brings individuals closer together through a shared sense of fate (Kistruck, Lount, Smith, Bergman & Moss, 2016). An overlap with McClelland's Three Need Model factor of affiliation is observed. Feeling accepted as a member of a group encourages cooperation and discourages competition (Khurana and Joshi, 2017).

Meeting the highest order needs, esteem and self-actualization, is tied to organizational reward structures and could potentially be achieved in both competitive and cooperative models. With esteem, essentially one's need for a sense of achievement and competence, rewards on the individual level may be more effective at eliciting motivation than those levied to the group as a whole. But that does not necessarily favor competing for rewards as a leader can designate prosocial behaviors as a criterion for earning reward, be it praise or promotion. The need for sustained self-development, self-actualization, could also be achieved through a mixed approach. For individual workers to realize a continued sense of growth, they must have the opportunity to overcome challenges and learn experientially. With competition, this can be achieved through the process of winning and losing. With cooperation, workers can realize self-development through deeper social ties, providing opportunity to learn from others and allow for the evolution of one's identity within the group.

Demographic Correlations

Demographic data regarding respondent sex, age range, and highest level of education completed was gathered in the survey. Given the sample size (forty-six), any correlations

discovered may be due more to chance than broad links between demographic groups and perceived motivational effects of competition and cooperation. Certain demographic groups in the sample such as those aged eighteen to twenty-four or those that had earned a high school diploma as their highest level of education represent two or fewer respondents. Correlative analysis was performed with three of the survey questions: competition in general, cooperation in general, and the summary question which asked participants which approach would best motivate them. These data were included in the results only for the purpose of potentially inspiring future research.

Limitations

The relatively small sample size as well as the constraints presented by time and access have been previously referenced in this paper. These limitations were not unforeseen, as this study came with a firm due date and did not have any monetary funding associated with it. There were also limitations that could not be observed until the survey results were gathered. Specifically, this author has identified subject matter not included in the survey which, if associated data was available, may have made the subsequent analysis more robust. Four sub-topics not explicitly covered in the survey—rivalry, organizational citizenship behavior, unhealthy agreement, and social loafing—led to limitations in the analysis of how competition and cooperative forces correlate with social relations within a team. While the focus of this study was on motivation as a dependent variable of competition and cooperation, the health of a team's social relations is a predictor of its effectiveness, and a broader goal of this study was to increase the collective knowledge on how to best lead teams.

Conclusion

This study sought to close an observed gap in the recent scholarly research concerning the motivational outcomes of competitive and cooperative forces in the workplace. The hypothesis that higher levels of individual worker motivation would be observed through utilization of a mixed approach, blending competition and cooperation, was supported by this study's findings in both the literature review and results of the author's survey. Give the mixed motive situation that comes with membership on a professional team, it should be expected that workers will be compelled to act in their own self-interest to benefit themselves as well as in a prosocial manner to benefit the team. These inclinations exist simultaneously and are manifested through organizational behaviors dynamically; as such, competition and cooperation must not be viewed as dichotomous mutually exclusive options, but rather complementary approaches that can be dually deployed to maximize motivation and incentivize high performance on both individual and group planes.

Suggestions for Future Research

The findings of this study revealed the potential merits of a combined approach to leading teams, realizing the synergy that may be achieved through intentionally introducing competitive and cooperative forces. If repeated on a larger scale, both in terms of timeline and sample size, additional discoveries may be made such as potential correlations with independent variables including demographics, type of work, and workplace culture. In addition to self-reported motivation, future research could also measure other dependent variables such as follower motivation as reported by a leader, worker productivity, or organizational citizenship behaviors. Given that one's life experience is likely to influence what they find motivating, this study could

be repeated periodically over multiple decades so as to capture any significant differences between cultural generations.

Personal Growth

One of the reasons behind my choice to explore motivation within the professional team setting was my own observations as a both team member and leader at Crotched Mountain Foundation. I have seen a deficit in motivation at the individual level that has manifested in the forms of missed deadlines, poor quality of deliverables, and a misalignment of personal agendas with team and organizational goals. I have come to the conclusion that a major reason behind this observation is a lack of incentives. Instead of appealing to both the self-interested motives that drive competition and the prosocial motives that encourage cooperation, neither are approached with a sufficient level of intentionality or communication. As I continue to grow within the organization, I will use the knowledge I gained from this study to better motivate the team I lead, and act as an example for other leaders. I will foster opportunities for intrapersonal competition, appealing to those driven by a sense of achievement. I will discourage rivalry within the team and instead focus that heightened physiological energy toward inter-team or inter-organizational competition, strengthening the foundation of the group's social relations. I will not expect team members to put aside their self-interest but instead will facilitate the alignment of personal rewards with organizational strategy. Teamwork is a mixed motive situation and, as a leader, I will adopt an approach that validates and leverages our complementary inclinations toward the ultimate benefit of the individual, the team and organization.

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Appendix A

Copy of survey instrument

INFORMED CONSENT

1. Purpose of the Study: The purpose of this research is to gather self-reported data regarding the how competitive and/or cooperative work environments relate to worker motivation. A quantitative analysis approach will be employed, particularly the use of a questionnaire survey, for data collection.

