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SOCIAL COGNITIVE THEORY AS A FRAMEWORK FOR UNDERSTANDING THE RELATIONSHIPS BETWEEN COMPETITION AND COOPERATION: A THREE ESSAY STORY OF EMERGING COOPETITION AND ENTREPRENEURIAL TEAM OUTCOMES

A Dissertation
presented in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the Department of Management
School of Business Administration
The University of Mississippi

by

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ABSTRACT

Three essays explore the role social cognitive theory (SCT) plays in the interactions between competitive and cooperative traits, goal structures, and behaviors on simultaneous competition and cooperation, termed coopetition. Though the concept is advantageous and popular both in theoretical and practical terms, there are large gaps in the study of the phenomenon at the individual and collective level. In Essay One, I present a theoretical model for the emergence of collective competition, cooperation, and coopetition. Specifically, I propose collective coopetition as a meso level, compilation construct based on the individual characteristics of team members, their interactions, and the situational and environmental influences. In Essay Two, I empirically test coopetition using a primary data sample of students. The study utilizes individual-level competitive and cooperative traits, goal interdependencies and goal perceptions to determine whether or not they engage in coopetition based on the triadic model of SCT. I find they each influence competitive and cooperative behaviors. In Essay Three, I identify the relationships and interplay of coopetition using competitiveness and cooperativeness, competitive and cooperative goal interdependence, and competitive and cooperative behaviors on new venture team outcomes. Using a primary data sample from the Table Top Games industry, I find entrepreneurs have higher levels of competitiveness than cooperativeness, and that their team perceptions of interdependence lead to whether the team engages in competitive or cooperative behaviors.

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Despite recognizing the importance of simultaneous competition and cooperation in organizations, termed coopetition, little is understood regarding the phenomenon at the micro level. Though frequently examined as a firm to firm dynamic, little is understood regarding how individuals and teams influence these dynamics. In order to fully understand the complexity of organizational processes, the manuscript promotes multilevel theorizing of coopetition by incorporating competitive and cooperative personality and with the introduction of individual level coopetition and the term collective coopetition. As a meso level construct, it is the process by which a team develops a shared disposition, resulting in a preference towards competing, cooperating, or incorporating actions of both. I develop a dynamic theoretical model of the processes by which competitive, cooperative, and collective coopetition can emerge from various combinations of individual competitive and cooperative preferences and interdependencies. The model has theoretical and practical implications for scholarship concerning coopetition, competitive and cooperative personality and goal structures, social interdependence theory, and social cognitive theory.

INTRODUCTION

Competition and cooperation are well studied independently, though both influence individuals, groups, and organizational outcomes. Competition at the firm level is frequently studied for the influence it has on profitability in terms of a firms' position in the market (Porter, 1980), how a firm utilizes its resources to compete (Barney 1991; Wernerfelt, 1984), or by elaborating on the implications of competitive actions using competitive dynamics (Chen, 1996; Smith, Ferrier, & Ndofor, 2001), for example. Cooperation at the firm and industry level encompasses researching interfirm relations, such as strategic alliances, joint ventures, and networks (e.g., Dyer & Singh, 1998; Shipilov, Li, & Greve, 2011; Wassmer, 2010). Upon closer inspection though, competition and cooperation are not opposing phenomena and are enigmatically interrelated. Accordingly, firms simultaneously engage in both competition and cooperation with one another (Hoffmann, Lavie, Reuer, & Shipilov, 2018).

'Coopetition' is the dynamics arising when collaborating with competitors, or the idea of simultaneous competition and cooperation (Brandenburger & Nalebuff, 1996). Research on the interaction focuses on higher-level contextual phenomena, including the inter-firm (e.g., Kylänen & Rusko, 2011), the intra-firm (e.g., Luo, 2005) and the network (e.g., Peng & Bourne, 2009). Consider the examples: Sony and Samsung formed a joint venture for sufficient supplies in the manufacturing of TV sets. In Napa based wineries, various wineries promote not only themselves on social media, but surrounding wineries as well. This is due to the idea that wine drinkers enjoy more than one type of wine and the promotion of themselves and those around them will attract more consumers overall (McCray, 2011).

Though recent reviews agree to "substantial resonance on all levels of analysis – individual, intra-firm, inter-firm, and network" (Dorn, Schweiger, & Albers, 2016, p.485), the individual level has, to date, been largely ignored. Coopetition incorporates both competition and cooperation, as well as competitiveness and cooperativeness, which are individual trait variables that influence the individuals and groups making decisions in their environments. Though current research has highlighted the importance of coopetition from the firm and industry levels, the current macro perspective in the organizational science literature does not account for how "individual behavior, perceptions, affect, and interactions give rise to high-level phenomena," as "organizations do not behave; people do" (Kozlowski & Klein, 2000, p. 7). Using perspectives from both the higher-level, top-down and emergent, bottom-up process allows scientists to provide "theoretically rich and application-relevant" contributions to the science of organizations (Kozlowski & Klein, 2000, p. 9). Coopetition then, has the opportunity to be studied across all levels of analysis in order to have a complete multilevel view of the influence it has in and between organizations. To fully appreciate why coopetition is useful for academic research and practitioner application at all levels, we need to first understand its formation from the individual to group level.

The goal of this article, then, is to (1) explore the individual and group level foundations of coopetition, (2) identify how these foundations and the perceptions of goals contribute to the formation of collective competition, collective cooperation, and collective coopetition, and (3) discuss the importance of the collectives in understanding organizational phenomena. In doing so, I develop and discuss a dynamic model illustrated by Figure 1. The model assists in building the theoretical framework of the emergence and influence of coopetition on the individual and group levels. It portrays that individuals vary in their degree of preferences towards competing

and cooperating (Swab & Johnson, 2019), along with differences in goals, behaviors, and pathways of interaction. Accordingly, collective coopetition does not necessarily function linearly. Even though it is distinctly influenced by the composition of the group and the level of competitiveness or cooperativeness individual members bring to the group, how individuals perceive their goals in relation to others and the goal structures of the environment also determines the formation. Because competition and cooperation includes both individual differences and situational determinants as impacts on behavior, the framework draws on social cognitive theory (SCT) as the way in which the triadic influences of individual dispositions, environments, and behaviors interact to influence the formation of coopetition.

The manuscript contributes to multiple organizational literature research conversations – the interplay of coopetition, competition and cooperation, and multilevel views of organizational phenomena – in the following ways. First, the manuscript identifies the lowest micro level of coopetition. Recent research highlights the importance of understanding individual level coopetition practices (Bengtsson, Kock, Lundgren-Henriksson, & Näsholm, 2016) along with the antecedents to coopetition (Hoffman et al., 2018). However, in order to understand these practices and their relationships, it must first be identified at the lowest level. Therefore, I provide the foundation for the individual level. Examining the individual differences and the environment as antecedents to coopetition is important as both influence behaviors (Bandura, 1986).

Second, along with understanding the antecedents, there is also a need for understanding the processes of coopetition (Hoffman et al., 2018). I do so by offering a multilevel model of competition, cooperation, and coopetition, and by introducing the term, collective coopetition. I provide a theoretically grounded conceptualization of what is meant by collective competition,

cooperation, and coopetition and describe how it emergences, and in turn, influences individual team members, processes, and outcomes. In building multilevel coopetition, I identify it as a meso level concept as it integrates both the micro-individual psychological process and group dynamics at the macro-institutional level. The multilevel view begins to fill the black box in understanding coopetition as a bottom-up, multilevel process (Kozlowski & Klein, 2000).

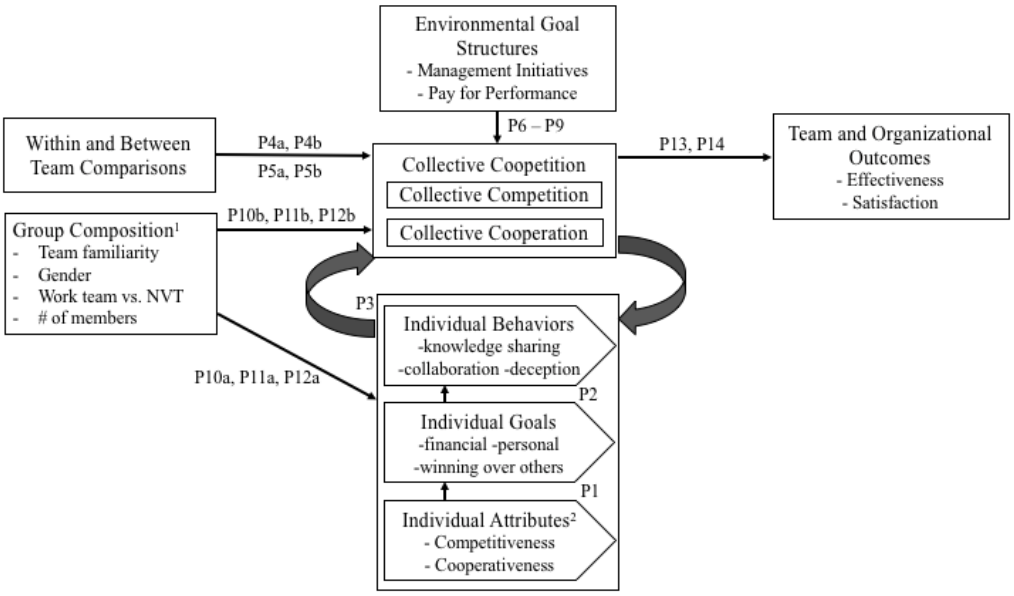
Third, I identify key contingencies of coopetition development using SCT (Bandura, 1986) and recent conceptualizations of personality and purposeful goal striving (Barrick, Mount, & Li, 2013). This offers a new way in which to theorize and examine coopetition, as not just environmental influences as it is typically studied, but as a combination of individual differences, behaviors, and goals. SCT suggests that in order to fully understand the complexity of organizational processes, it is imperative to examine the operation of variables at different levels of analysis and accordingly, is consistent with multilevel principles (e.g., Hitt, Beamish, Jackson, & Mathieu, 2007). As SCT embraces that variables and levels are not independent of one another, it provides a framework for identifying the mechanisms through which individual dispositions of competition and cooperation influence outcomes from a multilevel perspective.

Fourth and finally, the antecedents, processes for emergence, and the multilevel view allow us a greater understanding of coopetition outcomes (Hoffmann et al., 2018). From a theoretical perspective, the manuscript offers insights into how coopetition emerges at work, and how there are broader implications for its influence on other processes in the workplace (i.e. Human Resource practices). From a practitioner perspective, I highlight the opportunities and challenges of coopetition. The article represents the first to theorize about how the separate influences of individual competitiveness and cooperativeness jointly operates within a work environment to develop coopetition as a group-level construct – here, collective coopetition.

I define coopetition at the individual level as *the process by which individuals evaluate competition, cooperation, or incorporating actions of both, based on their interpretation of individual goal hierarchies and desired outcomes*. Further, I define collective coopetition as *the process by which team members develop a shared disposition, resulting in a preference, attitude, or behavior to compete, cooperate, or incorporate attitudes or actions of both, based on their interpretation of their individual and collective goal hierarchies and desired outcomes.* In order to understand its emergence and influence, we have to first understand competition and cooperation at the individual level of analysis, followed by the team level. Accordingly, the article is divided into three parts.

First, in the "Literature Review" I identify the foundations of competition and cooperation as an individual difference, structural situation, and as a combination of the two, followed by the current perspectives of coopetition, and finally, discuss SCT as a useful multilevel framework. Second, in "Building Coopetition" I follow multilevel principles to build competition and cooperation from the individual to group-level in order to form a collective. I articulate the dynamics by which collective coopetition unfolds as a process using goal hierarchy and SCT. Finally, in the "Discussion" section I discuss implications of the model and largely focus on important employee, team, and organizational outcomes that may be influenced by competition, cooperation, and coopetition at the collective level.

Figure 1. The Emergence of Collective Coopetition



[1]Each box has examples. This is not an exhaustive list nor is each example discussed in detail.
[2]There are additional attributes which influence competitiveness and cooperativeness, such as agreeableness and self-esteem, but for means of coopetition, these two attributes are the focus.

LITERATURE REVIEW

Competition and Cooperation

Individual differences. Competitiveness and cooperativeness as individual difference constructs are traits, which stem from differences in attitude, cognition, and behaviors (Johnson, 1975; Martin & Larsen, 1976; Newby & Klein, 2014; Swab & Johnson, 2019). Some research identifies competitiveness as a learned behavior (Kohn, 1992), but from a very young age individuals can be aggressive and accept competitive acts as a normal social behavior (Kagen & Moss, 1962). These differences are rooted in theory based on individual differences (i.e., difference in motive profiles, McClelland, 1961; big-five, Barrick & Mount, 1991, action-state orientation, Kuhl, 1994), which varies, whether due evolutionary psychology and natural selection (Lickliter & Honeycutt, 2003; Van Vugt, De Cremer, & Janssen, 2007; Van Vugt, Hogan, & Kaiser, 2008), gender differences (Niederle & Vesterland, 2011), cultural differences (Houston, Harris, Moore, Brummett, & Kametani, 2005), or other internal psychological traits influencing whether or not one prefers engaging in competitive and/or cooperative acts.

The variations in intra-personal competitiveness range from the enjoyment of competition and a desire to win (Helmreich & Spence, 1978), a dispositional preference (Swab & Johnson, 2019), or a mindset (Sassenberg, Moskowitz, Jacoby, & Hansen, 2007). Much like cooperativeness, trait competitiveness can be conceptualized and measured as being low to high in competitiveness, but an individual's intra-personal competitive preference is also expressed in three different forms based on disparities in internal motivation and how "winning" or "losing"

influences an individual's perceptions of their own self-worth. These three competitive orientations are hypercompetitiveness, competitive avoidant, and personal development.

The first of these competitive orientations – hypercompetitiveness - is described as those who compete for dominance. The actor in this type of orientation turns every situation into a competition leading to a need to win at all costs (Ryckman, Hammer, Kaczor, & Gold, 1990; Ryckman, Hammer, Kaczor, & Gold; 1996; Ryckman, Libby, Borne, Gold, & Lindner, 1997). These highly neurotic individuals use the accumulation of power, prestige, and possessions to account for their personal success (Horney, 1945). They tend to view their environment as hostile and dangerous (Brown, Cron, & Slocum, 1998), which accounts for their ruthless and unsympathetic behavior (Sibley, Wilson, & Duckitt, 2007). Hypercompetitors have similarities to the impatience and irritability behavior of Type A individuals (Thornton, Ryckman, & Gold, 2011), the aggressiveness, arrogance, and self-interest found in overt narcissism (Luchner, Houston, Walker, & Houston, 2011), and the ethical dilemmas and manipulation over others found in Machiavellianism (Mudrack, Bloodgood, & Turnley, 2012).

The second orientation is competition avoidance. These individuals share the same underlying needs, insecure attachments, neuroticism, and low psychological health as hypercompetitors (Johnson & Swab; Ryckman et al.,1990; Ryckman, Thornton, & Gold, 2009), but they also have an excessive fear of losing the affection and approval of others as well (Ryckman et al., 2009). To avoid the decrements to their self-worth, these individuals evade competition when they can. In this way, competition presents itself as a lose-lose situation. In winning, there is a risk of losing the affinity of their competitor, while losing the competition risks ridicule and the loss of opponent respect. Accordingly, a competitive situation for the competitive avoidant oriented individual induces anxiety, generates the fear of humiliation,

reduces motivation, and creates self-handicapping behaviors, such as self-mockery and a diversion of activities, intelligence, or abilities (Ryckman et al., 2009). Though an evident contrast exists between the hypercompetitive and competitive avoidant individual, the underlying neuroticism of both are a "problem for everyone in our culture, and…the unfailing center of neurotic conflicts" (Horney, 1937, p. 188). In this regard, the dominance of a hypercompetitor and the disengagement of a competition avoidant impacts a person's self-esteem based on their negative perceptions of their relationships with others and their environment, as well as the perceived respect and approval from winning or refraining from competition.

Third and finally is the personal development competitive orientation. This orientation represents a healthy form of competition rather than neurotic manifestations (Ryckman et al., 1996). These individuals view competition as a form of personal growth and development, self-discovery, and self-improvement, rather than as a win or lose situation against others (Ryckman et al., 1996). They demonstrate high levels of self-esteem, achievement, affiliation, a concern for the welfare of others, and a willingness to forgive, along with decreased levels of dominance behaviors, aggression, and neuroticism (Collier, Ryckman, Thornton, & Gold, 2010; Ryckman & Hamel, 1992; Ryckman et al., 1996; Ryckman et al., 1997). Though personal development competition is often studied between individuals and groups, it also involves intra-personal competition with oneself through self-improvement (Murayama & Elliot, 2012).

Competing for personal development does not necessarily fall directly between hypercompetitive and competition avoidant. Personal development individuals do share similarities with hypercompetitors, such as high correlations with general trait competitiveness due to their willingness to compete. The two are identifiably distinct based on their view of the relationship with others during the competition event and how that influences the direction of

competitiveness. Personal development competitors positively relate to the achievement striving facet of Type A behavior, while hypercompetitors positively relate to the impatience-irritability facet (Thornton et al., 2011). Hypercompetitors are less idealistic, more Machiavellian, and higher in the intent to commit unethical behavior in competition, while personal development subjects disapprove of ethically questionable decisions and do not engage in harmful behaviors to others during competitive situations (Mudrack et al., 2012). Hypercompetitors relate negatively to agreeableness and positively with neuroticism, while personal development competitors relate positively to extraversion and conscientiousness (Ross, Rausch, & Canada, 2003).

Much like there are individuals more inclined to compete, there are also individuals more inclined to cooperate (Chatman & Barsade, 1995) and collaborate (McDougall, 1932). Cooperativeness, though commonly researched from a situational and group motivation perspective, is conceptualized on a low to high level, using an individualist to collectivist view (e.g., Chatman & Barsade, 1995). Cooperative individuals have high levels of agreeableness (Volk, Thöni, & Ruigrok, 2012), consciousness, and extroversion compared to competitive individuals (LePine & Van Dyne, 2001). They have high levels of self-esteem and self-monitoring when making decisions (Kurzban & Houser, 2001). Those high in cooperativeness maximize joint outcomes through the promotion of equality between the self and others (Lu, Au, Jiang, Xie, & Yam, 2013). They tend to be highly collaborative, consider others' perspectives, enjoy teamwork (Mead, 2018), and are willing to adjust their behaviors to accommodate norms (Chatman & Barsade, 1995). Accordingly, cooperative behaviors stem from a willingness to work with others, whether forced or not, as well a preference for structures where rewards are distributed based on individual or group work (Wageman, 1995).

Individual preferences for cooperative behavior are often examined using contribution decisions (i.e. whether an individual keeps information or 'tokens' private, or shares with the group) (Volk, Thöni, & Ruigrok, 2011). This is due to cooperative individuals being more likely to participate in knowledge sharing behaviors. Cooperation stems from both informal or formal arrangements. This is described as whether an individual sees advantage and reciprocity from cooperation (both the preference for cooperating and the situation), or whether it is out of contractual or formal obligations (situation only) (Smith, Carroll, & Ashford, 1995).

Competitiveness and cooperativeness have been interpreted as the inverse of each other (Martin & Larsen, 1976). However, while they are different, often negatively related, and create a conflicting interdependence when used in conjunction when one another situationally, they are not entirely opposite, but considered distinct constructs (Lu et al., 2013). Those who are highly cooperative emphasize self-transcendent values such as universalism and benevolence, and those who are highly competitive emphasize power and achievement (Lu et al., 2013). In fact, there are certain forms of competition that relate to cooperation (Ross et al., 2003), such as the personal development competitor, who is willing to engage in competition or cooperation depending on the personal or team goal. While there are not currently three conceptualized cooperative orientations as with competition, as it is currently conceptualized from a low to high, cooperation can be conceptualized similarly.

There are those who are highly cooperative, in that they tend to prefer cooperating regardless of the situation. They may or may not have neuroticism towards cooperating but will prefer to operate in a group rather than be singled out in a win-lose situation. Cooperation avoiders, or those low in cooperativeness, do not wish to engage in cooperative acts. They have a need to win and turn everything into a contest against others, rather than having a preference of

working with others. This may present challenges as they will avoid cooperating even in situations that may require cooperating in order to succeed. Further, a general cooperativeness prefers cooperating, though may be open to other behaviors if they do not fall on the neurotic ends of over cooperating. As the competitive orientations rely on achievement, self-esteem, and the perceptions of their relationships with others as motivations, the described cooperative orientations may have similar comparisons, but are motivated to cooperate based on their perception of their identity within a group, their goodwill, or whether they feel participation with others is a necessary action whether from an internal or external force. Accordingly, individuals may be high in competitiveness or cooperativeness, low in either, or fall somewhere in between and have attributes of both depending on their individual psychological differences (Lu et al., 2013).

Competitive or cooperative structures. Pure competition involves an attempt to outperform another based on a zero-sum situation (Kelley & Thibaut, 1969). Competition as a structure or situation describes the inter-personal component to competition, in that the environment or given domain creates an actual competition. It is described as the negative correlation between participant goals (Deutsch, 1949, 1962). When the goal achievement of one person causes another to fail, those sharing the mutual situational goal are in competition with one another. Accordingly, it emphasizes the performance differences among each competitor or group member (Beersma et al., 2003). This model of competition in which a situation contextualizes actors who oppose one another while striving for scarce resources dominates theory in management, economics, and psychology (e.g., Deutsch, 1949; Porter, 1980; Scherer & Ross, 1990), as situational competition varies in focus from an object, role, or set of activities.

Pure cooperation involves a group of individuals working together to attain a common goal(s). It presents a situation where one's success is positively related to the success of others (Deutsch, 1949, 1962) and the mutually exclusive goal(s) can be achieved by both parties. Cooperative structures then, creates a situation of perceived shared fate and promotes supportive behavior (Beersma et al., 2003). Cooperative conditions require a division of labor and tasks may not be able to be completed or achieved effectively without it (Deutsch, 1949, 1962). These structures personify norms of equality, place emphasis on the accomplishments of the group, and minimizes the distinctions of group members (Beersma et al., 2003).

Social interdependence theory describes the interdependence found in competitive and cooperative situations (Johnson & Johnson, 1989). The interdependence "exists when individuals share common goals and each individual's outcomes are affected by the actions of others" (Stanne, Johnson, & Johnson, 1999, p. 134) and the outcome of the situation is determined by (1) the structure of the goals, (2) by how the individuals interact with one another, and (3) by the interaction pattern. According to work by Johnson and Johnson (1989), there is a positive form of social interdependence promoting the success of others, a negative form of social interdependence hindering the success of others, and a third independent form where no independence exists whether through self-interest or when there is no relation or regard to the success or failure of others.

The positive social interdependence is considered cooperative due to the promotion of the success of others. In this type of interdependence, the achievement of goals is positively correlated as individuals perceive their own goal can only be met through the beneficial achievement of others reaching their goals as well. A negative and competitively structured goal situation results in individuals working against each other. The goal achievements are negatively

correlated as only one or few can attain the goal. This results in individuals' seeking an outcome that is not only personally beneficial but also unfavorable to all others in the situation. They may even interfere and obstruct others' effort to achieve. Lastly, goals can also be structured individualistically. In this structure, accomplishing one's goal is unrelated, independent, and without correlation to the goals of others. An individual perceives they can reach their goal regardless of others' attainments or failures. They seek for personal benefits, but not to the detriment of others. There may or may not be interaction at all among these participants.

The interactive process. Though social interdependence theory is used as a base for examining actual competitive or cooperative situations, it lends itself to be useful in looking at coopetition as an interactive process combining individual differences and goal structures. The theory distinguishes itself from similar theories (goal-setting, Locke & Latham, 1990; social identity theory, Tajfel & Turner, 1979) due to the focus on people's *perceptions* of their own goals as being positively or negatively correlated with those of others, thus, affecting the motivation levels and their actions (Baer, Leenders, Oldham, & Vadera, 2010). The interdependence rather than the dependence occurs due to the goal achievement of Individual A being affected by Individual B's action – suggesting an interaction among participants. Hence, though studies on interdependences focuses on the situation, there is an interactive process occurring.

Personality traits among individuals are typically stable or change slowly (Roberts, Walton, & Viechtbauer, 2006). However, there are instances where personalities change rapidly in response to certain environments and events (i.e. the negative event of being unemployed, Boyce, Wood, Daly, & Sedikides, 2015). For example, personality is shaped based on how employees react to positive or negative events at work (Weiss & Cropanzano, 1996) and certain

job characteristics determine whether personality affects behavior (Tett & Burnett, 2003). This interactionist, process perspective of competition and cooperation is based on the combination of individual differences and the perception of goal interdependence. Termed perceived environmental competitiveness (or perceived environmental cooperativeness), this interactive process characterizes the situation based on the individual's biased perceptions of their environment, upon which they then act (Murayama & Elliot, 2012). Because general competitiveness is a potentially adaptive trait across a range of contextual domains (Houston, Carter, & Smither, 1997), situations that should be cooperative (e.g., team sports or sales teams) may become socially dysfunctional due to inaccurate perceptions of the situation (Houston, Harris, & Norman, 2003). In such a case, the effects of competition, and whether competitive or cooperative behavior is enacted, depends on the characteristics of the person interacting with the features of the situation (Fletcher, Major, & Davis, 2008). This can include the psychological properties of rivalry situations, or the social comparison processes in competitions, for example. From this perspective, it is not just the competition event or the competitiveness of the person, but the interaction of the two that stimulates competitive or cooperative processes, which in turn accounts for how the individual engages in goal striving behavior.

Coopetition in Firms

Coopetition represents the dynamic interplay of a firms' decision to collaborate, cooperate, or compete (e.g., Chen, 2008; Gnyawali, He, & Madhavan, 2006) and includes the summation of numerous different relationships, goals, and activities divided between different parties (Bengtsson & Kock, 1999, 2000; Bengtsson, Eriksson, & Wincent, 2010). The broad view uses coopetition and its relationships as a value-net where two competitors complement each other through their cooperation, potentially with a third firm (i.e., software producer) (Brandenburger

& Nalebuff, 1996; Gnyawali & Park, 2011). More narrowly it is defined as the simultaneous activity of competition and cooperation between only two firms. Despite its broad to narrow viewpoint, it often takes a game theoretic perspective, highlighting the dilemmas and challenges of managing collaboration with competitors (e.g., Lado, Boyd, & Hanlon, 1997).

The positive performance effects of coopetition ranges from innovation, the coordination of product lines, an increase in technological diversity, value creation with alliances, and knowledge gain through organizational learning and the understanding of competitors' core competencies (Bengtsson & Kock, 2000; Bouncken & Kraus, 2013; Garcia & Velasco, 2002). Though research often identifies the competitive advantages of coopetition (e.g., Levy, Loebbecke, & Powell, 2003; Ritala & Hurmelinna-Laukkanen, 2009), it is not without risks (Bonel & Rocco, 2007). Those risks range from the vulnerability of knowledge sharing (Baumard, 2009) to internal tensions and role conflict (Dowling, Roering, Carlin, & Wisnieski, 1996; Zineldin, 2004), to financial and time costs for both parties (Parker, 2000).

Despite the popularity of the topic in large firms, research finds coopetition to be even more important in the context of small and medium enterprises (Gnyawali & Park, 2009). Established firms operate under the idea that the possession of certain unique and non-imitable resources leads to differences in performance (Barney, 1986, 1991). Young and small firms however, are often unable to differentiate using this tactic. They have liabilities of newness, smallness, a lack of resources (Baum, 1996; Lechner, Soppe, & Dowling, 2016), and a minor presence in the market (Barnir & Smith, 2002). The shortage of knowledge, legitimacy, and resources leads to a deficiency of growth and learning abilities, and further perpetuating insufficient resources (Lechner & Dowling, 2003). Less established firms then, grow and develop by attracting, assessing, developing, and possessing resources (Lechner et al., 2016), along with establishing

alliances for resource exchange (Barnir & Smith, 2002) and innovation (Luo, Slotegraaf, & Pan, 2006; Roy & Yami, 2009). Accordingly, a strong and positive relationship is found between coopetition and small business sustainability and performance (Levy et al., 2003; Morris, Koçak, & Özer 2007).

Findings in the field of small business and entrepreneurship suggest successful coopetition requires trust, commitment, and mutual benefit (Morris et al., 2007; Thomason, Simendinger, & Kiernan, 2013). Accordingly, coopetition in small businesses is intentional and more proactive and interactive than in large firms (Thomason et al., 2013). Despite the findings, coopetition research has not focused on the individuals and teams that make up these small and large firms, and why they may or may not choose to make competitive or cooperative decisions. Interestingly, recent research highlights that understanding the individual level coopetition practices (Bengtsson et al., 2016) and the antecedents, processes, and consequences of coopetition are areas of concern (Hoffmann et al., 2018). Regardless, recent studies still approach the topic as higher-level contextual factors driving the act.

Coopetition and Social Cognitive Theory.

Process theories – such as SCT – include two interdependent subsystems motivating behavior: a system governing goal selection and a system governing goal enactment (Kanfer, Frese, & Johnson, 2017; Heckhausen & Kuhl, 1985; Lewin, Dembo, Festinger, & Sears, 1944). Goals represent desired states, which "direct attention, organize action, and sustain effort aimed at achieving those states" (Kanfer et al., 2017, p. 6). Choices in goals range from general to specific goals, or from learning goals (developing competence) to performance goals (demonstrating competence so as to receive favorable appraisal from others) (Dweck, 1986; Nicholls, 1984), for example. Goal selection even changes across levels, such that launching

higher level goals constrains the emerging goals at lower levels, and the lack of advancement on lower-level goals leads people to revise or even abandon higher level goals (Johnson, Chang, & Lord, 2006). People rationally weigh the benefits and costs of goal selection with their desired outcome and plan their behavior accordingly (Ajzen, 1991; Vroom, 1964). Choosing a goal sets up the situation for action but does not explain how individuals realize their goals (Kanfer, 1990). Accordingly, goal enactment and the striving for goals includes the activities between goals and performance by allowing individuals to evaluate their progress and make decisions on their next steps, whether it is to persist, revise, or abandon the goal(s). In this regard, evaluating whether competing, cooperating, or incorporating attitudes of both allows for goal achievement.

SCT is a useful framework for understanding how individuals choose to enact their goals as it proposes human behavior is purposeful and regulated by forethought (Bandura, 1989, 2001). In the theory, personal dispositions are regularly determined by their interactions with significant behavioral and environmental factors (Bandura, 1986; Wood & Bandura, 1989). In accordance, there is a triadic reciprocal model where learning occurs in a social context and personal dispositions (i.e. competitiveness and cooperativeness), behaviors (competitive or competitive behaviors), and the environment (competitive or cooperative goal structures) influence each other bi-directionally and dynamically.

According to SCT, the way in which individuals acquire and maintain behavior is by taking into account the social environment in which the behavior is performed, as well as past experiences. The past experiences influence reinforcements, expectations, and expectancies, which all shape whether or not an individual engages in a specific behavior. Individuals cannot continuously attend to all aspects of their behavior (Bandura, 1982, 1986), and the reliance on past experiences allows them to selectively attend only to a particular dimension. For example,

an individual or a collective may engage in cooperation if they have found a past similar experience in cooperating led them to their desired outcome. However, the selective attention depends on other factors as well, such as whether an activity has significance in goal attainment or behavioral outcomes (Kanfer, 1990).

Individuals select goals and paths for themselves in anticipation of the probable consequences of prospective actions. They both select and create action paths that are likely to produce their desired expectations and outcomes, as well as avoid detrimental ones that are punishing or unrewarding (Bandura, 1991, 2001; Feather, 1982; Locke & Latham, 1990). The exercise of cognitive control over thoughts, feelings, and actions stems from an individual's capacity to symbolically represent desired end-states as goals through forethought (Bandura, 1986). For example, if cooperation previously led to a desired outcome, an individuals' cognitive control of their thoughts and feelings around this event allow them to see cooperative action as the behavior that leads to a forethought outcome. These future events are not motivation due to backward causation in which the event precedes the cause, but rather, individuals create cognitive representations in the present, and of future events, which are converted to motivators and regulators of behavior (Bandura, 1989). The described psychosocial functioning is regulated and influenced by a dynamic interplay of self-produced and external sources (Bandura, 1989).

Hence, individuals evaluate past experiences for whether competing, cooperating, or incorporating both led to a desired outcome and in similar future endeavors, will act accordingly. Again, if one had a prior goal achieved through pure cooperation, one may cooperate to produce the same desired outcome. The individual would not compete in order to avoid a potential detrimental outcome. If individuals do not have prior experiences to build from, they may rely on their individual attributes to choose whether to act competitively or cooperatively. Highly

competitive individuals may be able to recognize when they need to act cooperatively in order to win, but as they perceive most situations as a competition, may create those action paths differently than someone who competes for personal development for example. Due to individual differences and disparities in how people perceive situations, goal hierarchy and the various coopetition pathways at the individual and collective level begins to become particularly important when it is a group of individuals choosing on coopetition behaviors, rather than a solo individual.

Accordingly, the individual attributes of competitiveness and cooperativeness influences an individuals' goals, and along with the perceptions of goal interdependence and their environment, influences their behavior. At a team-level, they are additionally influenced by the group composition and environmental goal structures. Therefore, the individual and team differences, individual and team goals, and individual and team behaviors influence the formation of collective competition and cooperation. Coopetition, then, occurs during the process of evaluating which behavior leads to a desired outcome, which is filtered based on their own individual differences and perceptions of goal structures.

BUILDING COLLECTIVE COMPETITION, COOPERATION, AND COOPETITION

To develop a multilevel conceptualization of coopetition in teams, I begin by defining the relationships at the individual level, followed by utilizing the three requirements described by Chen and Kanfer (2006) - based on other multilevel literatures (e.g., Chan, 1998; Kozlowski & Klein, 2000; Morgeson & Hofmann, 1999) - to describe how collective competition and cooperation, followed by collective coopetition emerges. In the three requirements, first, parallel or functionally similar constructs and relationships are identified. Second, cross-level influences from both the top-down and bottom-up are considered. Third, the antecedents and outcomes of both the individual and team level are examined. Note, there are overlaps in the requirements, such as cross-levels influencing outcomes individually and collectively. Additionally, whereas collective coopetition is the process by which team members develop a shared disposition for competing, cooperating, or incorporating attitudes of both, collective competitiveness is the competitive disposition shared by a team that results in a preference for competition (Swab & Johnson, 2019), and collective cooperativeness is the cooperative disposition shared by a team that results in a preference for cooperation.

Individual Level Competition, Cooperation, and Coopetition

Competitiveness and cooperativeness as a trait and an internal psychological process influences whether one prefers to engage in competitive and cooperative acts. Though particular traits give insight to behavioral patterns that are likely to occur in certain situations, it does not explain both the psychological and physiological processes that trigger the patterns (Pervin, 1985). Therefore, individual personality also incorporates “an individual’s idiosyncratic goal

hierarchy", in that personality plays a role in how "individuals direct and organize their behavior" (Cropanzano, James, & Citera, 1993, p. 277). Therefore, prior to these competitive or cooperative acts, is the process of evaluating of which action leads to a desired outcome or goal achievement.

Per SCT, when attempting to exercise cognitive control over thoughts, feelings, and actions, it stems from an individual's capacity to symbolically represent desired end-states as goals through forethought (Bandura, 1986). They both select and create action paths that are likely to produce their desired expectations and outcomes, as well as avoid detrimental ones that are punishing or unrewarding (Bandura, 1991, 2001; Feather, 1982; Locke & Latham, 1990). An individuals' cognitive control of their thoughts and feelings around an event allows them to evaluate whether competition or cooperation leads to a forethought outcome. This cognitive process described is regulated and influenced by a dynamic interplay of self-produced and external sources (Bandura, 1989).

Again, individuals evaluate past experiences for whether competing, cooperating, or incorporating both led to a desired outcome and in similar future endeavors, will act accordingly. If individuals do not have prior experiences to build from, they may rely on their individual attributes when choosing whether to act competitively, cooperatively or incorporate both. Those high in competitiveness may be able to recognize acting cooperatively leads to a desired outcome, but as they perceive most situations as a competition, their action paths may be different than an individual that is lower in competitiveness.

Nevertheless, goal-based models of personality and of work motivation support that it is not only the selection of goals, but one's aspirations are shaped by a hierarchy of goals (Cropanzano et al., 1993; Lawson, 1997). Higher-order goals are the motivational objectives

individuals wish to attain. They are often broad and receive implicit attention. High in the hierarchy are fairly abstract values and topics related to self-identities (e.g., needs), while the bottom of the hierarchy includes something specific, such as task goals (e.g., complete 20 phone calls in a work day). This indicates that if an individual has the capacity to symbolically represent their desired outcome (per SCT), they may compete, cooperate, or incorporate both if they perceive that behavior would allow them to reach their higher order goal. That is, if they also have the ability to recognize the specific action leading to their higher order goal, due to the often implicit, broad, or abstract understanding of reaching one's needs for their self-identity. The higher levels specify the purpose or motivation of behavior, or the "why" and the lower level goals are the specific actions planned to attain the overarching goals, or the "how" (Barrick et al., 2013, p.135). In this way the "why" would be competing to win and gain the higher order self-esteem, and the lower level "how" would include behaviors such as deception of knowledge or unethical behaviors if those tasks were perceived to positively influence the desired outcome of winning. For example, a hypercompetitor places great importance on winning as an influencer to their self-esteem, and accordingly would place a higher goal on an action that allows them to win. This would mean competing to win over others, whether that is interpersonal, within a team, or between teams.

Therefore, individuals evaluate whether competing, cooperating, or incorporating attitudes of both leads to a desired outcome and acts accordingly. This is influenced by individual differences in competitiveness and cooperativeness, but also due to goals, as goals are an all-purpose organizing principle (Pervin 1983, 1989) that provides the direction and organization of behavior (Cropanzano et al., 1993).

Proposition 1: Individual differences in competitiveness and cooperativeness influence the pursuit of individual goals.

Proposition 2: Goal hierarchy regarding competitiveness and cooperativeness influences individual behaviors.

Personality as goal hierarchy though, is not just individual characteristics, but a dynamic interaction with sociocultural experiences and the environment (Martindale, 1980, 1981; Ryff, 1987) and "the manner in which individuals respond to the stimuli in their environment" (Cropanzano et al., 1993, p. 278). Though individual behavior is the "most elementary unit of analysis in any social system", the action taken by an individual due to their differences in competitiveness, cooperativeness, and their goals "does not occur in a vacuum, nor is it random" (Morgeson & Hofmann, 1999, p. 251; Parsons, 1951). Constructs residing at the lower level emerge as a higher-level property of the team through social interaction and exchange (Fulmer & Ostroff, 2015), as well as multiple situational or contextual factors (e.g., Cappelli & Shearer, 1991; Peters & O'Connor, 1980). A collective construct – defined as "any interdependent and goal-directed combination of individuals, groups, departments, organizations or institutions" - resides at the meso level of analysis and are representative portrayals of collective phenomena (Morgeson & Hofmann, 1999, p. 251).

Collective coopetition is not simply combining each members' individual competitive or cooperative tendency, as expressed by the group mean. This would identify it as an isomorphic, composition perspective, in that it would be the same in both structure and functionality as it emerges across levels (Morgeson & Hofmann, 1999). Rather, teams and coopetition as a

collective, represent an active and dynamic interaction of members that does not occur at the individual level (Kozlowski & Bell, 2003). Relationships that hold at one level of analysis may not at another. They may be stronger, weaker, or even in a reverse direction (Ostroff, 1993). Within this cycle, the processes, interactions, and goals within individuals and the team creates an adaptiveness of one's competitive or cooperative nature from a compilation perspective.

Compilations are derived from "divergent processes that yield functionally equivalent, but structurally different constructs across levels" (Kozlowski & Chao, 2012, p. 341). Where composition implies individuals are equal contributors to an outcome, compilation implies that individuals vary on the degree to which they contribute to the emergent group property (Cronin, Weingart, & Todorova, 2011). Accordingly, whereas the individual differences and group composition play a role in how team members compete and cooperate, the interaction of these individual attributes, goals, and behaviors, along with situational goal structures, ultimately determines the formation of the collective.

Multilevel Requirement 1 – Individual to Team Relationships.

Identifying parallel or functioning similar constructs and relationships provides the base for comparing the overlaps across the levels for both determinants and outcomes. Therefore, identifying the similarities and differences in competitiveness and cooperativeness from the individual to collective team level is the first step towards linking overlaps across levels. The individual attributes, goals, and behaviors all function on an individual level, but it is the way in which individuals process these three at the team level that influence the formation of the collective. I describe this by utilizing within and between team competition and cooperation, and social comparisons.

First, though individuals have natural competitive or cooperative tendencies, the direction of these tendencies are influenced by whether the competition or cooperation is within (intra) or between (inter) teams. The interaction between the individual differences and the situational interdependencies have large implications on whether individuals compete or cooperate within and/or between teams. This depends not only on psychological processes and goal structures within the team but also regarding how the interaction of the two leads the individual team members to compare themselves to other members on their own team, or how the team collectively compares themselves to other teams within their organization or industry. The influence of the differences stem from where the competitiveness, or lack of, is being directed. For example, competition between teams increases cooperation within teams (Blake, Shepard, & Mouton, 1964; Sherif, Harvey, White, Hood, & Sherif, 1961), but a social dilemma demonstrates that competition within teams weakens cooperation among team members (Coen, 2006; Dawes, 1980; Hardin, 1968).

Second, social comparison, a process of competition (Swab & Johnson, 2019), is another example of competition and cooperation having similar and different influences depending on whether the comparison is individual to individual or team to team. Individuals compare themselves and their own performance based on the abilities of others (Festinger, 1954), but this also occurs when comparing their collective group against other similar groups. This process of social categorization is invested with meaning between their own group and others (Ellemers, De Gilder, & Haslam, 2004). The comparison stems from the positive differentiation of oneself from others in competitive situations (Gardner, Gabriel, & Hochschild, 2002). Directly comparing one's group performance to another – meaning competitive goal structures are applied to an

intergroup setting – results in motivation and competitive emotions being heightened (Lount & Phillips, 2007; Wittchen, Krimmel, Kohler, & Hertel, 2013).

In an ongoing competition, social identification processes affect an individuals' responses to motivation, in accordance with both the successes and failures (Ouwerkerk, De Gilder, & De Vries, 2000). Individuals relish in being a part of a group or team that is positively distinct from others, with a stronger identity to the team when there is a high status or favorable comparison in their group compared to other groups (Ellemers, Kortekaas, & Ouwerkerk, 1999; Ellemers, van Knippenberg, de Vries, & Wilke, 1988). Consequently, teams which once cooperated with one another may become competitive within the team if they have unfavorable social comparisons with others. Accordingly, as we move from individual to team competitiveness and cooperativeness, individuals do not lose their natural tendencies, but they may direct the focus of their attributes to the achievement of different goals, which then influences their behavior in order to achieve the goal.

Proposition 3: Individual differences in competitiveness and cooperativeness are not isomorphic at the collective level, therefore, influence rather than determine the formation of collective competition, cooperation, and coopetition.

Proposition 4: Collective cooperation will be (a) stronger when making comparisons within the team and (b) weaker when making comparisons outside the team.

Proposition 5: Collective competition will be (a) stronger when making comparisons outside the team and (b) weaker when making comparisons within the team.

Multilevel Requirement 2 – Cross-level influences.

Goal structures form the majority of cross-level influences in coopetition, though this can stem from the individual perceptions, team, management, or organizational levels. Competitive, cooperative, and independent goal structures are important not only in individual motivations and behaviors, but also influences how the team is able to form their collective competitiveness and cooperativeness, and further, view and pursue their goals as individuals and/or collectives. For example, group goals positively affect effort (Locke & Latham, 1990; O'Leary-Kelly, Martocchio, & Frink, 1994) in that much like individual goal setting, setting challenging group goals influences persistence, focuses attention, and leads to the adoption of strategies to accomplish goals (Locke, Shaw, Saari, & Latham, 1981). Goals which form at the team level rather than just the individual level become a social interdependence among the team. Accordingly, collective competitiveness occurs when achieving group goals inhibits the goal achievement of another entity. This is, if the competition is directed outside of the team rather than within the team. Collective cooperativeness does not necessarily inhibit the success of another but occurs when achieving groups goals is possible without inhibiting the goal achievement of another or when more than one person is required to achieve a goal. In an organization however, individuals and teams are not the only influencers to the formation of collective goals, but rather, the organizational structure, leader, or management team acts as influencers to these within and between team behaviors. Accordingly, organizational goal structures influence how teams form their collective coopetition identity.

Proposition 6: Organizational goal structures influence the formation of collective competition, cooperation, and coopetition.

Through interdependencies, socialization, and interactions over time, even hypercompetitive individuals can learn to cooperate with rather than against others on a team to achieve their collective goals (Collier et al., 2010; Sampson, 1988). That is, however, depending on the nature of team members' divergent goals (Pearsall & Venkataramani, 2015) and whether the individual places goal precedence on egocentric or group-centric goals (Crown & Rosse, 1995). When goals conflict, individuals tend to pursue their individual interests (Deutsch, 1949). Therefore, how individuals interpret and act on their individual and team goals largely depends on whether or not the goal structure is within teams or between teams, and whether the members share the desired outcome. Asymmetric goals do not necessarily mean that goals are in conflict with one another. However, conflicting goals leads individuals to pursue their individual interests (Deutsch, 1949) so teams must find ways in which to find goal congruence. Strategies to ensure goal congruence to positive team performance include team identification strategies and team planning processes (Pearsall & Venkataramani, 2015).

Proposition 7: Goal congruence influences the formation of collective competition, cooperation, and coopetition.

Proposition 8: Collective cooperation will be (a) stronger with the perception of a cooperative interdependence and (b) weaker with the perception of a competitive interdependence.

Proposition 9: Collective competition will be (a) stronger with the perception of a competitive interdependence and (b) weaker with the perception of a cooperative interdependence.

Multilevel Requirement 3 – Antecedents and Outcomes.

Individual level antecedents of coopetitive behavior includes one's individual attributes of competitiveness or cooperativeness, but it also includes other individual differences that are important antecedents and incorporate the group composition. Broadly, inputs to consider include work experience, tenure at an organization, or other individual differences such as agreeableness and consciousness. At the team-level, these antecedents are a combination of these individual attributes, but also includes team-level factors such as group norms, work design, and the climate. Therefore, the input of the individual and group composition influences the formation of the individual and team level behaviors and collectives.

More specifically, the composition of gender will influence the formation of the collectives. First, females tend to be more cooperative than males (i.e. individual level antecedent) (Niederle & Vesterlund, 2007, 2011), and second, females prefer a more cooperative environment than men (Ahlgren, 1983; Kuhn & Villeval, 2014). Third, if given the choice, women frequently shy away from competition (Croson & Gneezy, 2009). Fourth, females prefer to compete in small groups rather than larger groups (i.e. team level antecedent) (Hanek, Garcia, & Tor, 2016) and lastly, are more likely to stop competing after a loss (Buser, 2016).

A second example is group familiarity, which influences competitive or cooperative behavior amongst groups (Kistruck, Lount, Smith, Bergman, & Moss, 2016). Familiarity refers to the amount of knowledge or awareness groups have with one another (Oakes, Haslam,

Morrison, & Grace, 1995). With familiarity comes feelings of joint responsibility and relatedness (Ryan & Deci, 2000). Heightened levels of relatedness lead to a greater desire for connection with those others (Ryan, 1993; Vallerand & Losier, 1999). Further, this leads to increased prosocial motivation, which results in the desire to take actions that benefit known others. Therefore, as teams become more familiar with one another, they will engage in cooperative behaviors that benefit not just themselves, but also their group members.

Proposition 10: Group composition influences competition, cooperation, and coopetition at the (a) individual level and (b) the collective level.

Proposition 11: Gender influences competition, cooperation, and coopetition at the (a) individual level and (b) the formation at the collective level.

Proposition 12: Team familiarity influences competition, cooperation, and coopetition at the (a) individual level and (b) the formation at collective level.

There are outcomes and cross-level influences based on achievement motivations in individual and collective competition, cooperation, and coopetition. The motivations to achieve can stem from individual differences but can also be influenced by the goals that leaders and organizations place on individuals and their teams. Whether individually, collectively, or a top down influence, there are three motivational factors to consider in the performance outcomes of cooperating and competing individuals (Johnson, Johnson, Roseth, & Shin, 2014). First, when

individuals are presented with difficult task goals, an individual is motivated to cooperate with others to utilize all social resources rather than only their own resources. In this regard, individuals in the situation are unable to achieve the goal(s) alone (i.e. winning the super bowl), therefore, cooperate for group resources. Competitors in this situation lose the additional social resources of task performance.

Second, cooperating with others creates an extrinsic motivation and peer pressure to engage with others on a task and do one's fair share of the work. The expectations among individuals and of the situation gives the encouragement to engage in cooperative behavior (i.e. completing a group project at work). Competitors in this situation do not receive the encouragement and extrinsic motivation from a group of cooperators. Lastly, social benefits derive from cooperating on a task. The cooperative action motivates for the benefit of the common good (and maybe oneself) and the social importance beyond the task itself. The meaning of the goal goes beyond self-interest and benefits others (i.e. curing a disease).

Specific examples of these individual to team collective outcomes include intergroup competition increases a groups' efficacy and productivity while decreasing inefficiency (Mulvey & Ribbons, 1999). Intergroup competition also provides improvements to decision-making and increases intragroup team cooperation (Bornstein & Erev, 1994). Overall, when team members share a common understanding of work-related aspects (i.e. collective competition, cooperation, or coopetition) they are able to effectively accomplish tasks and team goals (Santos, Uitdewilligen, & Passos, 2015). The influences of competing and cooperating on the group efficacy, productivity, decision-making, and effectiveness of accomplishing tasks and goals influence the overall effectiveness of the team. Therefore, while collective competition,

cooperation, and coopetition influence a variety of collective outcomes, they also specifically influence team effectiveness.

Proposition 13: Collective competition, cooperation, and coopetition influences collective outcomes.

Proposition 14: Collective competition, cooperation, and coopetition influences team effectiveness.

DISCUSSION

Most situations are not purely competitive or cooperative (Galinsky & Schweitzer, 2015), therefore, understanding coopetition is important. However, coopetition is not only useful as a firm to firm concept, but also individually and collectively. Therefore, in this article, I introduced the formation of coopetition from the individual to the collective level, along with theorizing on the emergence of collective competition and cooperation.

Collective competitiveness is formed through reciprocal interactions over time in situations that may require competitive action, which results in the competitive disposition shared by a team (Swab & Johnson, 2019). Collective cooperativeness is also formed through the multiple interactions over time, but through situations requiring cooperative action, defined as the cooperative disposition shared by a team that results in a preference for cooperation. At the individual level, coopetition includes the process of how an individual competes, cooperates, or incorporates both based on how they interpret the hierarchy of their goals and desired outcomes. At the team level, coopetition is not just behaving in both a competitive and cooperative manner, but collective coopetition also includes the process of individuals (i.e. individual level coopetition) and collectives (i.e. collective coopetition) evaluating when competing, cooperating, or incorporating attitudes or behaviors of both leads to the desired outcome or goal achievement.

These collectives emerge based on the consensus of the team members shared competitive or cooperative dispositions (Chan, 1998) or in coopetition, the shared consensus on evaluating when to behave competitively, cooperatively, or incorporating behaviors of both. However, they emerge as a compilation rather than a composition due to their divergent

processes in which they form at the collective level. Sharing their inclinations allows the team to frame the competitive or cooperative environment for each other and with each other. Over time, the emergent collective(s) develops and group members view goal interdependencies similarly (Fulmer & Ostroff, 2015; Morgeson & Hofmann, 1999). Accordingly, the individual dispositions of competitiveness and cooperativeness are large contributors to forming a groups' collective competitive, cooperative, or coopetition identity, but it is also influenced by individuals' behaviors, their goals, and the hierarchy of those goals in relationship to their individual differences.

In building these collectives, I integrated theory on competitive and cooperative personality and goal structures with social cognitive theory. The SCT framework allowed for a dynamic, multilevel model of bottom up emergence through which coopetition is influenced and built. I discussed how the individual differences, perceptions of within and between team comparisons, and the view of goal hierarchy, goal congruence, the communication of goals, and the pathways of those goals emergence lead to this collective. I utilize the rest of the discussion section to highlight theoretical implications, important practical implications, and opportunities for future research.

Theoretical Implications

The described multilevel model has several theoretical implications. First, the emerging nature of coopetition is specified, followed by how the conflicting dynamic of competition and cooperation changes across levels of analysis. It answers the need for understanding the "black box" of coopetition not only from a micro and individual level perspective, but specifically from a bottom-up perspective. Research will be able to identify coopetition as not just a macro firm-to-firm concept, but a concept to be utilized on a greater scale within a team or firm.

Next, coopetition research typically concentrates on developing its foundations (e.g., Chen, 2008), conditions for formation (e.g., Brandes, Brege, Brehmer, & Lilliecreutz, 2007), the fundamental and motivating processes (e.g., de Rond & Bouchikhi, 2004), and the outcomes (e.g., Luo, Rindfleisch, & Tse, 2007) (Dorn et al., 2016). Therefore, in this paper, I have sought to make contributions in all four areas in order to further develop the coopetition research stream within and between individuals and teams. Competitiveness and cooperativeness from an individual level provide its ontological foundation. In a team, the conditions for formation and the motivating processes include working towards a common goal, whether to enhance the business or excel in comparison to another team, for example. The distinction is made between competition, cooperation, and coopetition as a group level construct and not simply the variance of the two individual traits. It identifies the emergence of collective coopetition.

Third, there is strength in the model stemming from the reliance on the competition, cooperation, and team literature, along with interdependence theories, process perspectives, and social cognitive theory. Using these theoretical foundations, the model describes the joint influence of competition and cooperation, team goals, and the identity of a team through their goals and comparisons in the emergence and influence of coopetition. To my knowledge, this is the first time to theorize on a bottom-up perspective of coopetition. The model allows for communal influences of the individuals on the team and vice versa, as both the emergence of the teams' collective was determined from the individual level up, as well as the dynamic cycle of influence from the teams' processes and outcomes.

Practical Implications

Practical implications exist for individuals when evaluating their choices for team members, as the combination of team member attributes has a profound impact on the team

processes and outcomes. While team collective coopetition forms from the team member interactions, it still relies on the initial individual inputs of competitiveness and cooperativeness. Therefore, individuals will want to consider who they are willing to form a team with (if given a choice). While individuals focus on choosing members based on their experience, abilities, and financial and social capital, they may want to consider personality as an important indicator of how the team will work together and what outcomes that may influence. For example, competitiveness and cooperativeness as personality indicators play a large role in the interactions, satisfaction, and achievement of team members. This should be considered not only with the addition of a team member, but also with how the departure of a member influences the balance of the team.

Second, the value of selecting the right team member is not only useful when choosing a team member, but also in larger organizational settings. Incorporating this technique into the human resource practices of selection systems and reward structures is wise (see Sapegina & Weibel, 2017 for a review on competition and HR practices). Organizations and their management teams should consider the implications of competition and cooperation when selecting employees. Depending on the role, whether it be an individual role or one working as a team, careful selection on the personality of the individual is important.

Finally, a fit between personal and team goals is critical for team effectiveness (Aritzeta & Balluerka, 2006). In team or goal formation, team members must clearly communicate their individual and team goals in order to obtain high goal interdependence and goal congruence. In organizations, managers should also be cognizant of their design for administering award and recognition systems, evaluating whether they want to reward for individual or collective success. Both reward systems have their ups and downs, but one should be aware of whether someone

will "fit" well within their organization based on their competitive or cooperative nature individually, and both within and between teams. Understanding the powerful influence of member attributes to a team assists practitioners in selecting more effective teams (Hollenbeck, DeRue, & Guzzo, 2004) and utilizing the best reward structure.

Future Research

Empirical Testing. There are numerous directions to take the described theorized model. First, the model is prepared for empirical testing. However, the first step would be to define which scales and conceptualizations of competition and cooperation are appropriate. Currently, there are multiple scales used to measure trait competitiveness, the three competitive orientations, etc. (for reviews see Houston, McIntire, Kinnie, & Terry, 2002; Newby & Klein, 2014). While scales on cooperativeness do exist (e.g., Chatman & Barsade, 1995; Martin & Larsen, 1976), cooperation is typically studied in terms of behaviors in a certain situation, rather than an inherent trait. Additionally, while competitiveness has been conceptualized with three distinct orientations, cooperativeness has been described on a scale from low to high levels of cooperation (Chatman & Barsade, 1995).

Thus, prior to operationalizing competitive, cooperation and co-opetition collectively, the constructs need to be tested and validated. Once the appropriate scales and conceptualizations are identified for the individual level competitiveness and cooperativeness, each sample individual needs to be empirically tested on their trait-like behaviors, following competition and cooperation as a situation. This establishes a base of the team members' mix between the two, as well as provides validation on the difference between the composition of coopetition and coopetition as a compilation construct.

Communication of Goals. It is not just goal congruence that is important, but also whether or not it has been communicated properly. Though communicating goal congruence is important for teams, individuals may not even be consciously aware of these goals that influence their behavior (DeShon & Gillespie, 2005; Dijksterhuis & Aarts, 2010). The implicit, higher-order goals are representative of "enduring personal agendas" that inhabit the top of an individual's goal hierarchy (Barrick et al., 2013, p.135). The importance and hierarchy of the goal however, still varies depending on individual personality (Cropanzano et al., 1993; DeShon & Gillespie, 2005). The process by which individuals and collectives evaluate these goals and choose their competitive or cooperative approach relies on SCT, but teams must communicate their goals - and the hierarchy of those goals - with one another in order to develop a more accurate understanding of each other's goals and develop a collective plan to purse those. Therefore, future research should theoretically and empirically examine the influence of goal communication on the formation of collective competition, cooperation, and coopetition.

Communal Exchange. Relationships in organizations can be differentiated in many ways, but one such as is whether the relationships rely on a communal norm or an exchange-based norm. Communal norms are need based without clearly specified obligations, whereas exchange-based norms are characterized by a short-term focus where benefits are given in exchange for benefits received. Communal norms evolve within organizations when employees develop future-oriented relationships characterized by high levels of trust and closeness (Cropanzano & Mitchell, 2005), whereas exchange-based norms are not based on trust and closeness (Clark & Mills, 2011).

Individual and collective cooperation, competition, and coopetition will fundamentally shift how employees perceive workplace relationships. Exchange based norms may increase

collective competition without the reliance of trust but also may increase collective cooperation due to cooperation providing an exchange of benefits. Communal norms however, encourage collective cooperation due to the trust and reciprocal nature of cooperation (McDougall, 1932). Successful coopetition in small businesses requires trust, commitment, and mutual benefit (Morris et al., 2007; Thomason et al., 2013), and therefore, may lead to the encouragement collective coopetition within the team to understand when to compete and cooperate.

Goal Pathways. Goal congruence and the communication of ways to achieve these goals will further be influenced by the pathways in which individuals pursue their collective goals, represented by the differences in monofocal or polyfocal goals. This includes a variety of the lower level goal hierarchies that incorporate the specific actions in which to reach these higher order goals (i.e. tasks). A monofocal shared collective identity includes a team with one primary goal that it focuses on (Cardon, Post, & Forster, 2017). An example would be a sales team who is each working an extra hour per day due to a collective goal of higher sales numbers than a specific sales team in their organization. This means the team would be collectively competitive with the other sales team while being collectively cooperative within their own team by fulfilling their individual and group goal of working an extra hour per day. A polyfocal identity would stem from multiple roles, identities, and objects (Cardon et al., 2017). An example of this would be a sales team who all wants to do well but does not have the specific act of working an extra hour a day nor the collective specific goal of beating a certain team. Rather, they each bring variations of activities and goals to their team in order to be successful.

There are both positive and negatives to both goal types, but like goal congruence, must be communicated. Organizations, leaders, or teams themselves should communicate how they plan to use either type in order for individuals to understand appropriate or necessary competing

and cooperating behaviors for desired higher-order collective outcomes. Future research should examine how the communication of pathways – whether monofocal or polyfocal - influences the formation of collective competition, cooperation, or coopetition.

Complexity of Teams. Competition, cooperation, and coopetition are mechanisms for furthering our understanding of the complexity in teams. In a new venture team for example, the distinction between founders and other entrepreneurial team members is important as founders and team members which join the new venture at a later date have differences in how they interact and define themselves in relation to the new venture (Forster & Jansen, 2010). This leads to complications in feelings and viewpoints of appropriate team behavior and interactions with one another (i.e. whether or not the founder has greater status or power in the venture). A solo founder often has stronger emotional ties and a deeper personal connection to the new venture compared to members who join at a later time (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005; Gimeno, Folta, Cooper, & Woo, 1997). However, with an emerging new venture team rather than a dominant founder, the influence of one member may or may not be as clear. Accordingly, future research can explore team complexity and coopetition, such as the differences in team formation in organizations and entrepreneurial teams, and whether these disconnects lead to competitive behavior.

Creativity. Creative self-efficacy (CSE) is formed from the integration of research on self-efficacy and creativity, defined as the self-view "that one has the ability to produce creative outcomes" (Tierney & Farmer, 2002, p.1138). CSE relies on SCT, proposing that both personal and contextual factors are important (Tierney & Farmer, 2002) and that social environments have the prospect to provide resources and opportunities that individuals may seek out in order to succeed (Richter, Hirst, Knipperberg, & Baer, 2012).

As creative efforts are inspired by CSE, the level of CSE and the social context in which individuals are embedded may share relationships with how individuals perceive their relationship with other team members. Therefore, teams with heightened levels of CSE have the ability to view their team members as a resource rather than a hurdle which must be overcome. In turn, this may influence their perception of goal interdependence and lead to greater collective cooperation. However, collective coopetition will also be important to balance, as competition can motivate individuals to challenge each other by presenting new solutions or by suggesting new products for example (Burke, Stagl, Salas, Pierce, & Kendall, 2006).

Individual and Team Satisfaction. Group performance, member performance, member satisfaction, and interpersonal contributions are all enhanced when there is collective agreement or congruence on a challenging goal (Durham, Knight, & Locke, 1997; Johnson, Ostrow, Perna, & Etzel, 1997; Kristof-Brown & Stevens, 2001; Ludwig & Geller, 1997; Yammarino & Naughton, 1992). Accordingly, the way in which team members converge on a goal influences both individual and team level satisfaction.

Pure competitiveness within the team may lead to negative individual satisfaction outcomes, as even though highly competitive individuals enjoy competition, the negative influences within the team has implications on goal congruence and performance. Thus, they will be unsatisfied with the negative performance outcomes. However, high cooperativeness within the team and high cooperativeness outside of the team may also lead to negative outcomes, as individuals who enjoy competing will have been unable to direct their competitive behavior. This may also create a disturbance among the collective team cooperativeness. Accordingly, a balance of coopetition, with competitiveness outside the team and cooperativeness within the team intra-team will create a higher satisfaction. Those who prefer competition will have fulfilled their

desire to compete and those who wish to avoid competition and cooperate will feel as they have cooperated with others, but also gained social inclusion amongst the group. However, this is in respect to personality, as individual dispositions play a large role in developing goal hierarchies.