2. Description/Procedures: The use of human participants in this project has been approved in compliance with Granite State College's Guidelines for the Protection of Human Subjects in Research. If you volunteer to participate in this study, we would ask you to provide honest answers to all questions found in the survey. Approximately 10 minutes will be required to complete participation in this research, including reading and consenting to the study. Only a single session will be required to complete participation in this research.

3. Potential Risks: This study poses minimal risk; the nature of the study involves no anticipated physical, emotional, or social risk to participants.

4. Potential Benefits: Participants may benefit from the self-reflection process associated with selecting responses to the survey questions. Participants may consider how competitive and cooperative organizational modalities relate to their level of motivation, potentially informing their behavior relevant to workplace teams.
A public presentation of my work will occur on March 21st, 2019, with all current graduate students and guests invited. The presentation will be viewable via Zoom™ and be recorded for the GSC Capstone repository. Anyone, including participants, may request access to the survey results. All requests will be honored with results being sent via email.

5. Participation and Withdrawal: Participation in this study is voluntary and anonymous. If you volunteer to be in this study, you may withdraw or be withdrawn at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. No coercion of any kind is used in seeking your participation. The survey consent is found before question one of the fifteen question survey. At any point, the participant may exit the survey and their information will not be retained.

6. Payment for Participation: Participants will not receive payment or any other incentive for their participation in the survey.

7. Confidentiality: Participation in this survey is anonymous, no personally identifiable information will be gathered or stored.

8. Identification of Investigators: This survey is being conducted by David Etlinger. Any questions or comments can be submitted via email to this address: D.Etlinger@Go.Granite.edu. The supervising faculty member is Dr. Kathy DesRoches, who can be reached via email at: Kathy.DesRoches@granite.edu.

9. Rights of Research Subjects: The results of the survey will be available by request at the conclusion of this study. Requests are to be submitted via email to D.Etlinger@Go.Granite.edu. If you have questions regarding your rights as a research subject, please contact the Office of Academic Affairs at the Granite State College Administrative Center, 603-228-3000.

10. For online surveys: By clicking on the button below, you are consenting to participate in this research study. You may print out a copy of this informed consent to keep for your records. If you do not wish to participate, please exit this page now.

- **Accept and continue (I am age 18 or older)**
- **Decline (please exit the survey)**

Definitions:

Competition: Scenario in which the primary goal is outperforming another person, group, and/or existing standard.
Cooperation: Scenario in which the primary goal is sharing the success derived from performance and achievement.
Organizational Rewards: Formal and informal incentives including: monetary bonus, wage increase, promotion, praise, and other forms of recognition.

Q1: In general, competition at my workplace . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q2: Competing individually against my own prior performance . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q3: Competing individually against another individual contributor . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q4: Competing individually against someone on my team/workgroup . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q5: Competing as team/workgroup against another team/workgroup in my organization . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q6: Competing as an organization against another organization . . .
- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q7: In general, cooperation at work . . .

- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q8: Cooperating with one other individual contributor . . .

- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q9: Cooperating as team/workgroup . . .

- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q10: Cooperating as a team/workgroup with other teams/workgroups . . .

- **Significantly reduces** my motivation to work
- **Tends to reduce** my motivation to work
- **Has no effect** on my motivation to work
- **Tends to increase** my motivation to work
- **Significantly increases** my motivation to work

Q11: I must compete against others at work for organizational rewards.

- **Strongly disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Strongly agree**

Q12: If I don't actively compete against others at work, I will be at a disadvantage.

- **Strongly disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Strongly agree**

Q13: Achieving a shared goal as a team/workgroup is more important to me than earning personal organizational rewards.

- **Strongly disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Strongly agree**

Q14: If my team succeeds, I succeed.

- **Strongly disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Strongly agree**

Q15: At work, I would be best motivated by . . .

- **A competitive organizational structure**
- **A cooperative organizational structure**
- **A mixed organizational structure**

Demographic Information:

Q1: What is your sex

- Male
- Female
- Prefer not to answer

Q2: What is your age in years?

- 18 to 24
- 25 to 31
- 32 to 38
- 38 to 44
- 45 to 51
- 52 or older

Q3: What is the highest degree of level of school you have completed?

- High School Diploma or equivalent
- Some college
- Associate degree
- Bachelor's degree
- Master's degree
- Doctorate degree

Thank you for your participation!