Concluding Remarks

Research on the emergence of coopetition highlights important relationships between the competitiveness and cooperativeness of individuals, their team, environmental goals, and behavioral outcomes. These influences further determine other outcomes, such as motivations, individual and team satisfaction and performance outcomes. Yet, despite the evidence that coopetition must be performed by individuals and their group members, the literature on coopetition still lacks detailed theorizing and empirical testing regarding how the firm to firm phenomenon is influenced by these individual and teams in an organization. Addressing this void, the dynamic and multilevel model of emergence and influence of competing, cooperating, and incorporating attitudes of both offers a platform for thinking about coopetition from a full multilevel perspective. I encourage additional research of coopetition at all levels of analysis.

Essay Two:

The Balance of Competing and Cooperating:

How Competitive Individuals Engage in Coopetition

Essay Abstract:

Studies on coopetition are frequently geared toward a macro level, firm to firm view. However, decisions on whether to compete, cooperate, or enact attitudes of both are made by individuals and teams within organizations that have their own preferences towards acting competitively or cooperatively. Current literature lacks a multilevel lens of the phenomenon and accordingly, the manuscript theorizes and empirically examines the micro foundations of coopetition with the use of individual competitiveness and cooperativeness, along with how the perceptions of the environment as competitive, cooperative, or independent (i.e. social interdependence theory) influences behavior. The manuscript utilizes social cognitive theory as a framework due the triadic influences of dispositions, behaviors, and environmental influences of emerging coopetition. The results suggest situations are rarely purely competitive or cooperative as individual dispositions, perceptions, and situational interdependencies influence whether individual engage in competitive, cooperative, or both types of behaviors.

INTRODUCTION

Choosing between competing and cooperating is a tension defining many of our daily interactions. Whether at home at the dinner table or at work during a negotiation, we frequently find ourselves facing challenges that seem to suggest divergent solutions. Yet, most of our situations and interactions are not purely competitive or cooperative (Deutsch, 1949; Galinsky & Schweitzer, 2015). For example, certain parts of the world begin a business arrangement with an exchange of gifts and shared meals prior to negotiations. Choosing whether to pursue competitive or cooperative action in a situation may not be the correct question to ask ourselves. Rather, we must agilely and sometimes swiftly transfer between the two. The way in which we are able to smoothly evaluate whether to compete or cooperate gives us insight into human nature and an understanding of how to effectively navigate situations both at home and in the work environment.

The organizational science literature defines the conflicting dynamic as "coopetition," describing the simultaneous cooperation *and* competition between firms (Brandenbuger & Nalefbuff, 1996). The benefits of coopetition among firms ranges from sharing knowledge and resources (Chin, Chan, & Lam, 2008), achieving higher volumes and related scale efficiencies (Bonel & Rocco, 2007), to creating and capturing value (Ritala, Golnam, & Wegmann, 2014). Research on coopetition tends to focus on large companies at higher, macro levels – including the inter-firm level (e.g., Gnyawali & Park, 2009; Kylänen & Rusko, 2011), the intra-firm level (e.g., Luo, 2005; Luo, Slotegraaf, & Pan, 2006) and the network (e.g., Gnyawali, He, & Madhavan, 2006; Peng & Bourne, 2009). Despite reviews recognizing the influence of

coopetition across all levels of analysis (e.g., Dorn, Schweiger, & Albers, 2016) and arguments for research to address individual level coopetition practices (Bengtsson, Kock, Lundgren-Henriksson, & Näsholm, 2016), the phenomenon is still largely ignored at both the individual and team level.

The current literature overlooks the fact that whether a situation, interaction, or firm decision is set-up for competitive or cooperative action, there are still individual differences in how people compete across various circumstances and settings (i.e. trait competitiveness), along with a variance in the degree in which they view their environment and other individuals within it as competitive or cooperative (i.e. perceived environmental competitiveness) (Murayama & Elliot, 2012). As one's trait competitiveness influences how they perceive the environment as competitive or cooperative (Elliot, Jury, & Murayama, 2018), these perceptions have implications on how individuals are able to nimbly move between the two, and thus, influence coopetition between individuals, teams, work groups, and up to firm level decisions.

Building the foundation of coopetition is important as it develops our understanding of actions not only from the frequently studied firm and industry levels, but how the variety of levels - individual, team, work group, etc. – influence each other along with their environmental stimuli. Studies on competitive and cooperative situations tend to focus on the environmental level of analysis as situational interdependencies (i.e. the studies on pure competition and pure cooperation) and are criticized for their reliance on laboratory studies that provide individuals with adequate resources that are not accurate representations of true situations requiring the use of both competition and cooperation (Kistruck, Lount, Smith, Bergman, & Moss, 2016), along with ignoring the individuals' differences in how they view competitive situations. Accordingly, understanding the micro foundations of coopetition by relying on multilevel theorizing allows an

effective transition of the individual single-level of competition and cooperation within individuals, to the emergent phenomenon that is influenced by situational interdependencies and engagement with others.

Along with the individual differences in competitive and cooperative orientations, social interdependence theory (Johnson & Johnson, 1989) and social cognitive theory (Bandura, 1986) provide useful theoretical frameworks for understanding such effects. Social interdependence theory describes how people's beliefs about how their goals are related to others (Deutsch, 1949). Social cognitive theory (SCT) suggests that personal dispositions are often a result of the triadic, reciprocal, and bi-directional interaction between behavioral and environmental factors (Wood & Bandura, 1989). It proposes human behavior is regulated by forethought, and accordingly, actors are purposeful in their actions in order to achieve a desired outcome or goal (Bandura, 1989, 2001). Accordingly, SCT provides the theoretical framework for how individuals assess and choose to pursue their interdependent goals, whether individually or collectively.

A number of contributions are made to organizational literature in the following ways. First, by providing the micro foundations of coopetition and second, by analyzing its multilevel influences starting from the bottom-up. Though Landkammer and Sassenberg (2016) made the first step toward understanding the implications of interpersonal coopetition on behavior, their study did not include individual difference variables. A concept will be incomplete and imprecise while a black box remains for the bottom-up process (Kozlowski, & Klein, 2000), thus extensions are made to coopetition as a multilevel theory by building the lowest level of analysis. Third, I define and utilize the term individual coopetition, which describes the process of individuals evaluating when to compete, cooperate, or incorporate both behaviors. Fourth, the

study provides a new way to examine competition and cooperation in a combined form, rather than as pure situations. Organizational Behavior and Psychology literature is currently lacking in an understanding of the hybrid activity as research has tended to focus on pure competition and pure cooperation (e.g., Beersma et al., 2003; Pierce, Kilduff, Galinsky, & Sivanathan, 2013; Mead & Maner, 2012; Toma, Bry, & Butera, 2013). Fifth, it extends current literature which has just begun to examine the combined effects of individual dispositions and perceived environmental competitiveness as a process with situations rather than each separately (i.e. Elliot et al., 2018). The combined effects utilize social cognitive theory as the way in which individuals evaluate their desired outcomes and act. Finally, both theoretical and practical implications are provided, as well as future directions for individual and team level coopetition.

The following section begins by emphasizing current conceptualizations of competition, cooperation, and coopetition, followed by theorizing and empirically investigating the emergence of coopetition at the individual level using SCT.

THEORY AND HYPOTHESES

"Coopetition does not allow for preferring competing to cooperating (or vice versa), but *requires showing both* at the behavioral level during the situation", hence, posing *conflicting demands* (Landkammer & Sassenberg, 2016, p. 1672). I take this one step further in that coopetition from the most micro level includes the individual disposition along with the behavioral acts and environmental stimuli. The personal dispositions (i.e. competitiveness and cooperativeness) are regularly determined by their interactions with significant behavioral and environmental factors (i.e. competitive or cooperative goal structures and environmental stimuli) (Wood & Bandura, 1989), and correspondingly, provide the ways in which individuals understand and choose to enact their goals (Bandura, 1986). This process of choosing which behavior will help achieve the goal is based on how the individual differences and situations interact in order form a *perception* of how one should proceed. Consistent with SCT, this implies a comprehensive, multilevel, framework for examining the influences of human action rather than focusing on levels or variables independently.

I portray coopetition as an interactive process where individuals evaluate whether to engage in competitive, cooperation, or coopetition behaviors based on how they perceive these behaviors will lead to the achievement of goals, based on their individual goal hierarchies. The hierarchy of goals is determined by individual personality (i.e. individual competitiveness or cooperativeness) and environmental stimuli (i.e. competitive or cooperative goal structure) (Cropanzano, James, & Citera, 2003). Therefore, I define coopetition at the individual level as *the process by which individuals evaluate competition, cooperation, or incorporating actions of*

both, based on their interpretation of individual goal hierarchies and desired outcomes. Accordingly, it is the interpretation of the relationships between the individual differences, the situation, and the bias perception of the situation that each influence how individuals choose to behave in order to obtain a desired outcome.

I begin with a of review the foundations of competition and cooperation, followed by identifying the micro levels coopetition and how it emerges. Competition is conceptualized in three distinct ways – as an internal trait disposition, a structural situation, and as a perceived interaction of the internal process and situation. The same theoretical arguments are made for cooperation as three conceptualizations, though cooperation is typically studied from a cooperative situation perspective.

The Individual Dispositions of Competition and Cooperation

Competitiveness is the intra-personal role competition plays as a trait, defined as "individual differences resulting in a preference for competition" (Swab & Johnson, 2019). It is described as general trait competitiveness (Houston, Harris, McIntire, & Francis, 2002), or being high in achievement striving (Spence & Helmreich, 1978). Though general trait competitiveness operates on a high to low scale, there are other conceptualizations which further break down different motivations for competing – such as Newby and Klein (2014) which describe competitiveness on four dimensions across various situational contexts – general competitiveness, dominance, competitive affectivity, and personal enhancement - or Ryckman and colleagues (2009), which utilize the three competitive orientations and motivations for competing – hypercompetitiveness, personal development, and competitive avoidant (Ryckman, Thornton, & Gold, 2009). In sum, there are those who avoid competition, as well as those with a

general inclination towards competing, whether that be as a need to compete and win over others or competing to better themselves.

The first of the three competitive orientations is *hypercompetitiveness (HC)*, which results from a need to win at all costs (Ryckman, Hammer, Kaczor, & Gold; 1996, Ryckman, Libby, Borne, Gold, & Lindner, 1997). These highly neurotic individuals use the accumulation of power, prestige, and possessions to account for their personal success (Horney, 1945). They tend to view their environment as hostile and dangerous (Brown, Cron, & Slocum, 1998), which accounts for their ruthless and unsympathetic behavior (Sibley, Wilson, & Duckitt, 2007). Hypercompetitors have similarities to the impatience and irritability behavior of Type A individuals (Thornton, Ryckman, & Gold, 2011), the aggressiveness, arrogance, and self-interest found in overt narcissism (Luchner, Houston, Walker, & Houston, 2011), and the ethical dilemmas and manipulation over others found in Machiavellianism (Mudrack, Bloodgood, & Turnley, 2012). These individuals are sometimes referred to those who compete for dominance (Newby & Klein, 2014), though they are distinct constructs.

The second competitive orientation is for means of *personal development (PD)*. These individuals focus on competition for personal growth, and the enjoyment and mastery of the task, rather than as a win-lose situation (Ryckman et al., 1996). They do not view their competitor as an object which must be overcome, and therefore do not concern themselves with the unnecessary performance comparison to others (Dru, 2003; Ryckman et al., 1996). Those with the PD competitive orientation demonstrate high levels of achievement striving, affiliation, consciousness, extraversion, self-esteem, and a concern for the welfare of others, along with low levels of aggression, neuroticism, and dominance behaviors (Ross, Rausch, & Canada, 2003; Ryckman & Hamel, 1992; Ryckman et al., 1996; Ryckman et al., 1997; Thornton et al., 2011).

They generally possess cooperative tendencies and a willingness to forgive (Collier, Ryckman, Thornton, & Gold, 2010; Ross et al., 2003).

Third, there are also those individuals who are *competition avoidant* (CA). They share the same underlying needs, insecure attachments, neuroticism, and low psychological health as hypercompetitors (Johnson & Swab; Ryckman, Hammer, Kaczor, & Gold, 1990; Ryckman, Thornton, & Gold, 2009). Individuals of the CA orientation have the excessive fear of losing the affection and approval of others (Ryckman et al., 2009). In this way, competition presents itself as a lose-lose situation. Winning may lead to a loss of the affinity of their competitor but losing the competition risks ridicule and the loss of opponent respect. Accordingly, a competitive situation for the CA oriented individual induces anxiety, creates self-handicapping behaviors, generates the fear of humiliation, and reduces motivation (Ryckman et al., 2009).

There are certain forms of competition which have relationships to cooperation (Ross et al., 2003). For example, the PD competitor utilizes competition as a means for self-improvement rather than a win or lose situation. Compared to hypercompetitors, the PD competitive orientation is more likely to engage in cooperation acts due to their concern for the welfare of others, decreased level of dominance, and high self-value (Ryckman et al., 1996). Therefore, PD competitors fall somewhere between HC and CA as they share aspects of both due to a willingness to compete but also a willingness to cooperate.

Cooperativeness and competitiveness have been interpreted as the inverse of each other (Martin & Larsen, 1976). Though they may be situationally opposing, the individual dispositions of the two are not the opposite ends of a spectrum, but distinct constructs (Lu, Au, Jiang, Xie, & Yam, 2013). Cooperation is defined as "the willful contribution of personal effort to the completion of interdependent jobs" (Wagner, 1995, p. 152). It is conceptualized on a low to high

level of cooperativeness and viewed from an individualist vs. collectivist perspective in that "individualists are likely to prefer to avoid cooperation and instead devote their attention to the pursuit of personal gains" (Wagner, 1995, p. 155). Research finds cooperation is consistent with a collectivists' pursuit of group interests, group performance, and group well-being, rather than immediate personal gain (Wagner, 1995). Though cooperation is regularly studied from a viewpoint of situations and goals, whether one engages in cooperative behavior is influenced *both* by personality and whether an individual tends to pursue individualistic or collective goals (Chatman & Barsade, 1995; McClintock & Liebrand, 1988). Heightened levels of cooperativeness are correlated with agreeableness, conscientious, and extroversion, along with lower levels of neuroticism (LePine & Van Dyne, 2001).

Cooperativeness is not classified into three separate orientations, but it does share overlaps with the three competitive orientations. A hyper-cooperator then, favors cooperation. They prefer to operate in a group rather than be singled out in a win-lose situation, going as far as cooperating in situations even when it is not necessary or useful. Second, a cooperation avoidant individual does not wish to engage in cooperative acts. They avoid cooperating, whether that be through competitive acts or disengagement with others. They have a need to win and turn everything into a contest against others, rather than having a preference of working with others. Lastly, general cooperativeness prefers cooperation, but they are not necessarily opposed to other behaviors. Though they wish to engage with others, they are not neurotic like the hyper-cooperators, therefore recognize when other behaviors may be appropriate in order to achieve personal or team goals. Accordingly, individuals may be high in competitiveness or cooperativeness, low in either, or fall somewhere in between depending on their individual psychological differences and desired goal outcomes (Lu et al., 2013).

These individual dispositions towards competing, cooperating, or incorporating attitudes of both is important to how individuals perceive their goal and choose to enact those goals. Though goals are determined by both individual personality and environmental stimuli, the hierarchy of those goals are ultimately chosen based on individual dispositions (Cropanzano et al., 2003). Accordingly, the level of competitiveness and cooperativeness in an individual will largely influence the differences in how they choose to perceive and enact goal directed behaviors. From a very young age, some individuals are aggressive and accept competition as a normal social behavior (Kagen & Moss, 1962). Hence, competition as a trait or state action is not necessarily a learned behavior but is rooted within an individual.

In sum, hypercompetitors often compete in situations that are non-competitive (Matthews, 1982), act aggressively or arrogantly (Luchner et al., 2011), or tend to have higher intentions towards negative behaviors, such as cheating (Ridgon & D'Esterre, 2015) or workplace aggression (Johnson & Swab). Both the hypercompetitors and those who compete for dominance also avoid cooperative behaviors and situations when it does not benefit their goals or when they do not at least perceive that it would benefit their goals. Competing hypercompetitively or as a means for dominance impacts a person's self-esteem and actions based on their negative perceptions of their relationships with others and their environment, and the perceived respect and approval from winning or refraining from competition. Therefore, as personalities do change, but slowly (Roberts, Walton, & Viechtbauer, 2006), I propose that those high in trait competitiveness as a means for dominance, and hypercompetitors who have a need to win at all costs will be less likely to engage in coopetition and more often act competitively within any given situation. Accordingly, they will have an individualistic nature rather than follow a cooperative or independent goal structure.

Alternatively, PD competitors have lower neurotic behaviors and do not perceive others as a threat to their self-esteem (Ryckman et al., 1996). They have the ability to due to engage with others on a social task (extroversion), as well as have the conscious ability to recognize when a task requires additional individuals (conscientiousness), rather than engaging in cooperation due to the excess fear of losing affection from others. In addition, I would expect PD competitors as most likely to engage in coopetition due to their willingness to engage in both competitive and cooperative behaviors, while also having tendencies related to both competition and cooperation. Hence the coopetition occurs when they act competitive in zero-sum, competitive situations and act cooperatively in interdependent, cooperative situations.

Therefore, I theorize those with moderate levels of trait competitiveness (i.e., personal development competitors) –as well as those who have a general competitiveness - to be more likely to engage in coopetition behaviors compared to the extreme forms, respective to the interdependent goal structures and the perception this gives of the situation. This is due to PD competitors having high self-regard, consciousness, agreeableness and the ability to conform to norms and work well with others. Accordingly, they will be able to process when it is appropriate to engage in competitive or cooperative behavior to achieve their desired outcome, as their filtered bias on the situation provides the ability to view the actual structure of the situation appropriately, due to their willingness to both compete and cooperate. For example, though they compete in order to achieve mastery of a task or to improve their skills, they will be able to filter situations in a way in which greater or less competition or cooperation is needed to fulfill the task.

Hypothesis 1: Competitiveness for means of (a) dominance and (b) winning over others (i.e. hypercompetitiveness) has a direct relationship to competitive behavior.

Hypothesis 2: (a) General competitiveness and (b) competing for personal development has a direct relationship to competitive behavior, though these individuals engage in coopetition with both competitive and cooperative behavior.

Further, I hypothesize cooperative individuals and competition avoidant individuals will have a negative relationship to competitive behaviors and a positive relationship to cooperative behaviors. Those with a high level of general cooperativeness may compete if necessary but will prefer to cooperate. The competition avoidant individual may not always prefer the social interactions of cooperating, but they do desire to be seen positively among others and therefore will choose cooperating over competing. They choose to refrain from competition to avoid the potential loss from others when competing.

Hypothesis 3: (a) Cooperativeness and (b) competition avoidant have a negative relationship to competitive behavior.

Hypothesis 4: (a) Cooperativeness and (b) competition avoidant have a positive relationship to cooperative behavior.

The Environmental Influence of Competition and Cooperation

Pure competition describes a highly competitive individual in a competitive situation who also perceives a competitive goal structure, and through these evaluations, determines that competitive behaviors are the appropriate way in which to achieve a desired outcome. Pure cooperation describes an individual high in cooperativeness who is also in a cooperative situation, perceives a cooperative goal structure, and determines cooperative behavior is the behavior that will lead to the desired outcome. Coopetition however, is "structured in a way that functional behaviors for one demand are in conflict with fulfilling the other one" (Landkammer & Sassenberg, 2016, p. 672).

The dynamic between competitive or cooperative situations relies on social interdependence theory. The interdependence occurs not only when individuals share common goals, but when each individuals' outcome is influenced by the actions of others (Johnson & Johnson, 1989; Stanne, Johnson, & Johnson, 1999), and further, their goals in relation to others determines the way in which they interact to achieve those goals (Deutsch, 1949). In interdependence theories, the outcome of the situation is determined by the structure of the goals, how individuals interact with one another, and by the interaction pattern.

There are three types of social interdependence used to compare competitive and cooperative structures – positive, negative, and independent (Johnson & Johnson, 1989). A positive goal structure is cooperative due to the promotion of the success of others, in that individuals' goals can only be met when others achieve their goals, creating a positive correlation between goals. These cooperative structures create a situation of perceived shared fate, promotes supportive behavior, personifies norms of equality, and minimizes the distinctions of group members (Beersma et al., 2003). A negative goal structure is competitive, as only one

or few can attain the goal. In a competitive setting or condition - described as an individual or group of individuals striving to achieve a zero-sum outcome (Swab & Johnson, 2019) - goal achievements are negatively correlated. This results in individuals working against each other and possibly interfering with the success of others for personal benefit. In this regard, the situation allows one or few people to be successful in goal achievement, resulting in a failure for the other participants sharing the common goal.

Lastly, in an independent goal structure, accomplishing one's goal is unrelated, independent, and without correlation to the goals of others. It is perceived that the goal is attainable regardless of others' success or failures. Further, a mixed-motive interdependence, in which coopetition lends itself to occur, arises when individuals are not in a purely competitive or cooperative situation but requires the individual to choose between the two (Landkammer & Sassenberg, 2016). Therefore, when choosing whether to compete, cooperate, or incorporate attitudes of both, it is not just the individual differences that determine behaviors, but the goal structures and situations in which individuals are placed. Accordingly, the structure of the situation influences whether one engages in competition, cooperation, or coopetition.

Hypothesis 5: Goal structures influence competing, cooperating, or a mixture of both behaviors in that an independent situation encourages coopetition as individuals are not as competitive as competitive goal structures or as cooperative as cooperative goal structures.

The Interactive Process of Competition and Cooperation on Behaviors

In addition to the individual and situation separately impacting the competitive and cooperative behaviors, there is also an interaction of the individual and situation (Judge & Zapata, 2015). Per the situations and goal interdependence described, the situational influence may be stronger than the individual influence if there is a clear understanding on the structure and expected behavior in the situation (Meyer, Dalal, & Hermida, 2010; Weiss & Adler, 1984). However, in weak situations, such as an independent situation, the context is "ambiguously structured" (Mischel, 1973, p. 276), and the differences in personality may not be constrained but acted upon regardless of the situation (Cooper & Withey, 2009). Therefore, competitiveness and cooperativeness will have a stronger impact on both competitive and cooperative behavior in the independent situation rather than the competitive and cooperative situations.

Hypothesis 6: Competitive personality, specifically (a) general competitiveness (b) dominant competitiveness (c) hypercompetitiveness and (d) personal development competitiveness will have a stronger influence on competitive behavior in a competitive situation and an independent situation rather than a cooperative situation.

Hypothesis 7: (a) Cooperativeness and (b) competitive avoidant will have a stronger influence on cooperative behavior in a cooperative situation and independent situation rather than a competitive situation.

Social interdependence theory, though used as the base for examining these actual competitive or cooperative situations and goal structures, lends itself to also be a process of *perceived environmental competitiveness*. Social interdependence is differentiated from social dependence as it occurs when the goal achievement of Person A is affected by Person B's actions, which would suggest an interaction among participants, not just the actual structure of the situation. Additionally, the theory distinguishes itself from goal-setting theory and social identity theory due to the focus on people's *perceptions* of their own goals as being positively or negatively correlated with those of others, which in turn affects the motivation levels and actions (Baer, Leenders, Oldham, & Vadera, 2010). Accordingly, though studies on the theory focus on the actual situations of individuals when studying the outcomes of competition and cooperation (e.g., Beersma et al., 2003; Kistruck et al., 2016), there is an interactive process occurring.

Though situations can be set up as an actual competitive or cooperative goal structure, individuals have a natural disposition toward competitiveness or cooperativeness determining how they filter the goal structures and interdependencies of the situation (Brown et al., 1998; Murayama & Elliot, 2012). Accordingly, whether competitive or cooperative behavior is enacted depends on the characteristics of the person interacting with the features of the situation (Fletcher, Major, & Davis, 2008), which is described as an interactive process or by using the interactionist perspective. This is due to processes such as rivalry situations or the social comparison within or between teams for example. The interaction includes the competitive and cooperative individual disposition and their goal hierarchy, along with the competitive and cooperative goal structures that determine how one enacts goal directed behavior. Coopetition then, represents a process in which there are interactions between competitive and cooperative

traits and goal structures, leading to a mixed-interdependence of when to engage in competitive, cooperative, or coopetition attitudes or behaviors.

The influence of goal structures is determined by how individuals interpret both their own goal hierarchies and their goals in relation to others, such as competitors or team members. Individuals each have different schemas and considerable differences in the way in which they process new information and experiences. Correspondingly, how an individual enacts goal directed behavior, based on their cognitive representation of an outcome, may be independent, complementary, or even contradictory to the goals at the group level for example (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004). A divergence of goals, individually or collectively, does not necessarily mean goals are in conflict with one another (Pearsall & Venkataramani, 2015). Goals, or ways in which to reach goals can overlap, and the differences in individual goals can be less (or more) important than the team goals, or even complementary (Weingart & Jehn, 2009). However, when goals are in conflict, individuals tend to pursue individual interests (Deutsch, 1949), therefore, individuals may act competitively, even when cooperative actions could maximize the team's collective outcome. As such, the dominant and hypercompetitive individual would need to *perceive* goal congruence in order to minimize their competitive behavior and achieve a collective goal. Accordingly, higher and communicated goal interdependence determines whether individuals are willing to perceive a cooperative goal and shape goal hierarchies, such that a competitive individual would engage in cooperative behaviors, for example.

Hypothesis 8: The higher the perceived competitive interdependence, the greater the competitive behavior for competitive individuals.

Hypothesis 9: The higher the perceived cooperative goal interdependence, the greater the cooperative behavior for competitive individuals.

METHODOLOGY

Sample

Data for the study was obtained from students at a large Southeast University in the United States. Extra credit was given for their participation in two different surveys. For the first survey, individuals were asked measures on their individual trait differences. The second survey was a two-part vignette utilizing competitive, cooperative, and independent situations. A total of 255 participants completed survey 1, which was a response rate of 68.5% of the individuals offered the course credit. A total of 248 participants filled out survey 2, which was a response rate of 66.7%. After matching those individuals who filled out both surveys correctly and fully, including adding their name to both surveys and accounting for the attention check in survey 1, 216 individuals were included, coming to a usable response rate of 58%. Of these final participants included in the study all were over 18 years of age and 58% identified themselves as male. 87% identified themselves as Caucasian, 6% as African American, 2% as Hispanic or Latino, 2% as Asian, and 3% as other. For the vignette in Survey 2, the study ended with 66 individuals in the competitive situation, 68 individuals in the cooperative situation, and 80 individuals in the independent situation.

Measures

General competitiveness. General competitiveness is assessed using the four-item competitiveness scale from the *Work and Family Orientation Scale* (WOFO) (Helmreich & Spence, 1978). Example items include "I enjoy working in situations involving competition with others" and "I really enjoy working in situations involving skill and competition." Responses are

on a 5-point Likert scale ranging from 1 (*strongly disagree)* to 5 (*strongly agree)* with an alpha of .581. A confirmatory factor analysis to drop one item and increase reliability only resulted in an increase in reliability to .65, therefore all four items were kept.

Competition for Dominance. The 37-item *Competitiveness Orientation Scale* measures competitiveness in four dimensions: general competitiveness, dominant competitiveness, competitive affectivity, and personal enhancement competitiveness (Newby & Klein, 2014). I utilized the 13-items for dominant competitiveness. Examples items include, "I like to be better than others at almost everything" and "I put a lot of effort into beating others at things." Responses are on a 5-point Likert scale ranging from 1 (*strongly disagree)* to 5 (*strongly agree)*. The dominance portion of the scale was reliable with an alpha of .937.

Three-factor competitive attitude scale. The 15-item shortened scale measures the three competitive orientations of *hypercompetition*, *personal development competition*, and *competition avoidant* into one shortened scale adapted and by Johnson and Swab (under review) from Ryckman et al. (1990), Ryckman et al. (1996), and Ryckman et al. (2009). Sample items from hypercompetitiveness include "I compete with others even if they are not competing with me", from personal development, "I like competition because it teaches me a lot about myself", and from competitive avoidant, "I avoid competition because losing in competition is humiliating." Using a 5-point Likert scale from 1 (*strongly disagree)* and 5 (*strongly agree)*, hypercompetition had an alpha of .717, personal development an alpha of .881, and competition avoidant an alpha of .835.

Cooperativeness. The original 36-item scale by Lu and Argyle (1991) measures different areas of cooperativeness, such as managing social skills and conflicts, high self-esteem in decision making, negative relationships with neuroticism, and the enjoyment of joint activities.

They analyze cooperation depending on various dimensions related to leisure, leadership, friends, family, education, clubs, work, and committees. I utilized the 6 items in the work cooperation portion of the scale, with items such as "It is often more difficult working together with other people" (reverse scored) and "Team work is always the best way of getting results." Items are on a 5-point Likert of 1 (*strongly disagree*) to 5 (*strongly agree*) with an alpha of .621.

Behaviors and Interdependence. Following the second vignette and utilizing the same questions as Landkammer and Sassenberg (2016), knowledge sharing is used to measure competitive and cooperative behaviors as sharing knowledge is a cooperative behavior and the deception of knowledge is a competitive behavior (e.g., He, Baruch, & Lin, 2014; Tsai, 2002). First, the participants were asked to rate the number of pieces of private and important information they would choose to share with the other letters owners in the information pooling game. The first question is on a scale of 0-5 with 0 indicating you would not share any information correctly (full competitive behavior) and 5 being you plan to reveal all of your information correctly (full cooperative behavior). The second knowledge sharing question for cooperative behavior was "*I would share all the information in my letters*" asked on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Together, the two items have a reliability of .77.

Four additional items were asked on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The deception of knowledge - the competitive behavior - "*I would withhold some of the information in my letters*". To ask whether individuals feel the situation is set up as a cooperative or competitive goal structure, I utilized the question "*I believe I need the information from all letters in order to find the treasure*" with 1 representing a more competitive view and 5 being viewed as a full cooperative goal structure. The next two questions measure whether the

individual perceives other involved others and the situation as cooperative – *"I believe the other individuals will share all of their information and treasure with me"* or as a competition with a zero-sum outcome - "*I believe the other individuals will withhold some of their information*."

Additional variables. The demographic variables of *gender* and *ethnicity* are included in the survey as they can influence one's propensity to behave in a competitive or cooperative manner (e.g., Buser, Niederle, & Oosterbeek, 2014; Chatman & Barsade, 1995; Cox, Lobel, & McLeod, 1991).

Procedure

First, using Qualtrics as the survey platform, participants were provided a link to answer questions regarding their own individual competitive or cooperative tendencies prior to situational and contextual factors. The survey items included the four general competitiveness items from the *WOFO questionnaire,* the thirteen competition for dominance items from the *competitiveness orientation measure,* the fifteen *three-factor competitive attitude scale,* the six work items from the *cooperativeness scale,* and the demographic items of gender and ethnicity.

Second, and at a later date (approximately 1 week), participants received a second Qualtrics link to an online survey. The cover page of the survey explained they will be answering questions on two unrelated scenarios, each set up as vignettes. Vignettes are stimuli, whether in text or image form, that invites participants to respond (Hughes & Huby, 2002). They place individuals in scenarios where one must decide on the appropriate course of action. Important to the development and construction of vignettes, is their internal validity, the appropriateness to the research topic, the sample, relevance, and the realism and timing of the vignette (Hughes & Huby, 2004). Accordingly, the vignettes used were developed based on the information found in Landkammer and Sassenberg (2016) and Steinel, Utz, and Koning (2010). These two

manuscripts are published works establishing internal reliability, relevance, and realism, in a similar research topic, and they use a similar sample. The first scenario - Study A -included one of three experimental manipulations. The second scenario - Study B - examines decision processes and behaviors, along with assessing the distortion of information after being put into the certain situation.

In Study A, all participants read a situation in which they survived a plane crash. They landed in cold and desolate mountains and have to find a way to survive until the rescue team could arrive by gathering food, warm clothes, and blankets. At this point, the information differs depending on which of three experimental conditions the participant is placed into. The competitive condition instructs participants that unfortunately, there is only a limited number of objects available, but that the objects are essential for survival. It proposes a negatively interdependent situation in which the achievement of a goal, in this case food or a blanket for oneself, would be detrimental to others who also survived the crash. The positively interdependent situation is the cooperation condition, which reads that while it is not easy to find the essential objects, the survivors have to work together and assist each other to recover the food, blankets, etc. Participants in the control condition had an independent situation and imagined that, unfortunately, there were only few survivors and salvaging the objects essential for survival was energy-sapping. This required careful thinking for which places to look within the plane. Participants were required to write down three strategies regarding how they would proceed. Though the strategies identified are not used for analysis, they were required in order for the individual to have to imagine putting themselves into the scenario.

Still following the scenario described by Landkammer and Sassenberg (2016), Study B describes the transfer effect of competition and cooperation using the information pooling game

found in Steinel et al. (2010). In this study, all individuals have an identical scenario that assessed the deceiving of uninvolved others by measuring knowledge sharing. Participants were asked to read a short story about a treasure buried in the grave of a monk. While the monk was alive, he distributed pieces of information about the grave location in four letters. In order to find the grave and treasure, it is important to combine the information contained in the four letters. A company had one letter and published the information found in it, with the purpose of the remaining letter owners doing the same so they could meet and find the grave. Participants were asked to imagine having purchased one of the letters at a flea market, which contained a certain number of pieces of information. Of the pieces, half of them excludes a certain number of the graves, while the other half were unimportant and only excluded a small number of the graves. They now had the combined shared information from the company and their own private information.

Participants were asked about meeting the remaining letter owners - which again, is not related to Study A. Before meeting with the letter owners, they had to reveal whether they wanted to correctly reveal their information, withhold all information, or distort the information by sharing the wrong content. There were no instructions on how to view this interdependent goal. Participants were asked to rate their choices regarding knowledge sharing and their perceptions of goal interdependencies and others in the situation.

RESULTS

Means, standard deviations, and correlations among variables are shown in Table 1. These results show correlations among competitiveness, meaning regardless of the motivation, there are individuals who are willing to be competitive, such as general competitiveness sharing positive and significant correlations with competing for dominance (*r*=.710**), hypercompetitiveness (*r*=.554**), and personal development competitiveness (*r*=.597**), negative and significant correlations with cooperativeness (r=-.247**), and a negative but nonsignificant correlation with competition avoidant (*r*=-.049). The correlations and variances among the individual difference variables provide a solid foundation for the differences in those more inclined toward competition and those more inclined towards cooperation.

These results indicate that competitive behavior has a positive and significant relationship to general competitiveness and a personal development competitiveness (*r*=.219** and *r*=.164*), a positive but non-significant relationship to dominant competitiveness and hypercompetitiveness (r=.096 and r=.089), and a negative but non-significant relationship to competition avoidant and cooperativeness (*r*=-.027. and *r*=-.113). Competitive behavior has a significantly negative relationship to cooperative behavior, the perception that others will behave cooperatively, and the perception that the task is set up as a cooperative goal structure (*r*=-.661**, *r*=-.507**, and *r*=-.152*). There is also a significant and positive relationship between competitive behavior and the perception that others will behave competitively (*r*=.400**).

Cooperative behavior does not share any significant relationships with the individual difference variables though it does have a negative relationship with the competitiveness

variables (gencomp, *r*=-.041, dom, *r*=-.058, hc, *r*=-.026, and pd, *r*=-.095) and a positive relationship with the competition avoidant and cooperative variables (ca, *r*=.062 and coop, *r*=.050). Cooperative behavior has a positive and significant relationship with the perception that others will behave cooperatively and the perception that the task is set up as a cooperative goal structure (*r*=.479** and *r*=.325**). It has a negative and significant relationship with the perception that others will behave competitively (*r*=-.348**).

To note, the situation variable found in the correlation matrix is rated on a scale of 1 being those in the cooperative situation, 3 in the independent situation, and 5 in the competitive situation.

Table 1. Means, Standard Deviations, and Correlations Among Variables

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. General Competitiveness	3.44	0.722	1												
2. Dominant Competitiveness	2.91	0.913	.710**	1											
3. Hypercompetitive	2.89	0.824	.554**	.729**	1										
4. Personal Development	3.78	0.863	.597**	.543**	.320**	1									
5. Competition Avoidant	2.09	0.833	-0.049	0.08	.153*	-.297**	1								
6. Cooperativeness	2.88	0.649	-.247**	-0.128	-.269**	-0.055	-0.054	1							
7. Cooperative Behavior	3.36	1.356	-0.041	-0.058	-0.026	-0.095	0.062	0.05	1						
8. Competitive Behavior	3.46	1.244	.219**	0.096	0.089	.164*	-0.027	-0.113	-.661**	1					
9. Cooperative Belief	2.35	1.143	-0.063	0.055	-0.04	-0.088	0.13	-0.01	.479**	-.507**	1				
10. Competitive Belief	3.97	1.049	-0.027	-0.039	-0.006	-0.011	-0.023	0.006	-.348**	.400**	-.533**	1			
11. Cooperative Goal Perception	3.89	1.123	-0.012	-0.01	0.041	0.008	-0.01	0.049	.325**	-.152*	.175**	-0.015	1		
12. Situation	2.98	1.586	0.007	-0.075	0.004	-0.006	-0.111	0.066	-.197**	.151*	-.136*	0.078	-0.043	1	
13. Gender	0.58	0.494	.215**	.433**	.236**	.280**	-0.084	0.016	-0.008	-0.091	.183**	-0.107	-0.017	-0.07	1
14. Ethnicity	1.37	1.306	-0.104	-.155*	-0.103	-.235**	-0.009	-0.069	-0.014	-0.003	-0.016	-0.028	-0.029	0.03	0.124

**p<0.01; *p<0.05

To test hypothesis 1, competitive behavior was regressed on the individual difference variables. Full regression results can be found in Table 2. Though different measures of competitiveness measure different aspects of why someone competes, hypothesis 1 is focused on the extreme forms of competitiveness, therefore utilizes the measures of competition for dominance highlighting those who compete as a means for domination (H1a) and

hypercompetitiveness, highlighting those who are motivated by a need to win at all costs (H1b). Independently, dominance was non-significant (r=0.096, *b*=.13, p>.05 at .173, model summary 1) and hypercompetitiveness was also non-significant (r=0.089, *b*=.135 p>.05 at .203, model summary 3). Ethnicity had no significant effect on this analysis, which may be in part to the large lack of diversity in the sample. However, when accounting for gender, competing for dominance is significant (r=.18, *b*=0.229, -0.423, p<.05 at .029, model summary 2) and hypercompetitiveness is still non-significant (r=.132, *b*=0.17, -0.251, p>.05 at .119, model summary 4), though more variability is accounted for than without controlling for gender. Accordingly, results find there is not a direct effect between extreme forms of competitiveness and competitive behavior for both male and females combined, but there is a significant effect for males who compete for dominance. Therefore, utilizing only the regression results, H1a is not supported, but a post hoc analysis accounting for gender finds support in that for the male gender, competing for dominance has a direct and significant relationship to competitive behavior. H1b is not supported with or without accounting for gender.

Hypothesis 2 represents a competing hypothesis as these individuals are expected to engage in competitive and cooperative behavior. However, general competitiveness (H2a) and personal development competitiveness (H2b) are willing to compete but hypothesized to be less competitive than those who compete for dominance. Results for hypothesis 2 can be found in Table 3. When regressed with competitive behavior, general competitiveness was significant (r=.219, *b*=0.371, p<.01 at .001, model summary 1) and personal development was non-significant (r=0.164, *b*=0.237, p<.05 at .017, model summary 5) Though these individuals are expected to compete, I also regressed their cooperative behavior, finding general competitiveness is non-significant (r=.041, *b*=-0.075, p>.05 at .557, model summary 3) and personal development

is also non-significant (r=.095, *b*=-0.149, p>.05 at .170, model summary 7). Therefore, general competitiveness and personal development competitiveness are not predictors of cooperative behavior, but general competitiveness is a direct predictor of competitive behavior.

In order to make the same comparisons as hypothesis 1, I ran additional analyses incorporating the control variables. Ethnicity again did not have a significant effect on the analysis. However, when accounting for gender, general competitiveness is again significant (r=.267, *b*=.428, -0.387, p<.01 at .000, model summary 2) for competitive behavior and non-significant (r=.043, *b*=-0.081, 0.039, p>.05 at .538, model summary 4) for cooperative behavior. Personal development became significant (r=.215, *b*=.296, -0.37, p<.01 at .004, model summary 6) for competitive behavior and non-significant (r=.096, *b*=-0.151, 0.013, p>.05 at .184, model summary 8) for cooperative behavior. Therefore, utilizing only the regression results, hypothesis 2a and hypothesis 2b are each partially supported as general competitiveness in males and females, and personal development competitiveness in males led to competitive behavior but with a greater significance than those who are considered highly competitive (i.e. dominance and hypercompetitive in H1).

Table 2. Regression Results for Hypothesis 1

Model Summary 1

Dependent Variable: Competitive Behavior
Predictors: (Constant), Dominant Competitiveness

R	R-square	Sig.
0.096	0.009	0.173

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.076	0.289	
Dominant	0.13	0.095	0.096

Model Summary 2

Dependent Variable: Competitive Behavior
Predictors: (Constant), Gender, Dominant Competitiveness

R	R-square	Sig.
0.18	0.032	0.036

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	3.033	0.287		0
Dominant	0.229	0.095	0.169	0.029
Gender	-0.423	0.192	-0.169	0.029

Model Summary 3

Dependent Variable: Competitive Behavior
Predictors: (Constant), Hypercompetitiveness

R	R-square	Sig.
0.089	0.003	0.203

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.078	0.218	
HC	0.135	0.106	0.089

Model Summary 4

Dependent Variable: Competitive Behavior
Predictors: (Constant), Gender, Hypercompetitiveness

R	R-square	Sig.
0.132	0.017	0.171

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	3.121	0.319		0
HC	0.17	0.108	0.112	0.119
Gender	-0.251	0.18	-0.1	0.166

Table 3. Regression Results for Hypothesis 2

Model Summary 1

Dependent Variable: Competitive Behavior
Predictors: (Constant), General Competitiveness

R	R-square	Sig.
0.219	0.048	0.001

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	2.193	0.402	
GenComp	0.371	0.114	0.219

Model Summary 2

Dependent Variable: Competitive Behavior
Predictors: (Constant), Gender, Dominant Competitiveness

R	R-square	Sig.
0.267	0.071	0

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	2.222	0.398		0
GenComp	0.428	0.116	0.252	0
Gender	-0.387	0.169	-0.156	0.023

Model Summary 3

Dependent Variable: Cooperative Behavior
Predictors: (Constant), General Competitiveness

R	R-square	Sig.
0.041	0.002	0.557

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.615	0.451	
GenComp	-0.075	0.128	-0.041

Model Summary 4

Dependent Variable: Cooperative Behavior
Predictors: (Constant), Gender, General Competitiveness

R	R-square	Sig.
0.043	0.002	0.825

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	3.613	0.452		
GenComp	-0.081	0.132	-0.044	0.538
Gender	0.039	0.192	0.014	0.84

Model Summary 5

Dependent Variable: Competitive Behavior
Predictors: (Constant), PD Competitiveness

R	R-square	Sig.
0.164	0.027	0.017

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	2.55	0.383	
PD Comp	0.237	0.099	0.164

Model Summary 6

Dependent Variable: Competitive Behavior
Predictors: (Constant), PD Competitiveness

R	R-square	Sig.
0.215	0.046	0.0007

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	2.542	0.38		0
PD Comp	0.296	0.102	0.205	0.004
Gender	-0.37	0.178	-0.146	0.039

Model Summary 7

Dependent Variable: Cooperative Behavior
Predictors: (Constant), PD Competitiveness

R	R-square	Sig.
0.095	0.009	0.17

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.92	0.421	
PD Comp	-0.149	0.108	-0.095

Model Summary 8

Dependent Variable: Cooperative Behavior
Predictors: (Constant), Gender, PD Competitiveness

R	R-square	Sig.
0.096	0.009	0.391

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	Sig.
(Constant)	3.921	0.422		
PD Comp	-0.151	0.113	-0.097	0.184
Gender	0.013	0.199	0.005	0.946

Regression was also used to test hypothesis 3 and 4, that cooperativeness (H3a, H4a) and competition avoidant (H3b, H4b) have a negative relationship to competitive behaviors (H3) and a positive relationship to cooperative behaviors (H4). Results for hypothesis 3 are in Table 4 and results for hypothesis 4 are in Table 5. In Table 4, model summary 1 highlights no support for H3a, as there is no significant influence of cooperativeness to competitive behavior (r=0.027, *b*=-0.217, p>.05 at .697). They is also no support for H3b, as there is also no significant influence of competition avoidant on competitive behavior (r=0.113, *b*=-0.04, p>.05 at 0.105). H4a, found in model 1, is not supported as cooperativeness shows no significant correlation with cooperative behavior (r=.05, *b*=.104, p>.05 at .477). H4b, found is model 2, is also not supported as competition avoidant shows no significant correlation with cooperative behavior (r=.062, *b*=0.1, p>.05 at .371). Therefore, cooperativeness and competition avoidant have no significant or direct relationships with competitive nor cooperative behaviors.

Table 4. Regression Results for Hypothesis 3

Model Summary 1

Dependent Variable: Competitive Behavior
Predictors: (Constant), Cooperativeness

R	R-square	Sig.
0.113	0.013	0.105

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	4.087	0.393	
Coop	-0.217	0.133	-0.113

Model Summary 2

Dependent Variable: Competitive Behavior
Predictors: (Constant), Competition Avoidant

R	R-square	Sig.
0.027	0.001	0.697

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.549	0.231	
Comp A.	-0.04	0.102	-0.027

Table 5. Regression Results for Hypothesis 4

Model Summary 1

Dependent Variable: Cooperative Behavior
Predictors: (Constant), Cooperativeness

R	R-square	Sig.
0.05	0.002	0.477

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.054	0.431	
Coop	0.104	0.146	0.05

Model Summary 2

Dependent Variable: Cooperative Behavior
Predictors: (Constant), Competition Avoidant

R	R-square	Sig.
0.062	0.004	0.371

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta
(Constant)	3.152	0.253	
Comp A.	0.1	0.112	0.062

To have a deeper understanding of the relationships between competitiveness, cooperativeness, and the outcome behaviors for hypotheses 1-4, I additionally ran a Multivariate Analysis of Variance (MANOVA), an analysis on two or more dependent variables. It is useful in understanding whether the effect of one independent variable on the dependent variables (collectively) is dependent on the value of the other two independent variable. In this case, whether personal development competition and cooperativeness together influence cooperative behavior for example. As general competitiveness and competing for dominance are in their own measurement categories, I utilized the three competitive orientations as their levels of competitiveness can be analyzed in relationship to one another, along with how they compare to cooperativeness. The three competitive orientations and cooperativeness were ran as the fixed factors and competitive behavior and cooperative behavior as the dependent variables.

The outcomes from the MANOVA Wilk's Lambda multivariate analysis is found in Table 5, the Test of Between-Subject Effects in Table 6, and the ETA squared of each effect in Figure 1. In Table 5, the interaction effect determines whether the effect of the individual differences is similar. With no significance found, each has their own influence on the dependent variables. Accordingly, there was not a statistically significant interaction effect between any of

the three competitive orientations and cooperation on the combined dependent variables (see F, Sig, and the Wilk's value in Table 5).

The Test of Between-Subject Effects supports that personal development competitiveness and hypercompetitiveness both influence competitive and cooperative behavior at $p<.05$, finding additional support for H2b, in that personal development competitors have a balance of competition and cooperation, while finding no support for H1b, in that those who compete to win, or hypercompetitors, are always competing. Again, no support is found for hypothesis 3 as cooperativeness (H3a) and competition avoidant (H3b) do not have a negative nor significant effect on competitive behavior. The analysis finds no support for H4b as competition avoidant also has no significant effect on cooperative behavior. However, the results do find support for H4a, as cooperativeness was positive and significant to cooperative behavior at $p<.05$. The preliminary results on individual differences in competitiveness and cooperativeness suggests competitive individuals can adjust when to compete and cooperate, competition avoidant individuals do not engage in either behavior, and cooperative individuals tend to be more cooperative than competitive.

Table 6. Wilk's Lambda Multivariate Analysis

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	0	8611.557*	2	4	0	1
PD	0.028	3.336*	12	8	0.048	0.833
HC	0.008	5.663*	14	8	0.009	0.908
CA	0.03	2.131*	18	8	0.138	0.827
Coop	0.009	4.231*	18	8	0.022	0.905
PD*HC	1	.*	0	4.5		
PD*CA	1	.*	0	4.5		
PD*Coop	1	.*	0	4.5		
HC*CA	1	.*	0	4.5		
HC*Coop	1	.*	0	4.5		
CA*Coop	1	.*	0	4.5		
PD*HC*CA	1	.*	0	4.5		
PD*HC*Coop	1	.*	0	4.5		
PD*CA*Coop	1	.*	0	4.5		
HC*CA*Coop	1	.*	0	4.5		
PD*HC*CA*Coop	1	.*	0	4.5		

*Exact Statistic

**The statistic is an upper bound on F that yields a lower bound on the significance level.

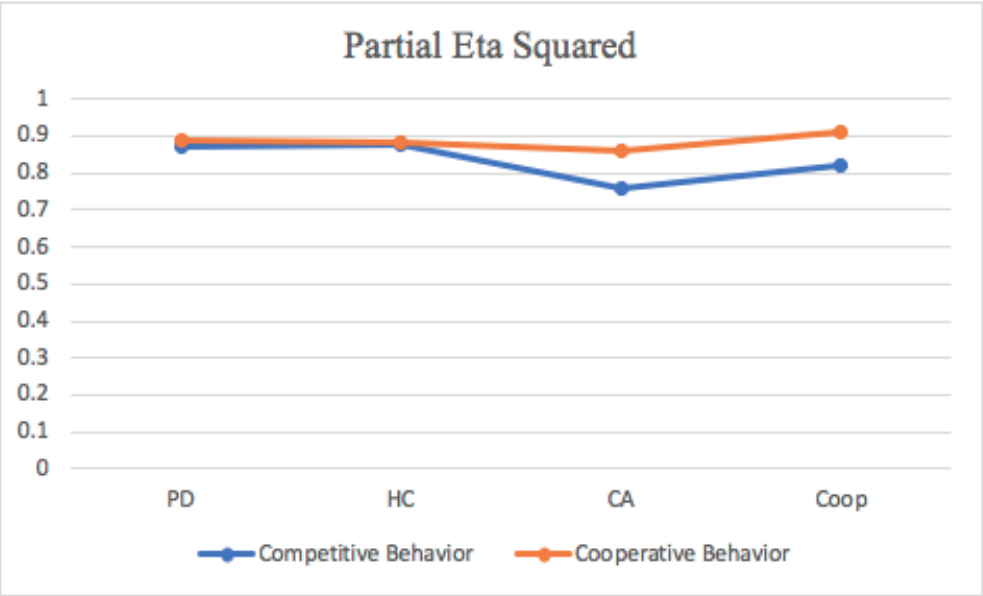
Table 7. The Test of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Comp Beh	297.145*	187	1.589	2.648	0.136	0.99
	Coop Beh	356.462**	187	1.906	4.013	0.06	0.993
Intercept	Comp Beh	1453.672	1	1453.672	2422.787	0	0.998
	Coop Beh	1419.231	1	1419.231	2987.855	0	0.998
PD	Comp Beh	20.691	6	3.449	5.748	0.037	0.873
	Coop Beh	19.113	6	3.186	6.706	0.027	0.889
HC	Comp Beh	21	7	3	5	0.048	0.875
	Coop Beh	17.5	7	2.5	5.263	0.043	0.881
CA	Comp Beh	9.333	9	1.037	1.728	0.284	0.757
	Coop Beh	14.792	9	1.644	3.46	0.093	0.862
COOP	Comp Beh	13.968	9	1.552	2.587	0.154	0.823
	Coop Beh	23.632	9	2.626	5.528	0.037	0.909
Error	Comp Beh	3	5	0.6			
	Coop Beh	2.375	5	0.475			
Total	Comp Beh	2633	193				
	Coop Beh	2517.75	193				
Corrected Total	Comp Beh	300.145	192				
	Coop Beh	358.837	192				

* R Sqaured = .990 (Adjusted R Squared = .616

** R Squared = .993 (Adjusted R Squared = .746

Figure 1. Partial Eta Squared of the Test Between Subjects.



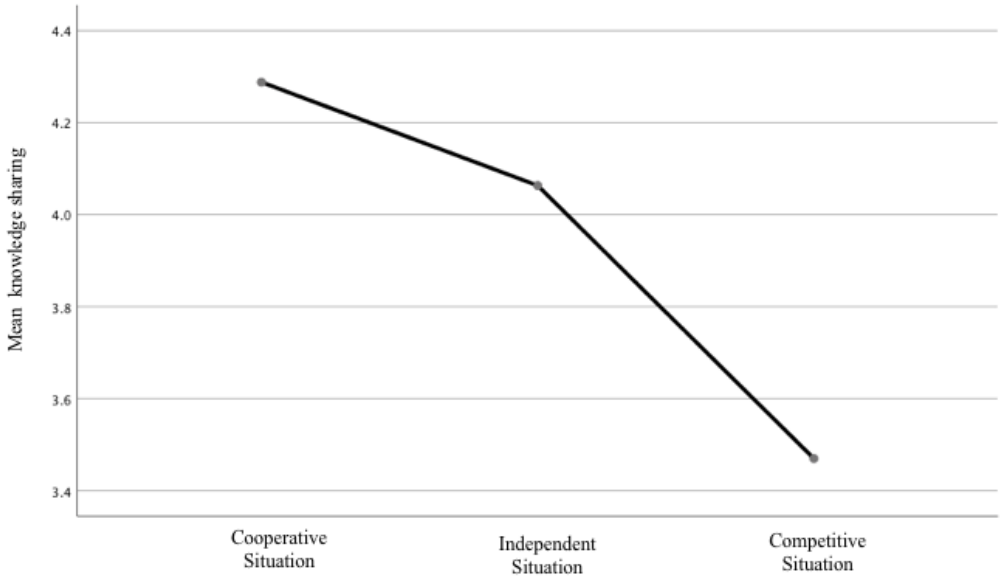
To test for hypothesis 5, I accounted for the situation in which each individual was placed in vignette 1. Though the individuals did not get asked how much information they would reveal until vignette 2, this follows the argument that there is a lingering effect when placed in competitive vs. cooperative vs. independent situations (Landkammer & Sassenberg, 2016). To test whether the situation has the proposed effects, an analysis of variance (ANOVA) was used, followed by planned contracts. Contrasts analyze patterns of systematic variation between means within an ANOVA (Abelson & Prentice, 1997). Rather than testing omnibus effects, planned contrasts have greater power (Myers & Well, 1995) and better focus (Rosenthal, Robert, & Rosnow, 1985). Contrast testing allows for a parsimonious testing of the pattern that is predicted, but also shows the systematic effects that might remain.

First, ANOVA is utilized to ensure there is a significant difference in the amount of information each individual would reveal based on the group in which they were randomly

placed (based on the scale of 0-5). A test of the homogeneity of variances finds a non-significance ($p>.05$ at .284), resulting in support for the assumption that there are differences in the groups. The ANOVA is significant ($p<.05$ at .012) and therefore, planned contrasts can be used to test the groups further. A means plot of the cooperative, independent, and competitive situations can be found in Figure 2, portraying there are differences among the groups. There was a mean of 4.29 pieces of information revealed for the cooperative group, a mean of 4.06 pieces of information revealed for the independent group, down to a mean of 3.47 pieces of information revealed in the competitive situation.

Second, as there were three experimental test groups, two orthogonal contrasts are used to ensure all the degrees of freedom are utilized. Following methodological suggestions (e.g., Abelson & Prentice, 1997; Niedenthal, Bauer, Robin, & Innes-Ker, 2002), for each offset score and each theoretical prediction, the first step was creating a contrast that describes the hypothesized rank order of the means. Accordingly, cooperative was given a 1, independent a 3, and the competitive situation a 5. Utilizing all three groups, the first contrast looks at the difference between cooperation vs. independent and competitive groups. There is a value contrast of .52 and it is significant at $p<.05$ (.032). The second contrast looks at the difference between the independent and the competitive groups. There is a value contrast of .59 and it is significant at $p<.05$(.030). Accordingly, hypothesis 5 is supported as the situation in which the individual was placed, regardless of their individual differences, determined how much information they were willing to reveal. The individuals in the cooperative situation shared the most information on average while the individuals in the competitive situation shared the least amount of information on average. Those in the independent situation were in between with a balance view of competing and cooperating.

Figure 2. Means Plot for the Competitive, Cooperative, and Independent Situations.



To test for hypothesis 6 and 7, I separated each situation into their own group and ran a regression in order to test the influence of each individual difference in competition and cooperation on the competitive and cooperative behavior in each situation. Regression results can be found in Table 8, but pictorial representations of the outcomes are represented by Figures 3-8. The figures give the predicted values for each individual difference variable – general competitiveness, dominant competitiveness, hypercompetitiveness, personal development competitiveness, competition avoidant, and cooperativeness – in each situation – competitive, cooperative, and independent – and with each behavioral outcome – competitive and cooperative – according to the mean and one value +/- of the standard deviation and the coefficient values for each of the regressions.

Hypothesis 6 tests whether competitiveness has a larger effect on competitive behavior in competitive situations and independent situations rather than cooperative situations. In

comparing Figure 3a (general competitiveness and competitive behavior) and Figure 3b (general competitiveness and cooperative behavior), general competitiveness is at its highest competitive behavior in the competitive and independent situation, finding support for hypothesis 6a. In reviewing Figure 4a (dominant competitiveness and competitive behavior) and Figure 4b (dominant competitiveness and cooperative behavior), I find no support for hypothesis 6b, as the highest level of competitive behavior in individuals with a dominance competitiveness was the independent situation, which is also the case for cooperative behavior. This may indicate individuals increase their dominant competitiveness when they aren't entirely sure how to approach a situation. In reviewing Figure 5a (hypercompetitiveness and competitive behavior) and Figure 5b (hypercompetitiveness and cooperative behavior), I find partial support for hypothesis 6c, as hypercompetitiveness has the largest influence on competitive behavior in a competitive situation, but the independent situation has the lowest influence. In comparing Figure 6a (personal development and competitive behavior and Figure 6b (personal development and cooperative behavior), I find support for hypothesis 6d, as competitive behavior in those who compete for personal development is the highest in the competitive and independent situations.

Hypothesis 7 tests whether (a) cooperativeness and (b) competition avoidant have the largest effect in cooperative and independent situations over the competitive situation. In reviewing Figure 7a (competition avoidant and competitive behavior) and Figure 7b (competition avoidant and cooperative behavior), I find support for hypothesis 7b, that competition avoidant individuals display higher levels of cooperative behavior in cooperative and independent situations. Finally, in reviewing Figure 8a (cooperativeness and competitive behavior) and Figure 8b (cooperativeness and cooperative behavior), I also find support for

hypothesis 7a, that cooperative individuals display higher levels of cooperative behavior in the cooperative and independent situations.

To have further understanding regarding the relationships being tested in hypothesis 6 and 7, I also ran an ANOVA utilizing each competitive and cooperative personality type as the dependents and the competitive and cooperative behaviors as the factors. I used the compared means measurement utilizing the measures of association to find the effect sizes by reporting the Eta and Eta squared measures. Eta squared measures the proportion of the total variance of a dependent variable in a group defined by the independent variable (Cohen, 1973; Pierce, Block, & Aguinis, 2004). Results for each situation for the ANOVA and Eta measures can be found in Table 9. A comparison of each situation and individual difference on the behaviors is found in Figure 9, with Figure 9a representing competitive behavior and Figure 9b cooperative behavior.

In reviewing the Eta effects, I find partial support for hypothesis 6 as, H6a, general competitiveness has a larger effect in competitive (.36) and independent situations (.148) over cooperative situations (.139). I find no support for H6b, as dominant competitiveness has the largest effect size in the cooperative situation (.628). I also find no support for H6c, as hypercompetitiveness also has the largest effect size in the cooperative situation (.41). I find support for H4d, as personal development competitiveness has a larger effect size in the competitive (.341) and independent (.235) situation over the cooperative situation (.174).

Again, using the Eta effects, there was also no support found for H7, as in H7a, cooperativeness did not have the largest effect in the cooperative situation (.188) or independent situation (.164) but rather, the competitive situation (.297). There was also no support for H7b, as competition avoidant has the largest effect size in the competitive situation (.246), followed by the cooperative situation (.09), and lastly, the independent situation (.081).