<end of survey>

Appendix B

Complete Survey Results

Q1 In general, competition at my workplace ...	Choice count	Choice count_ combined	Percentage of sample	Percentage_ combined
Significantly reduces my motivation	2	7	4.35%	15.22%
Tends to reduce my motivation	5		10.87%	
Has no effect on my motivation	11	11	23.91%	23.91%
Tends to increase my motivation	23	28	50.00%	60.87%
Significantly increases my motivation	5		10.87%	
Q2 Competing individually against my own prior performance ...	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	0	2	0.00%	4.35%
Tends to reduce my motivation	2		4.35%	
Has no effect on my motivation	12	12	26.09%	26.09%
Tends to increase my motivation	20	32	43.48%	69.57%
Significantly increases my motivation	12		26.09%	
Q3 Competing individually against another individual contributor ...	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	1	6	2.17%	13.04%
Tends to reduce my motivation	5		10.87%	
Has no effect on my motivation	16	16	34.78%	34.78%
Tends to increase my motivation	18	24	39.13%	52.17%
Significantly increases my motivation	6		13.04%	
Q4 Competing individually against someone on my team/workgroup ...	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	1	9	2.17%	19.57%
Tends to reduce my motivation	8		17.39%	
Has no effect on my motivation	17	17	36.96%	36.96%
Tends to increase my motivation	16	20	34.78%	43.48%
Significantly increases my motivation	4		8.70%	

Q5 Competing as a team/workgroup against another team/workgroup in my org …	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	2	3	4.35%	6.52%
Tends to reduce my motivation	1		2.17%	
Has no effect on my motivation	7	7	15.22%	15.22%
Tends to increase my motivation	25	36	54.35%	78.26%
Significantly increases my motivation	11		23.91%	
Q6 Competing as an organization against another organization …	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	1	2	2.17%	4.35%
Tends to reduce my motivation	1		2.17%	
Has no effect on my motivation	11	11	23.91%	23.91%
Tends to increase my motivation	22	33	47.83%	71.74%
Significantly increases my motivation	11		23.91%	
Q7 In general, cooperation at work …	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	1	2	2.17%	4.35%
Tends to reduce my motivation	1		2.17%	
Has no effect on my motivation	6	6	13.04%	13.04%
Tends to increase my motivation	18	38	39.13%	82.61%
Significantly increases my motivation	20		43.48%	
Q8 Cooperating w/ one other individual contributor …	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Significantly reduces my motivation	0	2	0.00%	4.35%
Tends to reduce my motivation	2		4.35%	
Has no effect on my motivation	6	6	13.04%	13.04%
Tends to increase my motivation	20	38	43.48%	82.61%
Significantly increases my motivation	18		39.13%	
Q9 Cooperating as a team/workgroup …	Choice count	Choice count_ combined	Percentage of sample	Percentage_ combined
Significantly reduces my motivation	0	2	0.00%	4.35%
Tends to reduce my motivation	2		4.35%	
Has no effect on my motivation	8	8	17.39%	17.39%
Tends to increase my motivation	17	36	36.96%	78.26%
Significantly increases my motivation	19		41.30%	

Q10 Cooperating as a team/workgroup w/ other teams/workgroups ...	Choice count	Choice count_ combined	Percentage of sample	Percentage_ combined
Significantly reduces my motivation	0	3	0.00%	6.52%
Tends to reduce my motivation	3		6.52%	
Has no effect on my motivation	9	9	19.57%	19.57%
Tends to increase my motivation	21	34	45.65%	73.91%
Significantly increases my motivation	13		28.26%	
Q11 I must compete against others at work for org rewards	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Strongly disagree	11	23	23.91%	50.00%
Somewhat disagree	12		26.09%	
Neither agree nor disagree	10	10	21.74%	21.74%
Somewhat agree	9	13	19.57%	28.26%
Strongly agree	4		8.70%	
Q12 If I don't actively compete against others at work, I will be at a disadvantage	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Strongly disagree	9	19	19.57%	41.30%
Somewhat disagree	10		21.74%	
Neither agree nor disagree	16	16	34.78%	34.78%
Somewhat agree	9	11	19.57%	23.91%
Strongly agree	2		4.35%	
Q13 Achieving a shared goal as a team/workgroup is more important to me than earning personal organizational rewards	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Strongly disagree	1	13	2.17%	28.26%
Somewhat disagree	12		26.09%	
Neither agree nor disagree	5	5	10.87%	10.87%
Somewhat agree	16	28	34.78%	60.87%
Strongly agree	12		26.09%	
Q14 If my team succeeds, I succeed	**Choice count**	**Choice count_ combined**	**Percentage of sample**	**Percentage_ combined**
Strongly disagree	0	0	0.00%	0.00%
Somewhat disagree	0		0.00%	
Neither agree nor disagree	3	3	6.52%	6.52%
Somewhat agree	14	43	30.43%	93.48%
Strongly agree	29		63.04%	

Q15 At work, I would be best motivated by ...	Choice count	Percentage of sample
A competitive org structure	3	6.52%
A cooperative org structure	16	34.78%
A mixed org structure which encourages both competition and cooperation	27	58.70%

Q1 What is your sex?	Choice count	Percentage of sample
Male	21	46%
Female	23	50%
Prefer not to answer	2	4%

Q2 What is your age in years?	Choice count	Percentage of sample
18-24	2	4.3%
25-31	14	30.4%
32-38	11	23.9%
38-44	7	15.2%
45-51	5	10.9%
52+	7	15.2%

Q3 What is the highest degree of level of school you have completed?	Choice count	Percentage of sample
HSD or equivalent	1	2.17%
Some college	1	2.17%
Associate degree	0	0.00%
Bachelor's degree	31	67.39%
Master's degree	11	23.91%
Doctorate degree	2	4.35%