Table 8. Regressions on the Individual Differences in Each Situation

Competitive Situation	Comp Behavior				Coop Behavior			
		Coefficients				Coefficients		
	R	*b*	Std. Error	p	R	*b*	Std. Error	p
GC	0.459	0.712	0.175	0	0.358	-0.571	0.189	0.004
Dom	0.279	0.362	0.162	0.029	0.199	-0.267	0.171	0.124
HC	0.255	0.471	0.229	0.044	0.022	-0.043	0.244	0.861
PD	0.315	0.41	0.156	0.011	0.266	-0.349	0.16	0.032
CA	0.099	-0.143	0.182	0.435	0.117	0.178	0.19	0.352
Coop	0.313	-0.559	0.223	0.015	0.25	0.451	0.23	0.055

Cooperative Situation	Comp Behavior				Coop Behavior			
		Coefficients				Coefficients		
	R	*b*	Std. Error	p	R	*b*	Std. Error	p
GC	0.171	0.317	0.226	0.166	0.002	0.004	0.249	0.987
Dom	0.174	0.256	0.184	0.17	0.194	-0.314	0.206	0.134
HC	0.238	0.397	0.207	0.06	0.179	-0.324	0.234	0.171
PD	0.211	0.349	0.2	0.086	0.19	-0.329	0.215	0.132
CA	0.114	0.188	0.203	0.357	0.08	0.139	0.218	0.528
Coop	0.005	-0.01	0.262	0.969	0.062	0.137	0.279	0.625

Independent Situation	Comp Behavior				Coop Behavior			
		Coefficients				Coefficients		
	R	*b*	Std. Error	p	R	*b*	Std. Error	p
GC	0.026	0.041	0.181	0.82	0.206	0.389	0.212	0.07
Dom	0.101	-0.126	0.143	0.379	0.12	0.176	0.168	0.298
HC	0.125	-0.148	0.136	0.279	0.083	0.117	0.163	0.475
PD	0.052	-0.071	0.155	0.65	0.133	0.21	0.181	0.248
CA	0.01	-0.013	0.151	0.933	0.07	-0.108	0.177	0.542
Coop	0.118	-0.22	0.211	0.3	0.048	-0.104	0.249	0.676

Figure 3a. General Competitiveness and Competitive Behavior

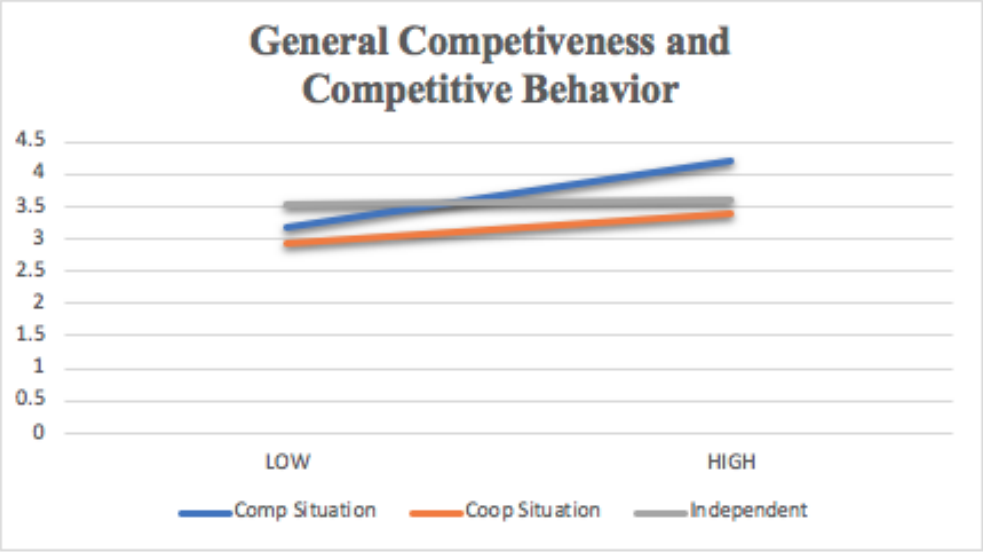


Figure 3b. General Competitiveness and Cooperative Behavior

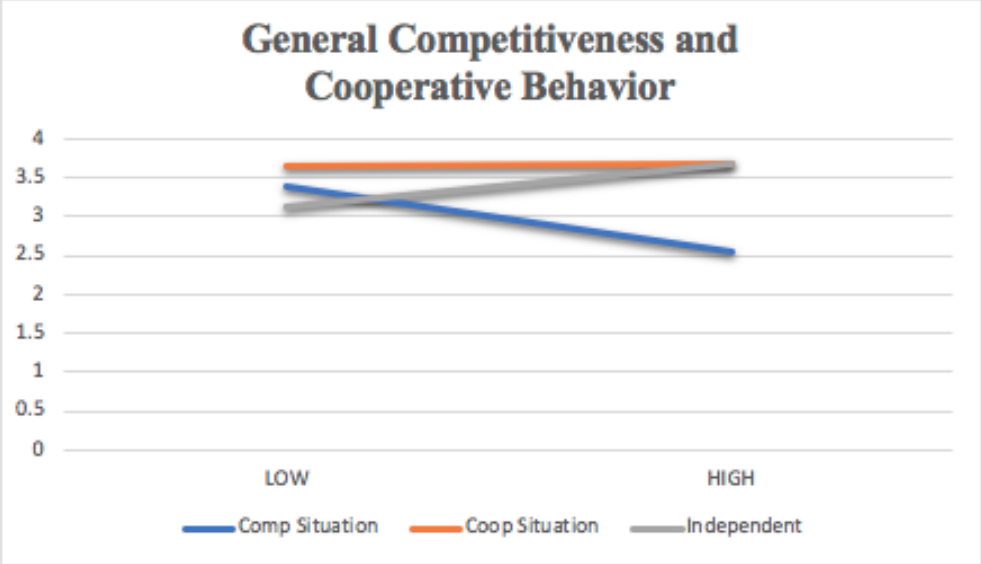


Figure 4a. Dominant Competitive and Competitive Behavior

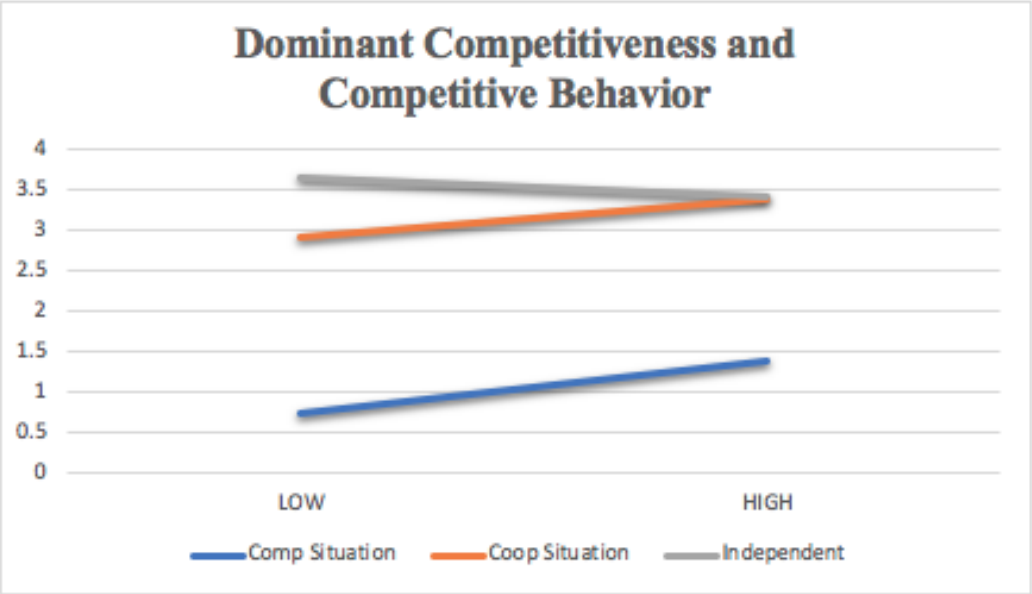


Figure 4b. Dominant Competitiveness and Cooperative Behavior

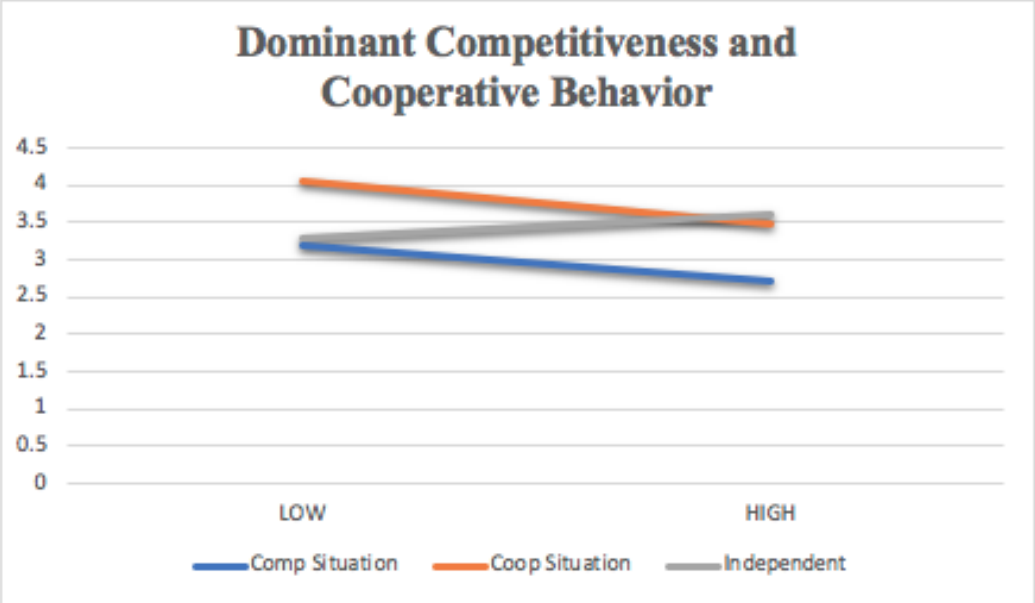


Figure 5a. Hypercompetitiveness and Competitive Behavior

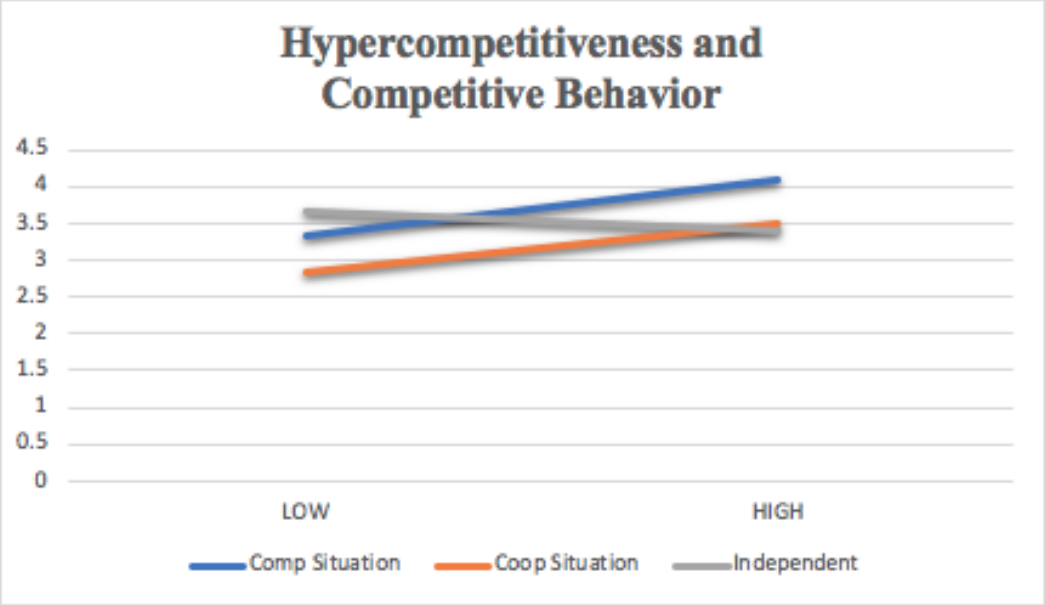


Figure 5b. Hypercompetitiveness and Cooperative Behavior

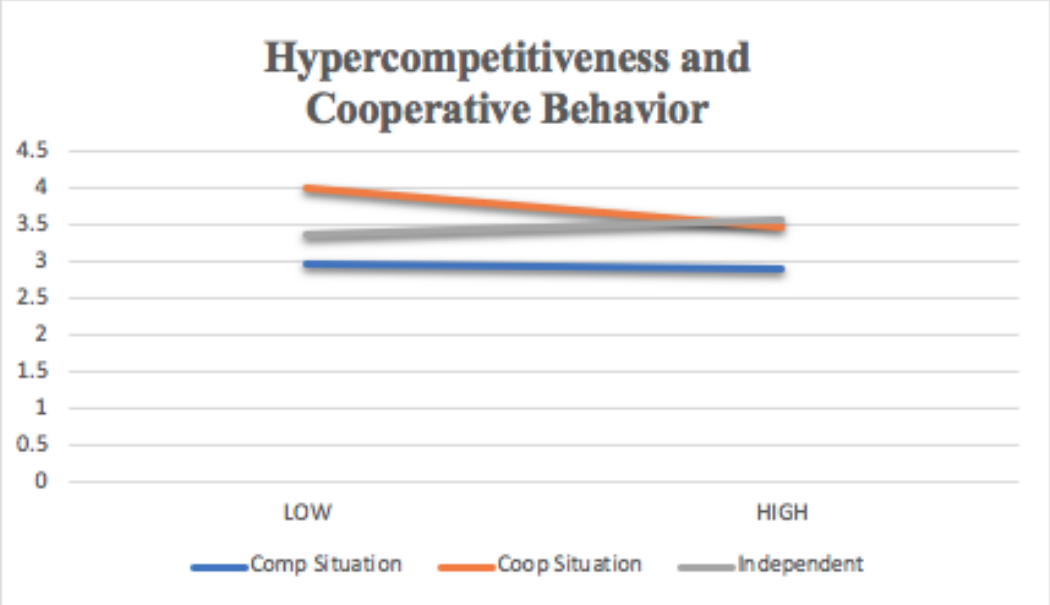


Figure 6a. Personal Development Competition and Competitive Behavior

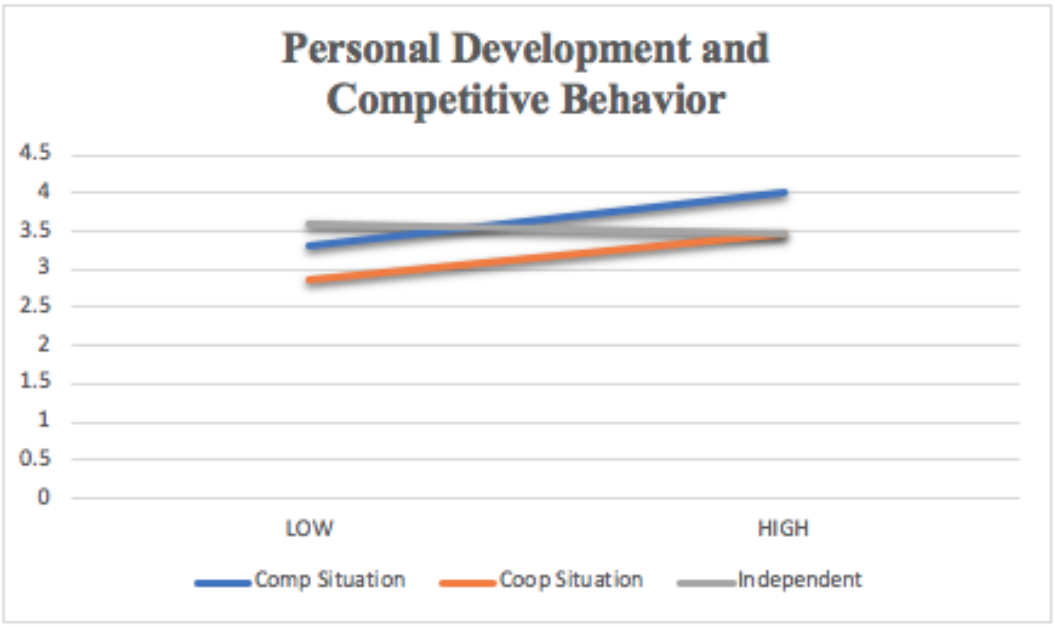


Figure 6b. Personal Development Competition and Cooperative Behavior

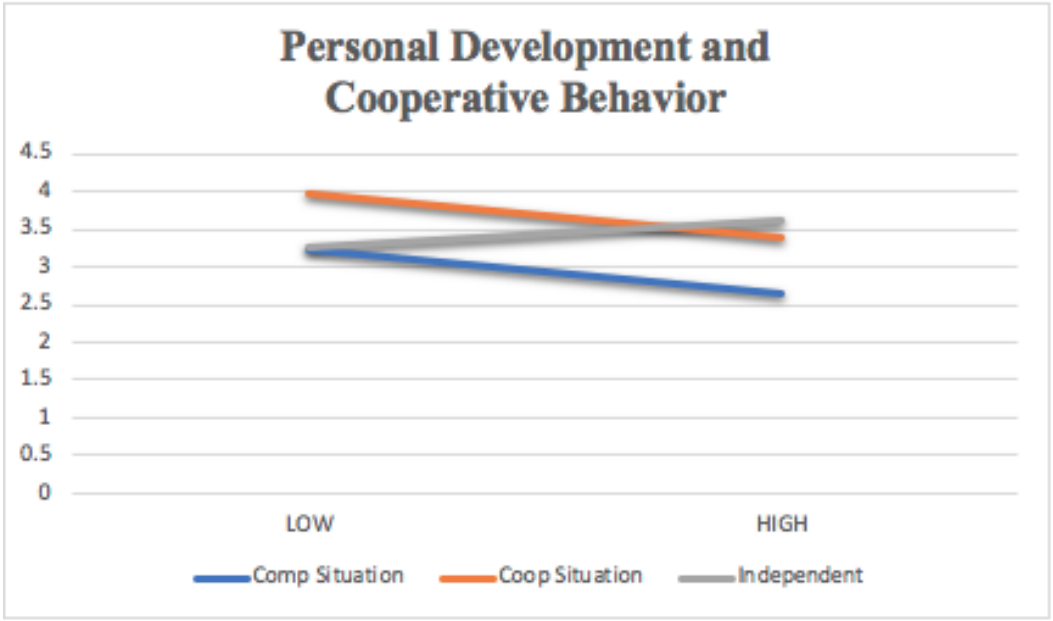


Figure 7a. Competition Avoidant and Competitive Behavior

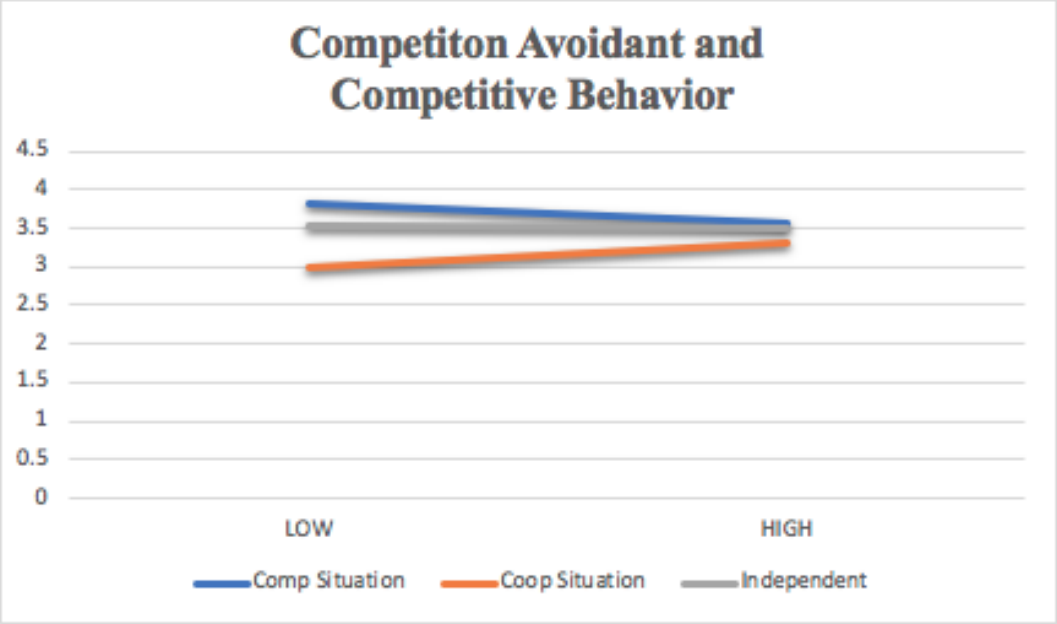


Figure 7b. Competition Avoidant and Cooperative Behavior

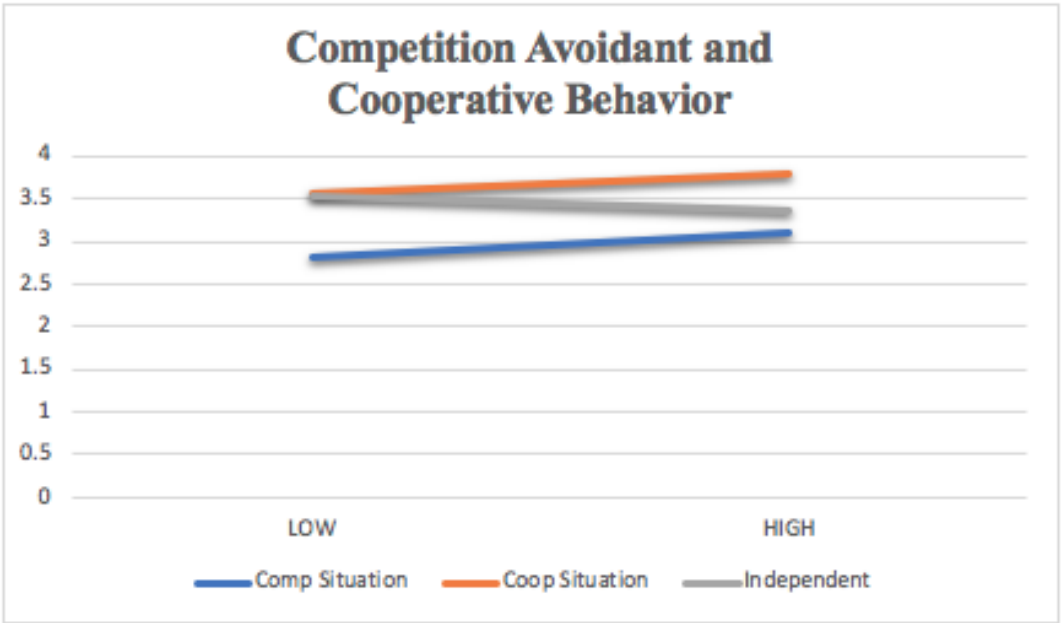


Figure 8a. Cooperativeness and Competitive Behavior

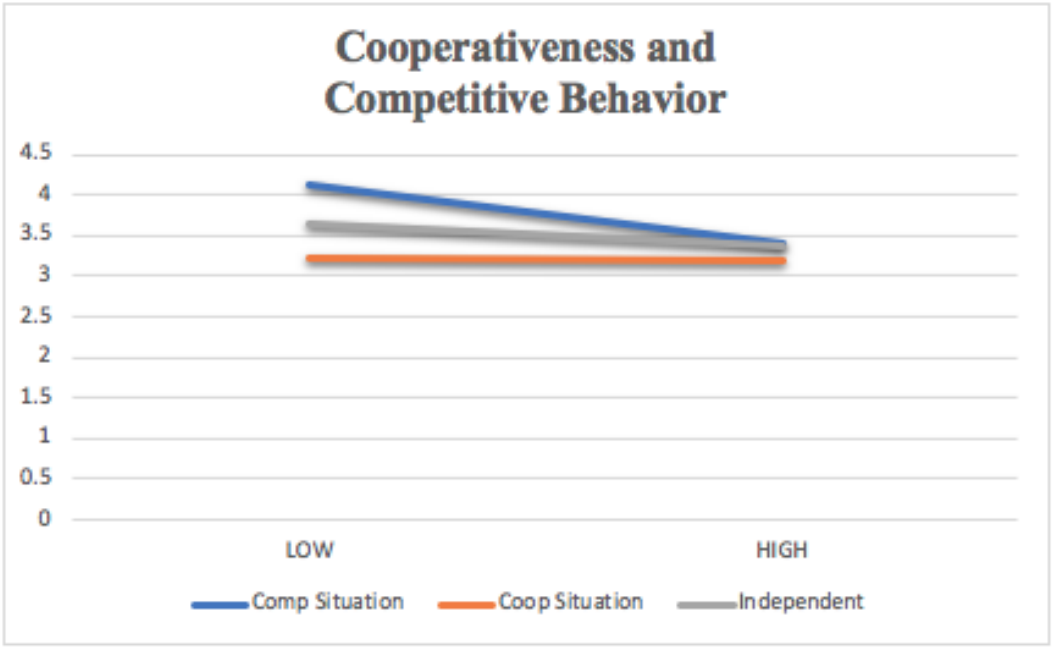


Figure 8b. Cooperativeness and Cooperative Behavior

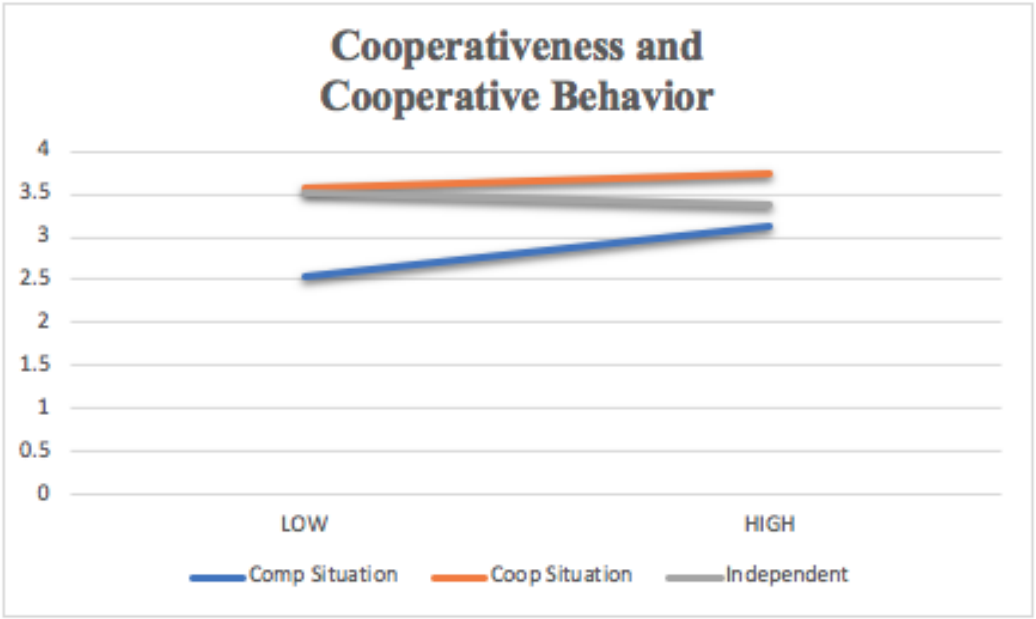


Table 9. The Effect Size of the Individual Differences in Each Situation.

Competitive Situation

	Competitive Behavior							Cooperative Behavior						
		95% CI for Mean							95% CI for Mean					
	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq
GC	F	3.2559	3.6112	0.006	4.035	0.6	0.36	F	3.2527	3.6274	0.047	2.085	0.514	0.265
	R	2.8443	4.0229					R	3.1079	3.7592				
Dom	F	2.607	3.0853	0.264	1.348	0.766	0.587	F	2.6096	3.0827	0.242	1.336	0.768	0.589
	R	2.4376	3.2547					R	2.5229	3.1694				
HC	F	2.7431	3.0727	0.37	1.09	0.534	0.286	F	2.7499	3.0876	0.762	0.636	0.488	0.238
	R	2.6634	3.1525					R	2.7283	3.1092				
PD	F	3.5477	4.0031	0.074	2.248	0.584	0.341	F	3.549	4.0017	0.117	1.676	0.585	0.343
	R	3.2392	4.3116					R	3.4192	4.1316				
CA	F	1.7945	2.3001	0.711	0.535	0.407	0.165	F	1.7765	2.2051	0.798	0.592	0.496	0.246
	R	1.7124	2.3001					R	1.7489	2.2326				
Coop	F	2.842	3.1858	0.064	2.37	0.568	0.322	F	2.8417	3.1861	0.137	1.615	0.545	0.297
	R	2.6031	3.4247					R	2.7503	3.2778				

Note: In Comp Behavior, CA and in Coop Behavior, HC and CA between component-variance is negative.
They are replaced by 0.0 in computing the random effects measure.

Cooperative Situation

	Competitive Behavior							Cooperative Behavior						
		95% CI for Mean							95% CI for Mean					
	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq
GC	F	3.2474	3.5959	0.266	1.337	0.37	0.137	F	3.2492	3.618	0.563	0.874	0.485	0.235
	R	3.1104	3.7329					R	3.2287	3.6385				
Dom	F	2.7966	3.2395	0.191	1.582	0.792	0.628	F	2.8294	3.2816	0.379	1.101	0.783	0.614
	R	2.5733	3.4627					R	2.787	3.3231				
HC	F	2.7071	3.1151	0.387	1.056	0.641	0.41	F	2.746	3.1407	0.183	1.461	0.577	0.333
	R	2.6148	3.2074					R	2.6638	3.2228				
PD	F	3.5954	3.9872	0.083	2.168	0.417	0.174	F	3.6013	4.0237	0.659	0.767	0.526	0.276
	R	3.3134	4.2627					R	3.5779	4.0471				
CA	F	2.0339	2.4139	0.035	2.76	0.318	0.101	F	2.0355	2.4458	0.4	1.071	0.305	0.093
	R	1.6809	2.7668					R	2.0018	2.4795				
Coop	F	2.7441	3.0569	0.584	0.717	0.452	0.204	F	2.7192	3.0551	0.962	0.349	0.433	0.188
	R	2.6832	3.1178					R	2.7005	3.0738				

Note: In Comp Behavior, Coop, and in Coop Behavior, GC, PD, and Coop between component-variance is negative.
They are replaced by 0.0 in computing the random effects measure.

Independent Situation

	Competitive Behavior							Cooperative Behavior						
		95% CI for Mean							95% CI for Mean					
	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq	Effects	Lower	Upper	Sig.	F	Eta	Eta Sq
GC	F	3.2998	3.6116	0.925	0.223	0.385	0.148	F	3.2913	3.5998	0.508	0.926	0.364	0.133
	R	3.2385	3.6729					R	3.2706	3.6204				
Dom	F	2.6591	3.0667	0.517	0.82	0.615	0.378	F	2.6443	3.056	0.563	0.862	0.652	0.425
	R	2.579	3.1468					R	2.6168	3.0835				
HC	F	2.6289	3.069	0.861	0.324	0.521	0.272	F	2.6075	3.0504	0.806	0.583	0.525	0.276
	R	2.5422	3.1565					R	2.578	3.0799				
PD	F	3.5976	3.9716	0.317	1.202	0.485	0.235	F	3.5905	3.9679	0.339	1.153	0.468	0.219
	R	3.4715	4.0977					R	3.545	4.0134				
CA	F	1.879	2.256	0.802	0.409	0.512	0.262	F	1.8745	2.2673	0.976	0.287	0.284	0.081
	R	1.8048	2.3302					R	1.8482	2.2936				
Coop	F	2.6756	2.9446	0.408	1.01	0.476	0.226	F	2.6773	2.9424	0.161	1.514	0.405	0.164
	R	2.6207	2.9996					R	2.6161	3.0036				

Note: In Comp Behavior, GC, Dom, HC, and CA, and in Coop Behavior, GC, Dom, HC, and CA between component-variance is negative. They are replaced by 0.0 in computing the random effects measure.

Legend: GC= general competitive, Dom= dominant competitiveness, PD=personal development competitiveness, CA= competition avoidant, Coop= cooperativeness. In effects, f stands for fixed and r stands for random. Lower is lower bound and upper is upper bound.

Figure 9a. Effect Sizes for Competitive Behavior

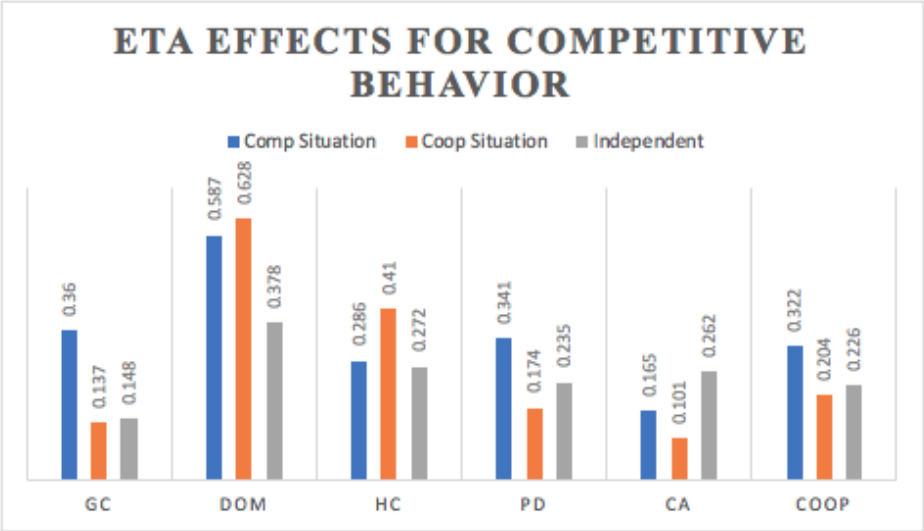
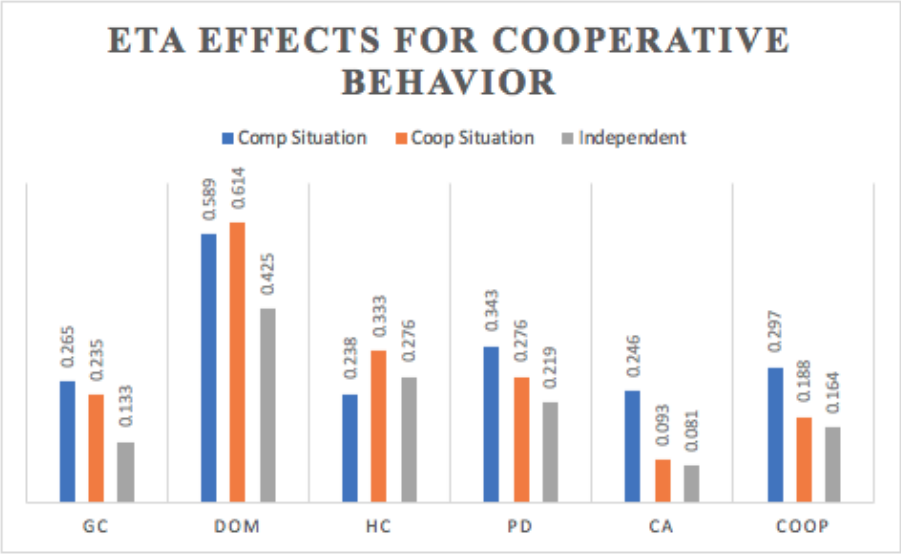


Figure 9b. Effect Sizes for Cooperative Behavior



To test for hypothesis 8, I conducted a moderation analysis using the PROCESS macro in SPSS (Hayes, 2013). In order to use bias corrected confidence intervals necessary for inference about the model, I incorporated the PROCESS bootstrapping function for 1000 samples. The results of testing the moderation model can be seen in the first column of Table 10. I predicted

the higher the perceived competitiveness of the situation, the less likelihood those high in competitiveness would engage in coopetition or cooperation behaviors, but rather, would continue to behave competitively. In order to check if various motivations behind competing influence the relationship, I ran the model with the four different competitiveness measures.

General competitiveness is represented by model 1, competition for dominance by model 2, hypercompetitiveness by model 3, and personal development competitiveness by model 4. Due to the large influence gender played on the influence of competition for dominance in hypothesis 1, I added an additional model 5 to display the influence of gender on the interactions with dominance. Lastly, though not hypothesized, model 6 utilizes the cooperativeness variable. I find that for all six models, the perception of the situation as competitive does not have a significant influence on the individual differences and their behavioral outcomes, finding no support for hypothesis 8.

To test for hypothesis 9, I follow the process described by hypothesis 8, but I utilize perceived cooperative goal interdependence with an outcome of cooperative behavior rather than competitive goal interdependence and an outcome of competitive behavior. Results can be found in the second column of Table 10, with general competitiveness represented by model 1, competition for dominance by model 2, hypercompetitiveness by model 3, personal development competitiveness by model 4, the additional interaction of competition for dominance and gender in model 5, and cooperativeness in model 6. The results for hypothesis 9 are not supported, as the perception of a cooperative goal structure did not necessarily lead competitive individuals to engage in cooperative behavior. When controlling for gender in model 5, it is more significant than the other competitive variables independently. The perception of cooperativeness even had a non-significant influence on individuals high in cooperativeness.

Table 10. The Moderating Influence of Competitive and Cooperative Perceptions

Outcome Variable - Competitive Behavior (H8) **Moderator - Competitive Perception**					**Outcome Variable: Cooperative Behavior (H9)** **Moderator - Cooperative Perception**				
Model Summary 1	R	R-sq	F	p	Model Summary 1	R	R-sq	F	p
	0.47	0.2209	19.6584	.0000		0.1876	0.0352	2.4921	0.0612
	coeff	se	t	p		coeff	se	t	p
constant	0.6487	1.4034	0.4623	0.6444	constant	3.6535	0.522	6.9988	.0000
Gencomp	0.2427	0.3926	0.6182	0.5371	Gencomp	0.0341	0.1462	0.2336	0.8155
Compbelief	0.3703	0.3365	1.1003	0.2725	Coopbelief	-.2092	0.1969	-1.0623	0.2894
Gencomp x Compbel	0.0368	0.0943	0.3903	0.6967	Gencomp x Coopbel	0.0536	0.0556	0.9646	0.3359
Model Summary 2	R	R-sq	F	p	Model Summary 2	R	R-sq	F	p
	0.4407	0.1942	16.1467	.0000		0.0304	0.0009	0.0611	0.9802
	coeff	se	t	p		coeff	se	t	p
constant	2.1156	1.0565	2.0024	0.0466	constant	3.5781	0.357	10.0226	.0000
Dominance	-.2403	0.3477	-.6912	0.4902	Dominance	0.0399	0.1154	0.3461	0.7296
Compbelief	0.2315	0.2505	0.9241	0.3565	Coopbelief	0.0423	0.1432	0.2953	0.7681
Dom x Compbel	0.0964	0.0828	1.1643	0.2457	Dom x Coopbel	-.0113	0.0456	-.2486	0.8039
Model Summary 3	R	R-sq	F	p	Model Summary 3	R	R-sq	F	p
	0.4292	0.1842	15.1258	.0000		0.0553	0.0031	0.2026	0.8945
	coeff	se	t	p		coeff	se	t	p
constant	0.8446	1.2274	0.6882	0.4921	constant	3.6932	0.4445	8.3091	.0000
HC	0.2053	0.4082	0.5029	0.6156	HC	0.0137	0.1467	0.0932	0.9253
Compbelief	0.5618	0.2960	1.8982	0.0591	Coopbelief	-.0468	0.1662	-.2813	0.7788
HC x Compbel	-.0184	0.0983	-.1868	0.8520	HC x Coopbel	0.0123	0.0553	0.2218	0.8247
Model Summary 4	R	R-sq	F	p	Model Summary 4	R	R-sq	F	p
	0.432	0.1866	15.9091	.0000		0.075	0.0057	0.3911	0.7595
	coeff	se	t	p		coeff	se	t	p
constant	0.7259	1.3103	0.554	0.5802	constant	3.3391	0.5263	6.3442	.0000
PD	0.2119	0.335	0.6326	0.5277	PD	0.1028	0.133	0.7729	0.4405
Compbelief	0.4534	0.3146	1.441	0.1511	Coopbelief	0.0657	0.1961	0.3349	0.738
PD x Compbel	0.0079	0.0804	0.0987	0.9214	PD x Coopbel	-.0206	0.0502	-.4114	0.6812
Model Summary 5	R	R-sq	F	p	Model Summary 5	R	R-sq	F	p
	0.4584	0.2101	10.5852	.0000		0.1634	0.0267	1.0752	0.3754
	coeff	se	t	p		coeff	se	t	p
constant	1.8894	1.101	1.716	0.0877	constant	3.4466	0.3638	9.4747	.0000
Dom	-.0721	0.3726	-.1936	0.8467	Dom	0.1227	0.1238	0.991	0.3229
Compbelief	0.2431	0.2498	0.9733	0.3316	Coopbelief	0.0645	0.1487	0.4339	0.6648
Dom x Compbelief	0.0889	0.0826	1.0759	0.2833	Dom x Coopbelief	-.0132	0.0471	-.2809	0.7791
Gender	-.0394	0.564	-.0699	0.9444	Gender	-.1214	0.354	-.3429	0.732
Dom x Gender	-.1062	0.1911	-.5556	0.5791	Dom x Gender	-.0421	0.119	-.3537	0.724
Model Summary 6	R	R-sq	F	p	Model Summary 6	R	R-sq	F	p
	0.4363	0.1904	15.9878	.0000		0.1531	0.0234	1.6169	0.1866
	coeff	se	t	p		coeff	se	t	p
constant	0.1762	1.5083	0.1168	0.9071	constant	3.3736	0.528	6.3897	.0000
Cooperativeness	0.4682	0.5263	0.8897	0.3747	Cooperativeness	0.1396	0.1847	0.756	0.4506
Compbelief	0.9828	0.3663	2.6830	0.0079	Coopbelief	0.3064	0.2172	1.4111	0.1598
Coop x Compbel	-.1723	0.128	-1.3465	0.1796	Coop x Coopbel	-.1174	0.0767	-1.5302	0.1275

Legend: Model 1 Example: Constant is the intercept at 0.64867, b_1 = .2427, b_2= 0.3703, and b_3=.0368. The b_3 coefficient indicates how the effect of X (gen comp) on Y (comp behavior) changes as M (comp belief) changes by 1 unit. B_3 is not largely statistically different from zero (.3903), p>.05, so we can conclude there is a not a large moderation effect for Model 1.

DISCUSSION

The purpose of the study was to establish individual competition and cooperation as the first individual-level predictors to understanding emergent coopetition. Based on the three triadic influences as determinants of how individuals process information and assess their goal hierarchies, I empirically tested whether or not individual dispositions, goal structures, and the perception of goal structures determines competitive, cooperative, or coopetition acts, or whether those with heightened traits are able to change their goal hierarchies. It follows a procedure examining coopetition used by Landkammer and Sassenberg (2016). While their study showed the lasting effect of competition as a situation on behavior, this study made additions to their findings by demonstrating competitiveness and cooperativeness as individual difference variables also has an influence.

The procedure simulates individuals' behavior in a coopetition process based on the situation and contextual factors, followed by whether individuals change their individual competitive or cooperative behavior based on collective goals and needs in a group situation. First, individuals were surveyed on their individual dispositions. In order to establish validity, a second survey placed individuals in either a competitive, cooperative, or control situation, and they had to strategize accordingly. Then, using a separate situation but the same one for all individuals, they were asked about a situation in which they can choose between competitive or cooperative behavior, or a mix of the two, as their final behavior choice. Deceptive information sharing was measured, as the deduction of knowledge sharing increases in competitive people and situations and knowledge sharing is a cooperative behavior. The study is not meant to test

whether deduction as an act of competitiveness is "good" or "bad" but rather, whether goal interdependence and the situational factors change the behavior from the initial input of each individuals' level of competitiveness or cooperativeness. Ultimately, it seeks to confirm whether or not individuals adapt their competitive or cooperative behavior based on situations which may require understanding when to utilize coopetition in order to achieve a goal. It is the first step in building coopetition from the bottom-up through confirming whether coopetition emerges based on individual differences, situational goal structures, the perception of the situation, or as a combination of individual differences and situational factors.

The results suggest that individual differences in competitiveness do play a role in whether one behaves competitively, but the relationship is much stronger for men rather than women. This aligns with studies who have found men are more competitive than women (e.g., Hanek, Garcia, & Tor 2016), but I find the relationship between gender and competitive behavior has a greater significance for those compete for dominance. Though dominance and hypercompetitiveness were hypothesized to have similar outcomes in H1, the support for dominance to competitive behavior (H1a) and not for the relationship of hypercompetitive to competitive behavior (H1b) may indicate more differences in the two constructs than originally expected. This may suggest that though hypercompetitors have an indiscriminate need to win at all costs, they may have a greater ability to perceive when cooperating will help them win rather than competing. The relationship between generally competitiveness and competitive behavior was significant (H2a), but with the low reliability of the scale, further investigations are needed. Personal development competitiveness was found to have strong relationship with competitive behavior, but also cooperative behavior when utilizing the subject effects (H2b).

The connections between cooperativeness and cooperative behaviors were not easily detected. The relationship between cooperativeness and cooperative behavior was not found to be significant, though, this may be due to the various competitiveness scales that capture the motivations behind competition, whereas those conceptualizations and scales does not currently exist for the various motivations behind cooperating. Though the study assisted in understanding coopetition, it did not give as much insight to cooperativeness as competitiveness, thus more investigations are needed that can utilize various motivations for cooperation.

Next, the results find the situation in which an individual is placed does have a lasting effect on their competitive or cooperative behaviors. Those in competitive situations were willing to share the least amount of information while those in the cooperative situation were willing to share the most information. The study provides valuable insights to coopetition at the individual level, in that the individual factors, particularly general competitiveness and personal development, are most influential in competitive situations and independent situation. Cooperativeness and competitive avoidant however, do not have clear relationships with competitive and cooperative behaviors in various situations. There is much left to be understood on the individual differences, particularly regarding the motivations behind cooperativeness. In addition, the perception of the situation as competitive or cooperative did not influence whether one engages in competitive or cooperative behavior, though more analyses specific to the situation could be an option rather than moderation.

Coopetition at the individual level is an emergent phenomenon, which "originates in the cognition, affect, behaviors, or other characteristics of individuals, is amplified by their interactions, and manifests as a higher-level, collective phenomenon" (Kozlowski & Klein, 2000, p. 55). Individual level coopetition - with the influence of the situational factors - is the

facilitation and capacity of an individual to comprehend when to switch between competitive and cooperative behaviors based on the desired outcome and act accordingly. In this coopetition definition, goal hierarchy is based on the idea that goals organize and shape behavior (Cropanzano et al., 1993; Pervin 1983, 1989). In this regard, individuals evaluate their goal hierarchy based on their personal disposition, followed by the actual environmental influence, which, is still filtered due to a bias in their personality differences. This combination of the disposition and environment along with perceived goal hierarchy allows one to compete, cooperate, or enact behaviors of both. For example, if hypercompetitors place a higher order on an achievement goal that cannot be obtained without a group effort (i.e. cooperative goal structure for inter-group competition), and they are engaging in coopetition. Consequently, even at the individual level, coopetition is a multilevel and interactive behavioral phenomenon based on individual dispositions and top down environmental influencers.

Theoretical and Practical Implications. The manuscript makes several theoretical contributions. First, it explores the micro foundations of coopetition with competitive and cooperative personality as the lowest level of analysis. I find the significance that competitive personality has on competitive behaviors, particularly in males. Cooperation does not have as large of an influence, but the various motivations behind cooperativeness as an individual difference variable is still relatively unknown. Therefore, I find competitiveness is an important factor that influences competitive relationships and actions, though cooperativeness still plays a role in how individuals compete, cooperate, or incorporate attitudes of both.

Second, coopetition was examined as a multilevel, bottom up, interactive process using SCT as a framework. I explored the role individual differences and environmental influences have on behaviors. I find it is not just the individual differences, the environment, or the

perceptions that influence the behavior, but there is an interaction between each that leads to the behavior choice. Competitiveness and the perception of competitiveness are both large contributors to whether individuals behave competitively, and even cooperative individuals behave competitively when they perceive the situation as competitive. This would suggest competitive individuals often see competitions, whereas those high in cooperativeness evaluate situations in a way that is currently unknown. Regardless of the individual differences and perceptions, individuals do enact competitively or cooperatively based on the situation, therefore environmental influences play a large role in how coopetition emerges.

Third, the study introduces the idea of individual level coopetition, which provides a new way to examine competition and cooperation combined, rather than in their pure form. The definition establishes the lowest level of coopetition as a process of evaluating goal hierarchies and accordingly, choosing to engage in competitive, cooperative, or mixed behaviors of both. It makes contributions to studies just beginning to evaluate competition and cooperation together, along with the influence of individual differences, perceptions, and situations.

Lastly, from a practical view, the findings suggest managers and executives should think carefully about their own competitiveness or the competitiveness of organizational team members. Though it has its benefits, it also leads to behaviors that are detrimental to teams or organizations, such as the withholding of information, trash talking (Yip, Schweitzer, & Murmohamed, 2018), or unethical behavior (Mudrack et al., 2012), for example. Those high in competitiveness must learn to understand when cooperating is an appropriate behavior, but as demonstrated, it is often difficult for competitive individuals to demonstrate cooperative behavior. Even cooperative individuals do not necessarily always engage in cooperation when

appropriate. Discussing goal congruence and communicating goal structures are recommended when cooperation is necessary.

Limitations and future directions. The research has several limitations and opportunities for future work. First, though surveys were conducted at different time periods, it is still a static look at coopetition, therefore does not fully attest to the dynamic nature of individual dispositions, behavior, and environmental influences described by SCT. Accordingly, a longitudinal look into perceptions and various situations would provide a more accurate view into the triadic reciprocal nature.

Second, competition and cooperation literature is often criticized for its study in laboratory settings or with the necessary resources to compete the task at hand (Kistrick et al., 2016). Though the study utilized vignettes rather than laboratory settings and the competitive vignette used limited resources, there is an opportunity to study the emergence of coopetition in various situations, in teams, or real-world settings rather than with the use of the vignettes. As the purpose of the study was to examine the way competitiveness and cooperativeness work with interdependencies and perceptions to influence behavior, the vignettes assisted in helping establish the base of coopetition but should be studied in other ways.

Third, studying coopetition in various contexts and situations will provide a deeper understanding of the multilevel influences and boundary conditions. First, with the large influence of gender, other demographic variables should be considered. Ethnicity was controlled for in this study, however, the lack of significance may be due to the lack of diversity in the sample. A second example includes variations in organizational roles. For instance, a male CEO who competes as a means for dominance must be able to recognize that when an alliance with another firm (i.e. participating in coopetition), for example, will ultimately help them achieve the

"win." Accordingly, they must understand when competitive behavior will not lead to their desired outcome. Studying this phenomenon with various samples (e.g., age, ethnicity, cultures), various contexts (e.g., workplace vs nonworkplace), with different organizational roles (e.g., CEO, middle manager, team member), and different organizational influences (e.g., competitive work environments, pay for performance structures) will provide a way in which to have a deeper understanding of multilevel coopetition and establish various boundaries.

Finally, additional studies focusing on cooperativeness with allow a more balanced view on how competition and cooperation form individual coopetition. Competitiveness has a variety of scales in which to study the motivations and individual differences behind competing (see Houston et al., 2002; Newby & Klein, 2014; Swab & Johnson, 2019), therefore allow the examination of differences between competing. Cooperation literature however, is scarce in understanding these differences, therefore cannot be easily compared in their emergence. Future studies should investigate individual differences behind cooperativeness and cooperative behavior, such as various motivations behind cooperating rather than only on a low to high scale. Following more understanding of cooperation, a deeper investigation behind cooperation's influence on the emergence of coopetition.

Concluding Remarks. Organizational science phenomena, such as coopetition, should be studied at all levels of analysis. By studying trait competitiveness and cooperativeness, the environment, and perceptions of the environment, we are able to have a deeper and broader understanding of competition, cooperation, and the intermingling dynamic of the two - coopetition. The findings are consistent with the interactive look of person x situation analyses of behavior (Elliot et al., 2018; Lewin, 1935) and the multilevel influences of environments explained by the SCT framework. I find general competitiveness and dominant competitiveness

largely influence competitive behavior, as does the situation in which the individual is placed. Further studies on coopetition at the individual and team levels are encouraged.

ESSAY THREE:

New Venture Team Competitiveness and Cooperativeness:

The Influence and Interplay Influencing Intrateam Coopetition

Essay Abstract:

There is a positive relationship between individual characteristics and entrepreneurial venture success, but it is still unclear how entrepreneurial teams, their team processes, and their perceptions of the environment influence the team and venture outcomes. One such way is to examine competitive, cooperative, and coopetition behaviors based on individual dispositions of competitiveness and cooperativeness and perceived goal interdependencies. Using new ventures teams from the independent board gaming industry, I explore the emergence of competitive, cooperative, and coopetition behaviors with the use of social cognitive theory. I examine these influences on team effectiveness.

INTRODUCTION

Entrepreneurs are those who start new ventures, and "venture creation is at the heart of entrepreneurship" (Shook, Priem, & McGee, 2003, p. 379). Therefore, in order to understand venture creation, we must understand the individuals who contribute to this process. While research argues for putting the enterprising individual back into this field of study (e.g., Rauch & Frese, 2007), there is also a recognition that most firms are not led by a lone entrepreneur, but rather, a team (Kamm, Shuman, Seeger, & Nurick, 1990; Klotz, Hmieleski, Bradley, & Busenitz, 2014). Studies on entrepreneurial teams are beginning to support that team characteristics lead to team outcomes (e.g., Jin et al., 2017), but entrepreneurship research is still in its infancy in understanding the personality constructs and intermediary mechanisms regarding how entrepreneurs' characteristics lead to successful venture outcomes (Klotz et al., 2014; Klotz & Neubaum, 2016). Additionally, research in entrepreneurship has only just begun to examine new venture team-level mediators using primary data (e.g., Chen, Chang, & Chang, 2017; Hmieleski, Cole, & Baron, 2012). Therefore, we still know very little regarding *how* and *when* new venture teams (NVTs) influence the performance of start-ups (Klotz et al., 2014).

One such process to give greater understanding to entrepreneurial teams and new ventures is by understanding the interplay of competition and cooperation – termed coopetition. Coopetition is defined as the simultaneous cooperation *and* competition between firms (Brandenbuger & Nalefbuff, 1996) and incorporates the use of both competing and cooperating. Coopetition has positive effects on performance – whether through the coordination of product lines or an increase of technology diversity (Garcia & Velasco, 2002), organizational learning (Bengtsson &

Kock, 2000), or opportunities for innovation (Carayannis & Alexander, 1999), for example. Though coopetition is typically studied using large or multinational companies (Dagino & Padula, 2002; Dussage, Garrette, & Mitchell, 2000; Kanter, 1994), research finds the importance of coopetition to be even greater in the context of small and medium enterprises (Gnyawali & Park, 2009). However, coopetition in start-ups is still under-researched (Gast, Filser, Gundolf, & Kraus, 2015) and even though reviews acknowledge the relevance of coopetition on all levels of analysis (e.g., Dorn, Schweiger, & Albers, 2016), the individual and team levels are largely ignored. This may be due to little understanding regarding the micro levels of coopetition.

While multilevel studies on coopetition do exist, they tend to focus on the environment, industry, or organization as factors that influence the lower-levels in co-opetive action. It ignores the fact that whether or not an organization is set up for competitive or cooperative action, there are still inherent traits in individuals and teams that shape the team or collective unit, and further, the environment and venture itself. This is due to the fact that individuals can vary in the intensity and foci of their competitiveness, but one's individual competitiveness does determine how one performs their roles and tasks in relation to others (Enns & Rotundo, 2012). Therefore, the individual level of competitiveness or cooperativeness has implications on the ability to both compete and cooperate – co-opetate - within and between teams, along with influencing the perceptions of the situation on whether to enact these behaviors.

Understanding the bottom-up influence is particularly important to entrepreneurs and their NVTs as they have a large influence on venture outcomes. Accordingly, the objective in this essay is to effectively facilitate the transition of the individual single-levels of competitiveness and cooperativeness within individuals in NVTs to understanding how competitive, cooperative, or coopetition behaviors emerge and influence team effectiveness.

Following multilevel principles "a phenomenon is emergent when it originates in the cognition, affect, behaviors, or other characteristics of individuals, is amplified by their interactions, and manifests as a high level, collective phenomenon" (Klein & Kozlowski, 2000, p. 55). Therefore, I describe competitive, cooperative, or coopetition behavior as it emerges in NVTs using social cognitive theory (Bandura, 1986) as a theoretical framework.

Social cognitive theory (SCT) proposes personal dispositions are regularly determined by their interactions with significant behavioral and environmental factors (Wood & Bandura, 1989) though a triadic reciprocal model. Learning occurs in a social context based on personal factors (dispositions), behavior, and the environment influencing each other bi-directionally and dynamically. Behavior is regulated by forethought and accordingly, individuals select and create action paths that are likely to produce desired outcomes (Bandura, 1989, 1991, 2001), or achieve desired goals. The described psychosocial functioning is regulated and influenced by a dynamic interplay of self-produced and external sources (Bandura, 1989). SCT proposes a comprehensive framework for human action as an outcome of the interaction between individual disposition, the environment, and behaviors, rather than focusing on levels and variables independently of one another (Hmieleski & Baron, 2009). As such, it is consistent with multilevel principles (e.g., Hitt, Beamish, Jackson, & Mathieu, 2007) and provides a framework for identifying the mechanisms through which individual the dispositions of competitiveness and cooperativeness, along with the perceptions of the environment as competitive or cooperative, and competitive or cooperative behavior, influence venture performance.

With the reliance of the SCT framework, I utilize previous coopetition definitions. At the individual level, coopetition is the process by which individuals evaluate competition, cooperation, or incorporating actions of both, based on their interpretation of individual goal

hierarchies and desired outcomes. At the collective, team level, coopetition is the process by which team members develop a shared disposition, resulting in a preference, attitude, or behavior to compete, cooperate, or incorporate attitudes or actions of both, based on their interpretation of their individual and collective goal hierarchies and desired outcomes. Therefore, coopetition is NVTs is the process by which the team individually or collectively evaluates when to compete, cooperate, or incorporate both behaviors.

In addition, while there are many conceptualizations of entrepreneurial teams, founding teams, and new venture teams, I use the terms interchangeably, but utilize the new venture team (NVT) definition provided by Klotz et al., (2014) - "the group of individuals chiefly responsible for the strategic decision making and ongoing operations of a new venture." This group does not include outside funders, investors, or board advisers, but these members develop and implement the strategies of the firm as they evolve (Klotz et al., 2014). These individuals may or may not have equal financial stake in the new venture but do contribute to strategic decision making. This includes identification and development of the vision and mission, resource acquisition, and employee recruitment, for example. Additionally, I refer to an entrepreneurial venture as an independent firm that has been in business ten years or less (Forbes, 2005; Jin et al., 2017).

I seek to make a number of contributions to the entrepreneurship and broader organizational science literature. First, the balance of competition and cooperation as individual input characteristics is introduced to the NVT entrepreneurship literature. Common inputs include prior experience, social capital, and personality constructs such as the Big-Five, but much remains to be understood regarding the effect of NVT inputs on the development and performance of a start-up (Klotz et al., 2014). Second, with the development of individual and meso level coopetition as a process (i.e. evaluating when to compete, cooperate, or incorporate

both), it is examined as a mechanism for linking individual and team inputs to NVT outcomes. The study of team and emergent processes is growing but is still an underdeveloped domain within entrepreneurship research (Klotz et al., 2014; Klotz & Neubaum, 2016). Using competition, cooperation, and coopetition as part of the interaction process in NVTs provides contributions to entrepreneurship literature through the use of the IMO Input-Mediator-Output (IMO) and Input-Mediator-Output-Input (IMOI) frameworks. Therefore, the appropriate balance between the two and the implications it has on the firm is theorized and empirically tested. Third, contributions are made to social cognitive theory as a base for competitive, cooperative, or co-opetitive behavior in NVTs. Lastly, from a practitioner perspective, entrepreneurs and their teams need to prepare for both the opportunities and challenges when engaging in coopetition. Recommendations on preparation for the balance of competition, cooperation, and coopetition is provided.

THEORY AND HYPOTHESES

I begin this section by examining the differences in entrepreneurs' competitiveness and cooperativeness. Then, following the social cognitive theory framework, I explore the influence goal structures have as environmental influencers to competitive or cooperative behavior using social interdependence theory. Following the arguments on the three triadic influences, I explore the effects on NVT effectiveness by measuring customer intent to buy.

Competition and Cooperation as Individual Dispositions

Competitiveness is the "individual differences resulting in a preference for competition" (Swab & Johnson, 2019, p. 150). General trait competitiveness describes the intra-personal role competition plays in individuals and was first investigated by Triplett (1897), who found there are individual differences in competitive instincts and the desire to win. While it is a distinct construct from achievement motivation, it shares relationships with goal striving and achievement (Spence & Helmreich, 1983). Though trait competitiveness is conceptualized and measured on a low to high scale, there are also three separate orientations used to described one's individual competitive orientation. These orientations are based on individual differences in motivations to compete.

The first of these, hypercompetitiveness, results from a need to win at all costs (Ryckman, Hammer, Kaczor, & Gold; 1996, Ryckman, Libby, Borne, Gold, & Lindner, 1997). These highly neurotic individuals are high in competitiveness, and accordingly, use the accumulation of power, prestige, and possessions to account for their personal success (Horney, 1945). Second, is the competitive avoidant individual. They share the same underlying needs,

insecure attachments, and low psychological health as hypercompetitors (Johnson & Swab, under review; Ryckman, Hammer, Kaczor, & Gold, 1990; Ryckman, Thornton, & Gold, 2009), but it manifests as an evasion for competition. Due to the excessive fear of losing the affection and approval of others, a competitive situation induces anxiety, creates self-handicapping behaviors, generates the fear of humiliation, and reduces motivation (Ryckman et al., 2009). The third competitive orientation is personal development, which views competition as a means for personal growth and enhancement, and the enjoyment and mastery of the task, rather than as a win-lose situation (Ryckman et al., 1996). They do not concern themselves with performance comparisons to others or view their competitor as an object which must be overcome (Dru, 2003; Ryckman et al., 1996).

Regardless of the individual differences in the desire to compete, a low to high level of general competitiveness as a personality trait is utilized in a variety of interpersonal and achievements contexts. In work environments (Brown, Cron, & Slocum, 1998; Nickel & Fuentes, 2004), academics (Dweck, 1986), and sports (Favian & Ross, 1984; Gill & Deeter, 1988), there are individual differences driving one's perception of competitiveness and the environment.

Like trait competitiveness, cooperativeness is generally conceptualized from a low to high level (Chatman & Barsade, 1995). Heightened levels of cooperativeness show relationships with agreeableness, conscientiousness, and extroversion, along with lower levels of neuroticism (LePine & Van Dyne, 2001). It is often viewed from an individualist vs. collectivist perspective. Collectivists, or those who prefer cooperation, pursue group interests, group performance, and group well-being, rather than immediate personal gain (Wagner, 1995), while "individualists are likely to prefer to avoid cooperation and instead devote their attention to the pursuit of personal

gains" (Wagner, 1995, p. 155). Cooperation is regularly studied from a viewpoint of situations rather than as a trait, but whether one engages in cooperative behavior is influenced *both* by personality and whether an individual has a tendency to pursue individualistic or collective goals (Chatman & Barsade, 1995; McClintock & Liebrand, 1988).

Though competition and cooperation may be situationally opposing, there are certain forms of competitiveness that share relationships with cooperativeness (Ross, Rausch, & Canada, 2003). Accordingly, the individual dispositions of the two are not the opposite ends of a spectrum, but distinct constructs (Lu, Au, Jiang, Xie, & Yam, 2013). For example, compared to hypercompetitors, personal development competitors are more likely to engage in cooperation acts due to their concern for the welfare of others, decreased level of dominance, and high self-value (Ryckman et al., 1996). Therefore, individuals can be both competitive and cooperative, but must choose between which behavior to enact in a specific situation. Accordingly, individuals may be high in competitiveness or cooperativeness, low in either, or fall somewhere in between depending on their individual dispositions and goals. To establish the base for competitiveness, cooperativeness, and coopetition among NVTs, I first theorize and empirically verify whether entrepreneurs in NVTs and the NVTs themselves differ in their competitive or cooperative dispositions.

Hypothesis 1: NVT members differ in their competitiveness.

Hypothesis 2: NVT members differ in their cooperativeness.

Important to entrepreneurs and their teams, is not just whether they display different levels of the two, but which is more likely, as that will influence their interactions with one another. While entrepreneurs have a unique makeup of various characteristics (Jin et al., 2017), there is a tendency for entrepreneurs to obtain certain personality types (i.e., high need for achievement, self-efficacy, etc., Shane, Locke, & Collins, 2003). Though entrepreneurs will each have their own makeup of competitiveness or cooperativeness, they have characteristics and demonstrate behaviors that suggest higher levels of general trait competitiveness.

Entrepreneurs demonstrate a heightened level of need for achievement (Shane et al., 2003), as do those who compete for personal enhancement, due to their positive relationship with achievement strivings (Thornton, Ryckman, & Gold, 2011). Additionally, both personal development competitors and hypercompetitors have a desire to win and succeed, demonstrating their relationship with a need for achievement. Entrepreneurs also demonstrate high levels of confidence (Forbes, 2005) and self-efficacy (Shane et al., 2003). Though the neurotic behaviors of hypercompetitors tend to have underlying insecurities, those who avoid competition due so as they tend to have diminished levels of confidence. Accordingly, entrepreneurs' high confidence and self-efficacy share a negative relationship with competitive avoidant individuals. The personal development competitor, however, does demonstrate high levels of confidence and self-regard (Ryckman et al., 1996), demonstrating additional relationships between entrepreneurs and personal development competitiveness. Both general competitiveness and hypercompetitors demonstrate high levels of overt narcissism (e.g., aggressiveness and arrogance) (Luchner, Houston, Walker, & Houston, 2011), while entrepreneurs also demonstrate high levels of narcissism (Hmieleski & Lerner, 2016).

This is not to say that entrepreneurs do not demonstrate levels of cooperativeness. Entrepreneurs have heightened levels of conscientiousness for example, which is correlated with cooperativeness (Ciavarella, Buchholtz, Riordan, Gatewood, 2004; LePine & Van Dyne, 2001), but consciousness is also partially correlated with trait competitiveness (Fletcher & Nusbaum, 2008). The drive of entrepreneurs to be independent and with high needs for achievement leads me to hypothesize they would compete for hypercompetitive dominant means, for personal development internal growth needs, as well demonstrate relationships with the achievement striving of general trait competitiveness. Competitive avoidant individuals would refrain from entrepreneurial activity due to their extreme fear of failure. Similarly, I would not expect that entrepreneurs would be overly cooperative due to their desire to succeed and be independent. In the same regard, I would not expect them to be fully against cooperating as (1) cooperating shares relationships with personal development competitiveness and (2) hypercompetitors will be cooperative with those who help them achieve their goals (i.e. goal interdependence of intergroup competition).

Entrepreneurs also recognize the need for others, but their independence is still the primary reason for entrepreneurial behavior (Clarke & Holt, 2010). Therefore, I propose that, compared to cooperativeness, and prior to distinguishing between any situational determinants, such as intragroup and intergroup competition, individual entrepreneurs are higher in competitiveness than cooperativeness. In addition, I hypothesize those high in competitiveness are more likely to view a situation as competitive, rather than those who are cooperative and will be more likely to see a situation a cooperative. In this regard, competitiveness and competition have a more lasting effect on behavior (Landkammer & Sassenberg, 2016).

Hypothesis 3: Individual NVT members demonstrate higher levels of competitiveness than cooperativeness.

Hypothesis 4: Competitiveness is a stronger relationship to competitive interdependence than cooperativeness to cooperative interdependence.

Competition and Cooperation as Goal Structures and Processes

Competition and cooperation are not only conceptualized as individual differences, but also situationally as goal structures. Following the SCT framework, this provides environmental influences to behavioral outcomes. Social interdependence theory describes how people's beliefs about how their goals are related to others (Deutsch, 1949). The interdependence occurs when individuals have goals in common and each of their individual outcomes are influenced by others' actions (Stanne, Johnson, & Johnson, 1999). The theory focuses on people's perceptions of their own goals as being positively or negatively correlated with those of others, thus, affecting their motivation levels and actions (Baer, Leenders, Oldham, & Vadera, 2010). The outcome of the situation is determined by the structure of the goals, how the individuals interact with one another, and by the interaction pattern.

There are three forms of interdependence described by social interdependence theory: positive by promoting the success of others, negative by hindering the success of others, and independent when there is no relation or regard to the success or failure of others (Johnson & Johnson, 1989). The positive and cooperative interdependence promotes the success of others. In this type of structure, the achievement of goals is positively correlated as individuals perceive their own goal can only be met through the beneficial achievement of others reaching their goals

as well. Cooperative structures then, create a situation of perceived shared fate and promotes supportive behavior (Beersma et al., 2003).

A negative, competitively structured goal situation results in individuals working against each other. When the goal achievement of one person causes another to fail, those sharing the mutual situational goal are in competition with one another. Competitive situations contextualize actors who oppose one another while striving for scarce resources (Deutsch, 1949) and emphasizes the performance differences among each actor (Beersma et al., 2003). In this situation, individuals seek an outcome that is personally beneficial, but also unfavorable to all others in the situation, as the negative correlation only allows one or few to attain the goal. This may include the obstruction of others goal achievement. Lastly, goals can be structured individualistically. In this structure, accomplishing one's goal is unrelated, independent, and without correlation to the goals of others. An individual perceives they can reach their goal regardless of others' attainments or failures. They seek for personal benefits, but not to the detriment of others. There may or may not be interaction at all among these participants.

While individual behavior is the most elementary unit of study, individual entrepreneur actions, and those occurring in NVTs, do not occur in a vacuum, nor are they random (Morgeson & Hofmann, 1999). Multiple situations influence these factors (Cappelli & Shearer, 1991), such as the perceived or actual goal structure of the situation. There is an interaction process in traits and goal structures, in that goals are filtered based on the bias that comes from the individual dispositions. Entrepreneurs and their entrepreneurial teams are goal directed. How they consider their goals are related to others plays a role in their dynamics, interaction patterns, and outcomes (Deutsch 1972, 1980). These goals, whether individual and/or collective, can be structured to promote the success of others, hinder the success of others, or be in the pursuit of individual

interest without consideration of others' success of failures (Johnson & Johnson, 1989). Consequently, those in a team purposefully enact cooperative, competitive, or a mixture of both behaviors due to individual perceptions of goal achievement and what actions assist in achieving the desired goal or outcome (Bandura, 1989).

Accordingly, interdependencies among entrepreneurial team members represent a way in which individuals change their competitive or cooperative behavior. A collaborative reward structure, such as bonuses based on team performance or working collectively towards completing a business proposal for an investor, for example, leads to the assumption that teams would naturally cooperate to achieve venture success. However, not all entrepreneurs enter into entrepreneurship for the same motivation. Some have the desire to achieve interdependence, others have the strong desire to make revenue, while others enter into the profession to do meaningful work for the community. The differences in motivation for entering into entrepreneurship, as well as the differences in competitive or cooperative tendencies, leads individuals to vary in their goal hierarchies. These conflicting, non-congruent goals influence ventures outcomes both short and long term.

It is not only important to consider congruent or conflicting goals within the team, but interdependencies between teams also influence these goal hierarchies and behaviors. External threats bring groups together, forming tight-knit units where members view one another as interdependent and positively (Hedler, 1976; Sherif & Sherif, 1953; Staw, Sandelands, & Dutton, 1981). When entrepreneurial teams feel an external threat, whether due to competitiveness between firms or due to a high-risk endeavor caused by another firm in the industry for example, the team forms a bond due to their interdependent goal of overcoming the situation as a unit. Accordingly, though I focus on building intra-team competition, cooperation, and coopetition in

this manuscript, whether from an intra-group or inter-group perspective, the ability to perceive interdependent goals influences whether individuals choose to engage in competitive or cooperative behavior.

Hypothesis 5: In NVTs, the higher the perceived cooperative goal interdependence, the higher the intra-team cooperative behavior.

Hypothesis 6: In NVTs, the higher the perceived competitive goal interdependence, the higher the intra-team competitive behavior.

Hypothesis 7: The higher the goal agreement, the higher the intra-team cooperative behavior.

Hypothesis 8: The lower the goal agreement, the higher the intra-team competitive behavior.

New Venture Team Outcomes

Members of an entrepreneurial team shape the development and implementation of the firm's vision during its early stages (Baum, Locke, & Kirkpatrick, 1998). Accordingly, the team composition, behaviors, and their decisions largely influence firm success (Hmieleski & Ensley, 2007). In entrepreneurial teams, inputs (e.g., knowledge, skills, education, experience) to venture success depends on moderator and mediator approaches to fully understand the relationship (Unger, Rauch, Frese, & Rosenbusch, 2011), such as the speculation that deep disagreements

among entrepreneurial teams lead to poor personal relationships (Thurston, 1986). Entrepreneurship research accepts the effect processes - studied as team processes (e.g., conflict, membership entry/exit) and emergent states (e.g., affect, cognition, cohesion) - have on team and venture outcomes (e.g., Ensley, Pearson, & Amason, 2002; Khan, Breitenecker, Gustafsson, & Schwartz, 2015; Klotz et al., 2014).

Team processes are independent actions, such as strategic planning, coordination of efforts, and team conflict resolution, and they have the purpose of providing meaningful outcomes or results (LePine, Piccolo, Jackson, Mathieu, & Saul 2008). The joint action of a team as a result of team processes stems from their generation of task goals and work towards accomplishing those goals. The identification of the operational goals and processes used by the members to accomplish these goals often results from collective and coordinated team member actions (Chen & Kanfer, 2006). The teams' collective goals, according to the perception of the competitive and cooperative interdependence, have an effect on one's ability perceive the situation as one in which to compete, cooperate, or incorporate both to achieve the desired outcome or goal.

There is support for the notion that team composition has stronger effects on team performance when tasks require high team interdependence (Prewett, Walvoord, Stilson, Rossi, & Brannick, 2009). Team personality and goal interdependence both influence team performance in high interdependence and whether individuals choose to engage in individual or collective goals influences new venture outcomes, as group goals influence performance outcomes (e.g., Kleingeld, van Mierlo, & Arends, 2011; O'Leary, Mortensen, & Woolley, 2011). The interdependence and congruence of goals positively impacts performance as it leads to feelings

of relatedness, joint responsibility, and a shared fate among team members (Hwong, Caswell, Johnson, & Johnson, 1993; Vallerand & Losier, 1999).

Feelings of shared fate creates positive impacts on task performance due to an increased inter-group coordination (Johnson, 2003), for example. However, the impact is attributable to the processes occurring when deciding which goals to pursue. Challenging goals, for example, at both the individual and team level, lead to persistence, increased effort, the ability to focus attention, and elicit the adoption of strategies to accomplish goals (Locke, Shaw, Saari, & Latham, 1981). Additionally, setting challenging performance goals leads groups to have higher productivity, satisfaction, and performance (O'Leary-Kelley, Martocchio, & Frink, 1994; Wegge, 2000). On the other hand, high performance goals also lead to undesirable outcomes (i.e. stress, lowered self-esteem, and demotivation; Cochran & Tesser, 1996; King & Burton, 2003; Soman & Cheema, 2004) and unethical behavior (Cadsby, Song, & Tapon, 2010; Schweitzer, Ordóñez, & Douma, 2004; Welsh & Ordóñez, 2014). Regardless of whether or not goals act as a motivator or de-motivator in individuals or teams, the processes of choosing whether or not to compete, cooperate, or incorporate both influences NVT outcomes.

Much like other processes in NVT literature, I expect competitive, cooperative, or coopetition behaviors to act as a mediator between inputs (individual or collective competitiveness or cooperativeness, or, the perception of interdependence) and outputs (performance, satisfaction), including reciprocal relationships with other processes and states that represent interactions among the team (i.e., cooperating, conflict, affect). Knowledge sharing and the deduction of knowledge represent examples of cooperative and competitive behaviors. Knowledge is a competitive advantage and source of power for those who possess it at the right time (e.g., Van Der Bij, Song, & Weggeman, 2003). However, competition leads to the reduction

of information sharing (Toma & Butera, 2009; Toma, Vasiljevic, Oberle, & Butera, 2013). Therefore, knowledge sharing represents a cooperative behavior, while the deduction of sharing information is a competitive behavior. With the high risk of starting a new venture, trust and knowledge sharing amongst the team may be expected or even necessary. Accordingly, the competitive behavior of deducing knowledge sharing may lead to negative team and venture outcomes.

There are both positive and negative influencers of competition and cooperation that are team and situational dependent. However, the interactions of the two do influence performance outcomes, team effectiveness, and how the individuals and team are committed to the team and satisfied with the team. Competition can be good if it leads to motivation in hypercompetitors or is between teams, however, within a NVT team, cooperative behaviors, such as knowledge sharing, are extremely important. A NVT's task can be multi-faceted or ambiguous, leading researchers to see the value of cohesiveness in NVTs (Ensley et al., 2002). Cohesive and collaboration both, encourage knowledge sharing, which is a cooperative behavior amongst teammates. Accordingly, I hypothesize the competitive and cooperative behaviors influence team effectiveness, but that the behaviors also act as a mediator between the perception of interdependence and the team and venture outcomes.

Hypothesis 9: Competitive, cooperative, and coopetition behaviors influence NVT outcomes, in that the higher the within team cooperative behavior, the higher the NVT effectiveness.

Hypothesis 10: Competitive, cooperative, and coopetition behaviors influence NVT outcomes, in that the higher the within team competitive behavior, the lower the NVT effectiveness.

Hypothesis 11: Cooperative behavior mediates the relationship between perceived cooperative goal interdependence and NVT effectiveness.

Hypothesis 12: Competitive behavior mediates the relationship between perceived competitive goal interdependence and NVT effectiveness.

METHODOLOGY

Sample and Procedure

To test the hypotheses, I surveyed NVTs in the independent board game industry during their pre-launch phase. I follow a definition of independent board games, or hobby games, described as those games generally produced for a "gamer" market, and primarily sold in the hobby channel of game and card specialty stores. The hobby games market is then, the market for the games, regardless of whether they are sold amongst the hobby channel or other channels. Typical mass-market classic board games and those which are family-oriented have seen a modest increase in sales, but the gaming market described here, as independent board games, is one of the highest growth areas of game and puzzles as it is aimed at adults, from millennials to baby boomers. Accordingly, the sample includes those NVTs that develop and/or publish games in this genre. Following the definition provided by Klotz et al. (2014), those on the entrepreneurial team will be individuals who contribute to the overall strategy and decisions for the firm - not just investors or those contracted for specific games/projects.

At an annual board gaming convention in the Midwest region of the United States, a playtest hall brings together designers and publishers to present the prototypes of their games to players eager to test the new games. The designers and publishers present their product to passionate gamers during the pre-launch phase to get immediate and direct feedback, whether on mechanics, art, or other game factors, in hopes to perfect their game prior to going to market, whether independently, through Kickstarter, or another funding avenue. Each new venture had

approximately three two-hour long sessions over the course of four days. All games are welcome, including card, board, dice, miniature, story, and role-playing.

Using the NVTs described, a total of 193 games were signed up to be tested by consumers at the convention prior to going to market. As some entrepreneurs and their teams had more than one game, this left a total of 144 ventures presenting games. However, not all of these games were being presented by teams, rather, an unidentified number were solo entrepreneurs. Survey 1 included the individual difference variables and was available prior to the convention, while Survey 2 including the team level variables was available after the convention. Of the final responses, 35 ventures were excluded as they identified themselves as solo entrepreneurs rather than a team. An additional 14 ventures were excluded as though they identified as a team, not all team members filled out both surveys completely. Two additional ventures were excluded as there were no feedback cards submitted from their playtesters, therefore no outcomes.

This left a response of 43 entrepreneurs, comprising 20 NVTs, with an average of 2.15 people per team. 81% of the entrepreneurs identified themselves as male. 78% identified themselves as Caucasian, 9% as Asian, 2% as African American, 2% as Hispanic, Latino, or of Spanish descent, and 9% as Other. 4% identified themselves as age 18-25, 56% as age 26-35, 24% as age 36-45, 14% as age 46-55, and 2% as over the age of 65. The gamer feedback cards totaled 1,030 responses.

Measures

General competitiveness. General competitiveness is assessed using the four-item competitiveness scale from the *Work and Family Orientation Scale* (WOFO) (Helmreich & Spence, 1978). Example items include “I enjoy working in situations involving competition with others” and “I really enjoy working in situations involving skill and competition.” Responses

range from 1 (*strongly disagree)* to 5 (*strongly agree)* using a Likert scale. Reliability for the scale was only a .516. A principal component analysis (PCA) in SPSS reveals the communalities of the initial of the four extractions are .16, .359, .507, and .607. The component matrix revealed a .4, .599, .712, and a .779. Accordingly, I ran the reliability for a second time with the first item dropped, which only increased the reliability to .538. Accordingly, I left all four items in the study, and rely on previous studies that utilize the four items (e.g., Fletcher & Nusbaum, 2008; 2010), along with the reliance on its significant correlations with the other reliable competitive measures in the study to ensure it is in fact measuring competitiveness.

Cooperativeness. The original 36-item scale by Lu and Argyle (1991) measures different areas of cooperativeness, such as managing social skills and conflicts, high self-esteem in decision making, negative relationships with neuroticism, and enjoyment of joint activities. They analyze cooperation depending on various dimensions related to leisure, leadership, friends, family, education, clubs, work, and committees. I utilized the 6 items in the work cooperative scale, with items such as "It is often more difficult working together with other people" and "Team work is always the best way of getting results." Items are on a 5-point Likert of 1 (*strongly disagree*) to 5 (*strongly agree*). Reliability was acceptable at .724.

Three-factor Competitive Orientation Scale. The 15-item shortened scale is utilized to give a deeper understanding between competitiveness and the relationships, though not used to test the hypotheses. The scale measures the three competitive orientations of hypercompetition, personal development competition, and competition avoidant into one shortened scale adapted by Johnson and Swab (under review) from Ryckman et al. (1990), Ryckman et al. (1996), and Ryckman et al. (2009). Sample items from hypercompetitiveness include "I compete with others even if they are not competing with me", from personal development, "I like competition

because it teaches me a lot about myself", and from competitive avoidant, "I avoid competition because losing in competition is humiliating." It uses a 5-point Likert scale from 1 (*strongly disagree)* and 5 (*strongly agree)*. Reliabilities were good at HC=.791, PD=.885, and CA=.897.

Goal Interdependence. Consistent with prior research (e.g., Liden, Erdogan, Wayne, & Sparrowe, 2006), interdependence was measured at the individual level by reporting the extent to which they depend on others for completion of their work. Goal interdependence is measured using the 18-item scale (Tjosvold, Tang, & West, 2004). It utilizes a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*), measuring positive (cooperative), negative (competitive), and independent goals. Examples items for a competitive goal include "Team members like to show they are superior to each other", for the cooperative goal include "The goals of team members go together", and for independent include "One team members' success is unrelated to others' success. Though independent goals is measured, it was not utilized for testing hypotheses. Reliabilities were acceptable at Cooperative=.737, Competitive=.721, and Independent=.664.

Goal Congruence. Goal congruence is based on whether each team member entered into entrepreneurship for financial reasons, independence, or community purposes. They are coded as a 1 for goal congruence amongst all team members and 0 for non-congruence.

Knowledge Sharing and Deception of Knowledge. Knowledge sharing is utilized as a way to measure whether or not team members participate in the deception of information sharing, as the deception of knowledge is considered a competitive behavior and knowledge sharing is considered to be a cooperative behavior (Toma & Butera, 2009; Toma et al., 2013). In addition, knowledge sharing and the deduction of knowledge are useful for investigating coopetition behavior (e.g., Landkammer & Sassenberg, 2016; Tsai, 2002). I utilized the 4-item knowledge

sharing measure based on Lin (2007, 2010). Original items include “I share my job experiences with my online co-workers” to adaptions made by other authors in competition research (e.g., He, Baruch, & Lin, 2014), such as “Our team members share job experiences with one another.” Following He and colleagues (2014), similar adaptions are made. I additionally added one item on deceptive information sharing, which utilizes a combination of asymmetric information and lying. The item is based on the Grover and Hui (1994) lying scale and the Landkammer and Sassenberg (2016) use of deceptive information. The items are on 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). The reliability for the four items in the knowledge sharing scale is .506.

Team effectiveness. The NVTs do not have supervisors for effectiveness and performance measures, such as those used by Hackman (1983, 1987). Therefore, I use customer reviews, meaning those who play-tested the proposed product, to rate the effectiveness and performance of the team. Gamer reviews serve as the way to measure effectiveness and potential performance outcomes based on whether or not they intend to purchase the product. When they rated the product, they were asked whether they intend to buy the product when released using a Yes, Maybe, or No. “Yes” was given a rating of 2, “Maybe” a rating of 1, and “No” a Rating of 0. The score was summed and divided by the total number of participants who answered the question.

RESULTS

Means, standard deviations, and correlations among the variables can be found in Table 1. Though individual members completed the questions, aggregation was conducted by computing the team mean, by the summing the individual responses per item within one team and dividing by the total number of team member respondents per team. Though problems can occur with aggregation (Kimberly, 1980), cross-sectional research often relies on it to get a more accurate representation of the team attributes rather than what only one team member provides (Simons & Peterson, 2000).

Aggregation of the mean general competitiveness and cooperativeness is appropriate, as the research question discussed the average of each of the team, rather than the average of each team member, or the variance or lack of variance among the team. Therefore, it was not necessary to compute the consistency among group members to justify the aggregation of those two measures (Jordan, Ashkanasy, Härtel, & Hooper, 2002). However, the amount of variance for the competitive, cooperative, and independent goal interdependence and the knowledge sharing and deception is important, as those measures were providing a consensus on the team's general characteristics. Therefore, two aggregation tests were conducted.

First, a one-way analysis of variance (ANOVA) was tested in order to determine whether the amount of variance was more significant within or between the groups. Second, intraclass correlation coefficients (ICC) were computed for each variable, which estimates the rating agreement made by two or more judges (Bliese, 200). Due to the data consisting of ratings from more than one team member, both ICC(1) and ICC(2) were utilized (Bliese, 2000). Following

recommendations by LeBreton and Senter (2008) regarding acceptable ICC values and the group level variables being appropriate for aggregation (i.e., ICC(1): .01 is a small effect, .10 is a medium effect, and .25 is a large effect), the tests show there is not necessarily appropriate aggregation among the variables (such as the negative ICC(1)s or the .006 for HC), however, the an analysis is still conducted for each hypothesis. Results for each variable for both the ANOVA and ICCs can be found in Table 2.

Table 1. Means, Standard Deviations, and Correlations Among Variables.

Variable	Mteam	Sdteam	Mind	Sdind	1	2	3	4	5	6	7	8	9	10	11	12
1. General Competitiveness	3.017	0.471	3	0.75	/	0.108	0.336	-0.212	-0.212	0.066	-0.112	0.296	-0.255	-0.04	-0.022	0.189
2. Cooperativeness	3.204	0.397	3.193	0.644	-0.287	/	-0.289	0.152	-0.356	-0.139	-0.028	-0.342	-0.402	-0.132	-0.03	-0.003
3. Hypercompetiveness	2.249	0.672	3.581	0.895	.541**	-0.149	/	-0.068	0.328	-0.017	-0.002	0.177	-0.28	-0.239	0.052	0.259
4. Personal Development	3.625	0.679	2.314	0.923	.362**	0.169	0.195	/	-.512*	-0.317	.486*	-0.008	-0.212	0.279	-.552*	0.1
5. Competition Avoidant	2.933	0.611	1.688	0.799	-0.008	-0.293	0.184	-.309*	/	0.405	-.590**	-0.066	-0.218	-0.436	.617**	0.257
6. Competitive Goal	1.6317	0.466	1.673	0.581	-0.005	-0.113	0.093	-0.231	0.222	/	-.693**	0.31	0.118	-0.31	.744**	0.155
7. Cooperative Goal	4.615	0.367	4.615	0.448	0.58	-0.094	-0.145	.321*	-0.237	-.684**	/	-0.102	0.145	.603**	-.747**	-0.315
8. Independent Goal	2.743	0.424	2.756	0.642	0.217	-.372*	0.118	-0.085	-0.1	.415**	-0.185	/	0.055	-0.006	0.062	0.238
9. Goal Congruence	0.35	0.489	0.35	0.489	0.146	0.247	0.104	0.19	0.171	-0.072	-0.132	-0.058	/	0.376	0.001	-0.391
10. Knowledge Sharing	4.746	0.259	4.738	0.331	0.116	-0.021	-0.062	0.223	-0.183	-0.269	.621**	-0.145	-.328*	/	-.529*	-.551*
11. Knowledge Deception	1.385	0.4591	1.43	0.737	-0.114	-0.126	0.139	-.426**	.315*	.462**	-.501**	0.221	-0.01	-0.278	/	0.361
12. Intent to Buy	1.238	0.419	/	/	/	/	/	/	/	/	/	/	/	/	/	/

Note. Nentrepreneurs = 43; Nteams = 20. Individual-level data are below the diagonal, and team-level data are above the diagonal. Intent to buy is team level only.
**. Correlation is significant at the .01 level. *. Correlation is significant at the 0.05 level.

Table 2. Within and Between Group Variables.

	Between or Within Groups	Sum of Squares	df	Mean Square	F	Sig.	ICC(1)	ICC(2)
GenComp	BG	8.75	19	0.461	0.712	0.772	-0.1543504	-0.4034707
	WG	14.875	23	0.647				
	Total	23.625	42					
Coop	BG	6.121	19	0.322	0.655	0.824	-0.1914846	-0.5279503
	WG	11.319	23	0.492				
	Total	17.441	40					
HC	BG	16.278	19	0.857	1.013	0.484	0.0060113	0.0128355
	WG	18.613	22	0.846				
	Total	34.891	41					
PD	BG	19.445	19	1.023	1.655	0.124	0.2336044	0.3958944
	WG	14.22	23	0.618				
	Total	33.665	42					
CA	BG	15.851	19	0.834	1.749	0.101	0.2582185	0.4280576
	WG	10.973	23	0.477				
	Total	26.824	42					
CompInd	BG	8.147	19	0.429	1.682	0.124	0.2409138	0.4055944
	WG	5.353	23	0.255				
	Total	13.5	40					
CoopInd	BG	5.211	19	0.274	2.042	0.058	0.3270264	0.5109489
	WG	2.82	23	0.134				
	Total	8.031	40					
IndG	BG	7.019	19	0.369	0.818	0.668	-0.0933843	-0.2249322
	WG	9.486	23	0.452				
	Total	16.505	40					
KS	BG	2.619	19	0.138	1.617	0.139	0.2248144	0.384058
	WG	1.875	23	0.085				
	Total	4.494	41					
Decep	BG	8.286	19	0.436	0.685	0.796	-0.1713209	-0.4587156
	WG	14	23	0.636				
	Total	22.286	41					

k = 2.15

To test hypothesis 1 and 2, I ran an ANOVA on the groups and their differences within and between teams, while is portrayed in Table 2. Support is found for hypothesis 1 The NVT team members do differ in their competitiveness (general competitiveness within groups at a mean square of .647 and between groups at .461). Support is also found for hypothesis 2, as the NVT members also differ in their cooperativeness (cooperativeness within groups at a mean square of .492 and between groups at .322). There is also support for hypothesis 3, as even though members of the teams were cooperative, they portrayed more competitiveness than

cooperativeness, as within team competitiveness averaged .461 and between team competitiveness averaged .647, while within team cooperativeness averaged .322 and between team cooperativeness averaged .492.

I tested hypothesis 4 using regression. In order to test whether competitiveness had a greater effect on the perception of competitive interdependence than cooperativeness on perception of cooperative interdependence, I compared the influence of the two. Results can be found in Table 3. Though I did not expect there to be a significant difference, for reasons such as the aggregation of the team mean of competitiveness and cooperativeness, I did hypothesize competitiveness would have a stronger influence on a situation being perceived as competitive. Support is found for hypothesis 4, as competitiveness to competitive interdependence is r=.066, *b*=.066, and p>.05 at .781 and cooperativeness to cooperative interdependence was not only less significant, but negative, at r=.028, *b*= -0.026, p>.05 at .907.

Table 3. Regression Results for Hypotheses 4

Model Summary 1 - H4a

Dependent Variable: Competitive Interdependence
Predictors: (Constant), General Competitiveness

R	R-square	Sig.
0.066	0.004	0.781

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	1.434	0.71	
Gen Comp	0.066	0.233	0.066

Model Summary 2 - H4b

Dependent Variable: Cooperative Interdependence
Predictors: (Constant), Cooperativeness

R	R-square	Sig.
0.028	0.001	0.907

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	4.698	0.703	
Coop	-0.026	0.218	-0.028

Results for hypothesis 5 and 6 can be found in Table 4. First, hypothesis 5 tested whether perceived cooperative goal interdependence in NVTs leads to higher intra-team cooperativeness. Cooperativeness as a behavior is measured using knowledge sharing. Using regression, I find support for hypothesis 5 at r=.603, *b*=.424, p<.01 at .005. Hypothesis 6 tested whether the perceived competitive goal interdependence leads to higher intra-team competitiveness. Competitiveness as a behavior is measured by the deduction of knowledge sharing. Using regression, I find support for hypothesis 6, that the perception of competitive interdependence does lead to a deduction of knowledge sharing at r=.744, *b*=.732, p<.01 at .000.

Table 4. Regression Results for Hypotheses 5 and 6.

Model Summary 1 - H5

Dependent Variable: Knowledge Sharing as Cooperative Behavior
Predictors: (Constant), Cooperative Interdependence

R	R-square	Sig.
0.603	0.364	0.005

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	2.787	0.612	
Coop Ind	0.424	0.132	0.603

Model Summary 2 - H6

Dependent Variable: Deduction as Competitive Behavior
Predictors: (Constant), Competitive Interdependence

R	R-square	Sig.
0.744	0.553	0

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	0.19	0.263	
Comp Ind	0.732	0.155	0.744

Results for hypothesis 7 and 8 can be found in Table 5. Regression was also used to test hypothesis 7 and 8. Hypothesis 7 tests whether goal agreement leads to a higher intra-team cooperative behavior. No support was found for hypothesis 7. A direct relationship from goal congruence to cooperative behavior is non-significant at r=.376, *b*=.199, p>.05 at .102 (model summary 1). Hypothesis 8 tests whether non-goal agreement leads to higher intra-team

competitive behavior. No support was found for hypothesis 8, as the correlation was not negative nor significant for the direct relationship of goal congruence to competitive behavior at r=.001, *b*=.001, p>.05 at .996 (model summary 2).

Original hypotheses proposed these relationships would be significant only when accounting for competitiveness and cooperativeness. Accordingly, those regressions were also ran using multiple regression, though there was still no support for hypothesis 7 at r=.381, *b*=.211, .033, .014, p>.05 at .46 (model summary 3) and hypothesis 8 at r=.04, *b*=-0.018, -0.022, -0.041, p>.05 at .999 (model summary 4).

Table 5. Regression Results for Hypotheses 7 and 8.

Model Summary 1 - H7a

Dependent Variable: Knowledge Sharing as Cooperative Behavior
Predictors: (Constant), Goal Congruence

R	R-square	Sig.
0.376	0.141	0.102

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	4.676	0.068	
GC	0.199	0.115	0.376

Model Summary 2 - H8a

Dependent Variable: Deduction as Competitive Behavior
Predictors: (Constant), Goal Congruence

R	R-square	Sig.
0.001	0	0.996

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	1.385	0.131	
GC	0.001	0.221	0.001

Model Summary 3 - H7b

Dependent Variable: Knowledge Sharing as Cooperative Behavior
Predictors: (Constant), GC, GenComp, Coop

R	R-square	Sig.
0.381	0.145	0.46

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	4.527	0.682	
GC	0.211	0.137	0.4
Gen Comp	0.033	0.131	0.06
Coop	0.014	0.164	0.022

Model Summary 4 - H8b

Dependent Variable: Deduction as Competitive Behavior
Predictors: (Constant), GC, GenComp, Coop

R	R-square	Sig.
0.04	0.002	0.999

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta
(Constant)	1.591	1.308	
GC	-0.018	0.263	-0.019
Gen Comp	-0.022	0.252	-0.023
Coop	-0.041	0.315	-0.036

Hypothesis 9 and 10 tests whether competitive, cooperative, and the interplay including coopetition behavior influences NVT effectiveness. Results can be found in Table 6. Hypothesis 9 measures whether cooperative behavior has a significant and positive influence on the intent to buy. Hypothesis 9 is not supported for cooperative behavior (r=.551, *b*=-0.892, p<.05 at .015, model summary 1). Though the cooperative behavior of knowledge sharing did have a significant influence on the intent to buy, it was negative rather than positive. Hypothesis 10, which tests whether competitive behavior has a negative relationship to intent to buy, and is also not supported (r=.361, *b*=.338, p>.05 at .129, model summary 2). No relationship was found between the competitive behavior of the deduction of knowledge and the intent to buy.

Table 6. Regression Results for Hypotheses 9 and 10.

Model Summary 1 - H9

Dependent Variable: Team Effectiveness as Intent to Buy
Predictors: (Constant), Knowledge Sharing as Cooperative Behavior

R	R-square	Sig.
0.551	0.303	0.015

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta	Sig.
(Constant)	5.46	1.555		0.003
KS	-0.892	0.328	-0.551	0.015

Model Summary 2 - H10

Dependent Variable: Team Effectiveness as Intent to Buy
Predictors: (Constant), Deduction as Competitive Behavior

R	R-square	Sig.
0.361	0.13	0.129

	Unstandar-dized B	Coefficients Std. Error	Standar-dized Coefficients Beta	Sig.
(Constant)	0.781	0.301		0.019
Deduc	0.338	0.21	0.361	0.129

To test for hypothesis 11 and 12, I conducted a mediation analysis using the Hayes (2013) process macro. I incorporated the PROCESS bootstrapping function for 5000 samples. Results can be found in Table 7. The hypotheses test the mediating effect of competitive and cooperative behavior on the relationship between perceptions of goal interdependence and NVT

outcomes. Support was not found for hypothesis 11, as the indirect effect of cooperative behavior did not have a significant effect (CI= -1.2799, 0.0056). There was also no support found for hypothesis 12, as there was not a significant indirect effect of competitive behavior (CI= -0.2446, 0.6986).

Table 7. Mediation Results for Cooperative and Competitive Behavior

Model Summary 1 - H11

	R	R-sq	F	p		
	0.5673	0.3219	3.7969	0.0447		
	coeff	se	t	p	LLCI	ULCI
constant	5.5043	1.5826	3.4781	0.0031	2.149	8.8595
Coop Ind	0.2395	0.3596	0.666	0.5149	-0.5229	1.0018
KS	-1.1364	0.4958	-2.292	0.0358	-2.1876	-0.0852

****Direct Effect of Interdependence on Intent to Buy:**

Effect	se	t	p	LLCI	ULCI
0.2395	0.3596	0.666	0.5149	-0.5229	1.0018

****Indirect Effect of Interdependence on Intent to Buy:**

	Effect	BootSE	BootLLCI	BootULCI
KS	-0.6097	0.3327	-1.2799	0.0056

Model Summary 2 - H12

	R	R-sq	F	p		
	0.39	0.1521	1.448	0.2672		
	coeff	se	t	p	LLCI	ULCI
constant	0.9024	0.3605	2.5032	0.0235	0.1381	1.6667
Comp Ind	-0.1949	0.3051	-0.6387	0.5321	-0.8418	0.4521
Deduc	0.4781	0.3075	1.5549	0.1395	-0.1738	1.1299

****Direct Effect of Interdependence on Intent to Buy:**

Effect	se	t	p	LLCI	ULCI
-0.1949	0.3051	-0.687	0.5321	-0.8418	0.4521

****Indirect Effect of Interdependence on Intent to Buy:**

	Effect	BootSE	BootLLCI	BootULCI
Deduc	0.3386	0.2462	-0.2446	0.6986

DISCUSSION

Coopetition is a phenomenon typically studied from a firm to firm perspective. However, using recent conceptualizations of coopetition at the micro level, it lends itself to be useful in understanding NVT dynamics as their early interactions have a lasting effect on the venture. Therefore, the objective of the essay is to begin to understand how the relationships between competition, cooperation, and their interplay of coopetition influence NVT outcomes. SCT provides a theoretical base for evaluating the reciprocal relationships between competitiveness and cooperativeness as individual differences, competition and cooperation as goal interdependences and environmental influences, and competitive, cooperative, and coopetition behaviors (i.e. knowledge sharing and the deduction of knowledge). I examined these NVT dynamics using board game developers in their pre-launch phase by measuring their team effectiveness with the intent to buy.

The individual levels of competitiveness and cooperativeness have implications on the ability to both compete, cooperate, and co-opetate within and between teams, along with influencing the perceptions of the situation on whether to enact these behaviors. Therefore, I first hypothesized these relationships. I find support that individuals and their team do differ in their competitiveness and cooperativeness, but that this sample of entrepreneurs were, on average, showing higher competitiveness than cooperativeness. I additionally found that competitiveness has a larger effect on perceived competitive interdependence than cooperativeness does on perceived cooperative interdependence. The results show that competitiveness has a lingering affect and may not be as easy to influence regarding goals and situations. In this finding, the

balance of competition and cooperation as individual input characteristics is introduced to the NVT entrepreneurship literature.

Next, I tested the influence of interdependence and goal congruence on the behaviors. I find support that cooperative goal interdependence in NVTs leads to higher cooperative behavior, measured by knowledge sharing. I also find support that perceived competitive goal interdependence leads to higher competitive behavior, measured by the deduction of knowledge. I previously found that competitiveness has a lingering effect on competitive interdependence, which may lead to a competitive behavior, though no relationships were hypothesized for competitiveness and cooperativeness and their relationship with the behaviors. I found no support for goal congruence or non-congruence influencing competitive, cooperative, or coopetition behaviors.

I also find no support for cooperative or competitive behavior influencing NVT outcomes. In fact, cooperative behavior was hypothesized to have a significant and positive relationship to the intent to buy outcome, but the relationship was negative. Competitive behavior had no significant effect on intent to buy. I also tested a mediation relationship between interdependence, behaviors, and NVT outcomes, which provides a deeper understanding of IMO relationships in entrepreneurship literature. However, I found no support for competition or cooperation.

Theoretical Implications

The study provided a variety of theoretical implications. First, the balance of competition and cooperation as individual input characteristics is introduced to the NVT entrepreneurship literature. NVT literature often focuses on inputs such as prior experience and social capital, but much remains to be understood regarding the effect of NVT inputs on the development and

performance of a start-up (Klotz et al., 2014). The study utilizes both competitiveness and cooperativeness as inputs, but also utilized the perceptions of goal interdependence as inputs when testing the mediation model.

Second, competition, cooperation, and coopetition are examined as a mechanism for linking individual and team inputs to NVT outcomes. Studying teams and their processes is a growing but underdeveloped domain within entrepreneurship research (Klotz et al., 2014; Klotz & Neubaum, 2016). Using coopetition as part of the interaction process in NVTs provides contributions to entrepreneurship literature through the use of the IMO Input-Mediator-Output (IMO) and Input-Mediator-Output-Input (IMOI) frameworks.

Practical Implications

Practical implications exist for entrepreneurs when evaluating their choices for the NVT. Competitiveness, cooperativeness, and the perceptions of the interdependence can create implications for the team and venture outcomes. Entrepreneurs will want to consider whom they choose to go into business with initially, as well those in which they invite to join the team. Entrepreneurs frequently focus on choosing members based on their experience, abilities, and financial and social capital, but they may want to consider competitive and cooperative personality as an important indicator of how the team will work together and what outcomes that influences individually and collectively. This should be considered not only with the addition of a team member, but also with how the departure of a member influences the balance of the team.

Second, a fit between personal and team goals is critical for team effectiveness (Aritzeta & Balluerka, 2006) and goal hierarchy can be influenced by competition, cooperation, and coopetition at the individual and collective level. In new ventures, team members must clearly communicate their individual and team goals in order to obtain goal interdependence and goal

congruence. In organizations, managers should also be aware of their design for administering award and recognition systems, evaluating whether they are rewarding for individual or collective success, along with communicating them effectively. Though both reward systems will have their positives and negatives, one should be aware of whether someone will "fit" within their organization based on their competitive or cooperative nature individually, and both within and between teams.

Next, entrepreneurs and firms ought to consider the type of collective identity they want to build and select their team members accordingly. Though established firms tend to have a more difficult time changing the culture of their organization, new ventures have the opportunity to strategize for their desired identity in the early stages of the formation. Decisions made by the entrepreneurial team and top management team early in a venture will influence the norms of the organization. Therefore, it is important to spend time in the early development of the venture to find the right balance of competing and cooperating within the team. The establishment of these behaviors and expectations in the early stages has long term effects on the behavior of individuals, the team, and the venture outcomes. For example, members of a group are less likely to loaf when working in a cohesive group (Karau & Hart, 1998; Mulvey & Klein, 1998), thus cohesiveness not only has performance implications, but influences how members behave within a team. Accordingly, it is important to establish the right balance of competition, cooperation, and coopetition to have the most cohesive and collaborative group necessary in order to successfully achieve goals.

Lastly, there are practical implications for investors and other external members as well. Venture capitalists search for a complete and well-balanced founding team (Cyr, Johnson, & Welbourne, 2000). In fact, investors frequently emphasize the quality of the management team

over any other single factor when making investment decisions (e.g., Kamm et al., 1990; Cyr et al., 2000). Therefore, they should be consideration on not only the drive and behavior of the individual members, but also how they work together as a team to accomplish their goals.

Limitations and Future Research

There are many opportunities for future research regarding competitiveness, cooperativeness, and coopetition in entrepreneurship and the broader organizational science literature. I begin by highlighting the limitations and those related opportunities regarding this specific sample and study. Second, I give broader opportunities for future research.

Sample size and reliability. Only 20 NVTs, totaling 43 individuals filled out the surveys. The sample size limits the effect and significance of the relationships. This created a variety of limitations. For example, the hypotheses lend themselves to be tested from a multilevel perspective (i.e. individual to team), and with additional variables and relationships (i.e. more competitiveness measures, conflict). However, a complex model could not withstand such a small sample size.

The ICC(1) and ICC(2) served as a way to evaluate which level to test the model on, whether individual or team, however, there were issues with a variety of the constructs. The ICCs did not portray that the three competitive orientations have agreement at the team level, but the distinct theoretical foundation of the constructs also did not justify aggregating by using the mean (Klein, Dansereau, & Hall, 1994; Rousseau, 1985). Therefore, though they were kept in the study in order to assist in understanding competitiveness, they could not be used to test the hypotheses at the team level. General competitiveness however, could be averaged to the team level based on its theoretical foundation of a low to high measurement. Though it was used in the study, there are a variety of issues with the general competitiveness measure utilized. First, the

alpha reliability was only a .516 and second, the ICC value was negative. The negative value was acceptable considering the mean of the team was used but shows that there was a large inconsistency among each team.

The team measures, however, did show acceptable ICC values. This means there was a large agreement among the teams. This also meant they could not be aggregated down to the individual level therefore the team level was used for the essay. The majority of these measures did show good alpha reliability as well, except for knowledge sharing at only .506.

When multilevel modeling was not a viable option, nor were measures at the individual level appropriate at the team level or the team level measures appropriate at the individual level, I then analyzed the standard deviation of the individual factors per team. This was to follow arguments such as the heterogeneity of NVTs (Jin et al., 2017) or the differentiation of a group (i.e., LMX differentiation) influencing team variables (Harrison & Klein, 2007). For example, as hypercompetitiveness did not hold at the team level, it appeared there would be a lot of deviation among teams, which could largely influence the differences in team level behaviors. However, when I ran the standard deviation for all the variables, there was not enough deviation to have a significant effect. This may be due to a lack of variance or could also still be the issue with the small sample. Therefore, future research should collect a larger sample size, but also ensure correct measures are used in order to obtain reliability among the measures. In addition, as no significant relationships were found for the outcomes of intent to buy, future research should consider how this is collected and if it is measured correctly as is.

Measurement. Currently, there are multiple scales used to measure trait competitiveness, the three competitive orientations, etc. (for reviews see Houston, McIntire, Kinnie, & Terry, 2002; Newby & Klein, 2014). While scales on cooperativeness do exist (e.g., Chatman &

Barsade, 1995; Martin & Larsen, 1976), cooperation is typically studied in terms of behaviors in a certain situation, rather than an inherent trait. Additionally, while competitiveness has been conceptualized with three distinct orientations, cooperativeness is empirically examined on a scale from high to low levels of cooperation (Chatman & Barsade, 1995). Thus, there are many measurement options in which to study competitiveness, cooperativeness, and coopetition in NVTs. Future research can explore how the various scales and conceptualizations play a role in the NVT team outcomes, such as whether competing for dominance (Newby & Klein, 2014) leads to different outcomes than hypercompetitiveness. In addition, as cooperation literature grows, additional scales should be utilized for measuring cooperativeness in entrepreneurs and their teams.

Team complexity. Competition, cooperation, and the combined coopetition are mechanisms for furthering our understanding of the complexity in entrepreneurial teams. In a new venture, there may be an original solo founder who has the initial idea and assembles a team, or, teams may form first, then generate their product or business idea (Harper, 2008). The distinction between founders and other entrepreneurial team members is important as founders and team members which join the venture at a later date display differences in how they interact and define themselves in relation to the venture (Forster & Jansen, 2010). This leads to complications in feelings and viewpoints of appropriate team behavior and interactions with one another (i.e. whether or not the founder has greater status or power in the venture). A solo founder often has stronger emotional ties and a deeper personal connection to the venture compared to members who join at a later time (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005; Gimeno, Folta, Cooper, & Woo, 1997). Future research can explore whether these disconnects between founders and team members who join at a later time lead to competitive

behavior among the team, as the founder feels more responsibility and passion for the outcomes of the firm. However, with an emergent NVT rather than a dominant founder, the influence of one member may or may not be as clear. Thus, entrepreneurial team literature should study the way in which a team was formed and its relationship to competitive or cooperative behaviors.

Coopetition is useful for studying interactions among members and how it influences team processes and outcomes, though entrepreneurship literature is lacking empirical evidence on interactions between entrepreneurial team members (e.g., Schjoedt, Monsen, Pearson, Barnett, & Chrisman, 2013). It is particularly scarce in regard to the team processes of role trust and conflict (Khan et al., 2015; Klotz et al., 2014). The use of both competition and cooperation as traits and behaviors are ways in which to further the understanding of trust and conflict in entrepreneurial teams. Cooperation has links to trust and familiarity (e.g., Kistruck et al., 2016; McAllister, 1995). Cooperation has also been considered the opposite of conflict. Accordingly, coopetition has the opportunity to be studied as an input, process, or outcome in regard to entrepreneurial team interactions.

Individual level outcomes. The higher-levels, whether at the team or firm level, have effects on the lower-levels, and/or shapes or moderates the relationships and processes of lower-level units (Kozlowski & Klein, 2000). Despite the focus of the bottom-up process, coopetition has influences on individual entrepreneurial team member outcomes. In fact, team influences on individual members are often more influential than the effects of individual members on their teams (Chen & Kanfer, 2006).

There are numerous explanations for team member entry and exit as a process (i.e. conflict), and cohesion as an emergent state (i.e. homogeneity among members), for example. The use of competition and cooperation represent another way in which to describe the

occurrence of these due to the competitive nature described by facets of social comparison theory and social identification processes individually and within a team. Individuals want to be part of a group or team when there is high status within the group compared to other groups (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999). As such, individuals engage in behaviors to ensure their own identity is not threatened when their group has low status compared to another group. Examples of these behaviors include distancing themselves, dissociating, or seeking membership in a higher status or more attractive group (Mullen, Brown, & Smith, 1992; Tajfel & Turner, 1979).

Additionally, group performance, member performance, member satisfaction, and interpersonal contributions are all enhanced when there is collective agreement or congruence on a challenging goal (Durham, Knight, & Locke, 1997; Johnson, Ostrow, Perna, & Etzel, 1997; Kristof-Brown & Stevens, 2001; Ludwig & Geller, 1997; Yammarino & Naughton, 1992). Accordingly, entrepreneurial team processes, emergent states, and team outcomes influence individual level outcomes such as satisfaction, commitment, performance, and exit among team members. For example, social integration, referring to the level of interpersonal interaction, pride, and excitement among group members, leads to higher perceptions of NVT viability and satisfaction among team members (Foo, Sin, & Yiong, 2006). In addition, the effectiveness of a NVT is positively related to team member commitment (Chowdhury, 2005). This influences new venture performance, but also whether or not members of the entrepreneurial team are satisfied with outcomes. Therefore, competitiveness, cooperativeness, and the interplay of coopetition at the individual and team level could have a large influence on individual outcomes and should be explored.

Concluding Remarks.

The study introduced competition, cooperation, and coopetition as individual difference variables and interdependences in NVTs. I find competitiveness influences whether one perceives a competitive goal interdependence, while cooperativeness has little influence. Cooperative goal interdependence leads team members to engage in more cooperative behavior through knowledge sharing, while competitive goal interdependence leads to competitive behavior by the deduction of knowledge. The behaviors however, did not have a large effect on the NVT outcome of intent to buy. Future research should increase the sample size and evaluate which measures are appropriate for testing these relationships in NVTs.

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APPENDIX

Appendix A. Essay 2 Vignettes

Study A

You have survived a plane crash, but the plane landed in cold and desolated mountains. Until the rescue team arrives, you have to manage to gather food, warm clothes, or a blanket from the crashed and destroyed plane.

Competitive condition:
Unfortunately, there is only a limited amount of these objects on the plane that are essential for survival. Therefore, in order to survive, you have to hurry and be faster than the other survivors in finding these objects.

Cooperation condition:
Unfortunately, it is not easy to detect and recover these objects that are essential for survival. Therefore, in order to survive, you have to work together with the other survivors and help each other.

Control/Independent condition:
Unfortunately, there were only a few survivors and recovering these objects is essential for your survival but recovering these objects for survival takes a lot of your energy. Therefore, you have you think carefully about which specific places inside the plane that you would start searching.

Please discuss three strategies using 2-3 sentences each on how you would proceed.

Study B

Centuries ago, a monk hid a treasure in a graveyard of his monastery. To guard the information in which grave the treasure is hidden, he wrote 4 letters. In order to find the grave, it is necessary to combine information from the all the letters, as each distributes more or less important clues. There are 256 total graves.

The monastery was recently bought by an investment company and one of the letters was found in the library. The investment company chose to publish the letter – meaning the information in the letter became public. They asked people who possessed the remaining letters to come together and find the treasure.

Imagine you bought one of the letters at a flea market, and following, agreed to meet the owners of the remaining two unpublished letters. Your letter contained 12 pieces of information. Of the information, half of it was important (excluded 64 of the 256 graves) and the other half were less important (excluded 4 of the 256 graves). 2 of these pieces of information were also in the public letter. You resulted with 5 pieces of private information that is very important to finding the treasure.

Before meeting the remaining letter owners, you have to decide whether you want to reveal your information correctly, withhold any pieces of information, or possibly share the opposite content. You do not know whether or not the others will reveal all their information correctly. Please indicate which information you decide to withhold or distort. 0 indicates that you plan to reveal all pieces of information to all parties. 1-5 indicates the amount of information you intend to withhold or distort, with 5 being you *do not* reveal any of your information accurately.

Appendix B. Measures for Essay 2 and Essay 3.

Cooperativeness Scale.

(Source: Lu & Argyle, 1991)

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Leisure

1. It is usually difficult for quite different people to collaborate in teams.
2. I enjoy individual games more than team ones.
3. Team members usually pull together, rather than seeking individual glory.
4. Other members of leisure groups are often difficult to get on with.
5. Most forms of leisure are better done in groups.
6. Group leisure activities, like choirs, orchestras, theatricals, and folk dancing, are often tiresome and irritating.

Leadership

7. It is difficult for leaders to take decisions if their subordinates are allowed to participate in them.
8. Better decisions are taken if subordinates participate.
9. It is a bore trying to take account of the views of subordinates.
10. Leaders ought to make up their own minds, and not waste too much time consulting people.

Friends

11. To go on a trip with friends make one less free and mobile.
12. There is often friction between friends because they want to do different things.
13. It is more fun doing things with friends than alone.

Family

14. It is usually best if one partner in a relationship is the boss.

15. Family members always enjoy doing things together.
16. It isn't possible to allow children a full say in decisions affecting them.
17. It is difficult to prevent friction in families.

Education

18. Too much time is spent in school on team projects.
19. I like to cooperate with other students over academic work.
20. When I am among my colleagues/classmates, I do my own thing without minding about them.
21. Classmates assistance is indispensable to getting a good result in college.

Clubs

22. Social clubs often have a lot of internal friction and clashes between individuals.
23. It is fun taking part in running a social club.
24. Social clubs are the best way to spend leisure time.

Work

25. It is often difficult working together with other people.
26. It is more enjoyable to be responsible for own efforts at work.
27. Involvement in joint projects at work is very satisfying.
28. It is often more productive to work on your own.
29. Team work is always the best way of getting results.
30. If the group is slowing me down, it is better to leave it and work alone.

Committees

31. It is difficult to arrive at an agreed decision in groups.
32. Negotiations and committees are often difficult and tense.
33. Decisions taken by groups are better than those taken by individuals.
34. A lot of time is wasted arguing about things in committees.
35. I love spending time on committees.
36. All decisions should be taken by committees rather than by individuals.

Competitive Orientation Measure

(Source: Newby & Klein, 2014)

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

General 2 4 7 11 14 17 19 22 28 31 33 34

Dominant 1 3 6 8 10 15 18 20 23 26 29 35 37

Personal enhancement 9 16 25 32

Competitive affectivity 5 12 13 21 24 27 30 36

1. I like to be better than others at almost everything.
2. I get a lot of enjoyment out of competition.
3. Other people comment on how competitive I am.
4. I enjoy setting and beating goals through competition.
5. I don't care if other people are better at things than I am.
6. No matter what, I try to be better than others at things.
7. I am a competitive person.
8. I view almost every situation as a way to prove that I am better at things than others.
9. I can improve my competence by competing.
10. I put a lot of effort into beating others at things.
11. I love the thrill of competition.
12. Being the best makes me feel powerful.
13. I don't really care if I get beat in a competition.
14. Competition motivates me.
15. For as long as I can remember, I have wanted to outperform others.
16. Competition allows me to judge my level of competence.
17. I do not find competition self-fulfilling.
18. I think a lot about ways to win.
19. I love to compete.
20. I enjoy beating others in almost every area in life.
21. Losing in a competition wouldn't bother me.
22. I enjoy competing against others.
23. It is important for me to outperform others.

24. I wouldn't mind finishing in last place in a competition.
25. I use competition as a way to prove something to myself.
26. I think about competition a lot.
27. Winning makes me feel superior to others.
28. I like to challenge others.
29. Other people notice how much I have to dominate others in a competition.
30. I like being the best compared to other people.
31. Competing doesn't really matter to me.
32. Competition allows me to measure my own success.
33. I would rather not compete.
34. I perform better when I compete against others.
35. I try to be the best person in the room at almost everything.
36. Winning does not make me feel superior to others.
37. Others notice that I am competitive.

Reversed Items: *5 *13 *17 *21 *24 *31 *33 *36

Goal Interdependence

(Source: Tjosvold, Tang, & West, 2004)

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Cooperation

1. Our team members "swim or sink" together.
2. Our team members want each other to succeed.
3. Our team members seek compatible goals.
4. The goals of team members go together.
5. When our team members work together, we usually have common goals.

Competition

6. Team members structure things in ways that favor their own goals rather than the goals of other team members.
7. Team members have a "win-lose" relationship.
8. Team members like to show that they are superior to each other.
9. Team members' goals are incompatible with each other.
10. Team members give high priority to the things they want to accomplish and low priority to the things other team members want to accomplish.

Independence

11. Each team member "does his own thing."
12. Team members like to be successful through their own individual work.
13. Team members work for their own independent goals.
14. One team member's success is unrelated to others' success.
15. Team members like to get their rewards through their own individual work.
16. Team members are most concerned about what they accomplish when working by themselves.

Knowledge Sharing

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Tacit knowledge sharing (Source: Lin, 2007)

I share my job experience with my co-workers

I share my expertise at the request of my co-workers

I share my ideas about jobs with my co-workers

I talk about my tips on jobs with my co-workers

Adapted to context (Source: Lin, 2010)

I share my job experience with my online coworkers.

I share my expertise at the request of my online coworkers.

I share my ideas about jobs with my online coworkers.

Adapted to context and competitiveness (Source: He, Baruch, & Lin, 2014)

Our team members share job experiences with one another.

Our team members share expertise at the request of one another.

Our team members share ideas about jobs with one another.

Our team members provide suggestions about jobs with one another.

My Adaption

Our team shares knowledge on our experiences in publishing our board game with one another.

Our team shares industry expertise at the request of one another.

Our teams share ideas about our game with one another.

Our team provides suggestions about the game with one another.

Deceptive Item

I frequently withhold information from my team regarding business decisions or thoughts.

Three-Factor Competitive Orientation Scale.

(Source: Johnson & Swab)

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Competitive Avoidance

1. I avoid competition because losing in competition is humiliating.
2. There are times when I avoid competing with others because of the possibility of losing.
3. I don't like competition because of the embarrassment when I lose.
4. I avoid competing because others will not like me if I lose.
5. I feel it's best not to be too ambitious in competitive situations because others will only disapprove of me if I fail.

Personal Development Competitive Attitude

6. I enjoy competition because it tends to bring out the best in me rather than as a means of feeling better than others.
7. I like competition because it teaches me a lot about myself.
8. I value competition because it helps me to be the best that I can be.
9. I enjoy competition because it helps me to develop my own potentials more fully than if I engaged in these activities alone.
10. I enjoy competition because it brings me to a higher level of motivation to bring out the best of myself rather than as a means of doing better than others.

Hypercompetitive Attitude

11. I find myself being competitive even in situations which do not call for competition.
12. I compete with others even if they are not competing with me.
13. I find myself turning a friendly game or activity into a serious contest or conflict.
14. I can't stand to lose an argument.
15. Losing in a competition has little effect on me. *

Reverse Scored Item *

Work and Family Orientation Questionnaire

(Source: Spence & Helmreich, 1978)

Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

1. I would rather work in a situation where group effort is stressed and more important than one in which my individual effort is stressed.2
2. I more often attempt difficult tasks that I am not sure I can do than easier tasks I believe I can do.
3. It is very important for me to do my work as well as I can even if it isn't popular with my co-workers.
4. I would rather do something at which I feel confident and relaxed than something which is challenging and difficult.
5. I would rather learn fun game that most people know than a difficult thought game.
6. If I am not good at something I would rather keep struggling to master it than move on to something I may be good at.
7. **I really enjoy working in situations involving skill and competition.**
8. **When a group I belong to plans an activity, I would rather organize it myself than have someone else organize it and just help out.**
9. Once I undertake a task, I dislike goofing up and not doing the best job I can.
10. I think more of the future than of the present and past.
11. I hate losing more than I like winning.
12. I worry because my success may cause others to dislike me.
13. **It is important to perform better than others on a task.**
14. **I feel winning is very important in both work and games.**

Competitiveness items = 7, 8, 13, and 14

CURRICULUM VITAE

EDUCATION

University of Mississippi – College of Business Administration, University, MS
Ph.D., Management (2019)

Morehead State University – Elmer R. Smith College of Business, Morehead, KY
Master of Business Administration (2011)

Belmont University – Jack C. Massey College of Business, Nashville, TN
Bachelor of Business Administration in Marketing (2009)

REFEREED ARTICLE PUBLICATIONS

Swab, R.G., & Johnson, P.D. (2019). Steel sharpens steel: A review of multilevel competition and competitiveness in organizations. *Journal of Organizational Behavior*, 40(2), 147-165.

Markin, E., **Swab, R. G**., & Marshall, D. R. (2017). Who is driving the bus? An analysis of author and institution contributions to entrepreneurship research. *Journal of Innovation & Knowledge*, *2*(1), 1-9.

OTHER REFEREED PUBLICATIONS

Swab, R.G., & Gentry, R.J. (2018). Vision. Drive. Stamina How Dell Became the Company with the Power to Do More. SAGE Business Case

Swab, R.G., Rock, A., & Gentry, R.J. (2018). Pacific Coast Feather: Winds of Change. SAGE Business Case

CONFERENCE PRESENTATIONS

Pret, T., Colgan, A., & **Swab, R.G.** (2019). Raising the tide: Why coopetition persists in the board game industry. *Babson College Entrepreneurship Research Conference*. Boston, MA.

Marshall, D.R., Markin, E., **Swab, R.G**., Meek, W., & Gigliotti, R. (2018). Dream Big Be Happy? An Aspirations-Based Perspective of Entrepreneurial Well-Being. *Babson College Entrepreneurship Research Conference*. Waterford, Ireland.

Dibrell, C., Gamble, J., Sherlock, C., & **Swab, R.G.** (2018). Family Governance and Firm Innovativeness: The Moderating Roles of Family Pride and Founding Generation Involvement. *Babson College Entrepreneurship Research Conference*. Waterford, Ireland.

Swab, R.G., & Johnson, P.D. (2018). Attachment Style, Competitiveness, and Workplace Bullying: Early Relational Model Effects on How We Enact Bullying Behaviors. *Western Academy of Management Annual Conference,* Salt Lake City, UT.

Marshall, D. R., Gigliotti, R., Davis, W.D., & **Swab, R.G.** (2018). A work-life interface perspective on hybrid entrepreneurship. *Western Academy of Management Annual Conference,* Salt Lake City, UT.

Swab, R.G., Javadian, G., & Gupta, V.K. (2017). Stereotype Threat Theory: Do we have a good theory for research in organizational studies? *Academy of Management Annual Meeting*. Atlanta, GA.

Swab, R.G., & Davis, W.D. (2017). Leveling Employee Expectations: A Needed HR Practice in Mergers and Acquisitions. *Western Academy of Management Annual Conference*. Palm Springs, CA.

Swab, R.G., Steffensen, D.J., & Johnson, P.D. (2017). #winning. Integrating Competition with Leadership Theory. *Mid-South Management Research Consortium*. Oxford, MS.

Swab. R.G., & Johnson, P.D. (2016). Attachment Style & Competitiveness: Early Relational Model Effects on Competitive Orientation. *Southern Management Association Annual Meeting*. Charlotte, NC.

Swab, R.G., Javadian, G., & Gupta, V.K. (2016). Stereotype Threat Theory: Do we have a good theory for research in organizational studies? *Southern Management Association Annual Meeting*. Charlotte, NC.

Swab, R.G., & Davis, W.D. (2016). Realistic Acquisition Previews: Managing Expectations in the M&A Process. *Mid-South Management Research Consortium*. Starkville, MS.

Swab, R.G., Javadian, G., & Gupta, V.K. (2016). Stereotype Threat Theory: Do we have a good theory for research in organizational studies? *Mid-South Management Research Consortium*. Starkville, MS.

TEACHING

Principles of Management (Business 371)

Strategic Management (Management 473)

COURSES FACILIATATED

Regulating Small Business & New Ventures (Entrepreneurship 466)

Entrepreneurship, Management, & the Organization (General Business 370)

PROFESSIONAL AFFILIATIONS AND SERVICE

Member: Academy of Management**,** Southern Management Association**,** Western Academy of Management**,** Project Management Institute**,** Toastmasters International

Judge: Annual University of Mississippi Gillespie Business Plan Competition

Reviewer: Academy of Management Annual Conference, Southern Management Association Annual Conference, Southwest Academy of Management Annual Conference, Western Academy of Management Annual Conference, New England Journal of Entrepreneurship, Journal of Theoretical Social Psychology

INDUSTRY EXPERIENCE

Dell Technologies; 2010-2015
Project Program Manager, Round Rock, TX, 2014-2015
Services Representative, Round Rock, TX, 2013-2014
Inside Services Specialist, Round Rock, TX, 2011-2013
Services Account Manager, Nashville, TN, 2010-2011

Juicy Couture, Sales Manager, Nashville, TN, 2008-2010

CERTIFICATIONS

Project Management Professional
Toastmasters Competent Leader
Toastmasters Competent Communicator
Mindfulness Fundamentals