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Being Different or Being Better?:

Disentangling the Effects of Independence and Competition on Group Creativity

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Abstract

Accumulating evidence suggests that individualism provides an atmosphere conducive to creative idea generation. However, research in both cross-cultural and social psychology suggests that individualism may reflect either independence or competition; a distinction that has been overlooked in research on group creativity. In this chapter we highlight the distinction between these two constructs and develop a series of testable propositions that help distinguish their unique effects on the creative process. In doing so, we uncover several theoretical insights, including the possibility that independence and competition (a) are theoretically and empirically distinct, (b) have differential effects on idea generation, (c) similar effects on idea selection but through different mechanisms and (c) may interact to stimulate group creativity. We conclude by suggesting methodological approaches to disentangling these constructs in future research.

Being Different or Being Better?:

Disentangling the Effects of Independence and Competition on Group Creativity

Given that most groups are in an environment that becomes increasingly competitive over time (Barnet & Hansen, 1996), there is tremendous pressure to generate ideas that may lead in a profitable new direction (Amabile, 1996). In response to this pressure, work organizations, scientists, artists and political decision makers (Paulus & Nijstad, 2003) employ a variety of strategies, including the formation of brainstorming groups (Paulus & Yang, 2000) to promote creative idea generation. A creative idea is most often defined as one that is both novel and useful (Amabile, 1983). It is novel because it diverges from existing solutions and useful in that it presents a potentially viable solution to a problem. In organizations such ideas may relate to a wide variety of domains such as organizational products, practices, services or procedures (Shalley & Gilson, 2004). Creativity can be distinguished from innovation because whereas creativity is focused on the development and generation of new and useful ideas, innovation refers to the process through which they are successfully implemented at the organizational level (Amabile, 1996).

Ideally, people can collaborate to generate more creative ideas than any one individual could come up with alone because they have the opportunity to build upon, combine and improve on the ideas suggested by others (Diehl & Stroebe, 1987). In collaboration, the whole might be more creative than the sum of its parts. This logic prompted Osborne (1957) to predict that a well functioning brainstorming group has the potential to generate more than twice the number of ideas produced by the same number of individuals working alone.

Unfortunately, face-to-face brainstorming groups may suffer from a number of problems that make them less effective than a nominal group of individuals who work alone and then

combine their ideas (Taylor, Berry, & Block, 1958; Diehl & Stroebe, 1987; Girotra, Terwiesch, & Ulrich, 2010). Process losses stemming from production blocking, evaluation apprehension or free-riding can cause individuals to withhold ideas during brainstorming sessions (Diehl & Stroebe, 1987). Far from being a hotbed of creative thought, the typical brainstorming group is either a cacophony of people talking over each other or a timid group; afraid their ideas will be rejected and privately hoping that no one will notice their lack of participation. A critical question, therefore, is what are the group processes that facilitate the expression of creative ideas (Rietzschel, Nijstad & Stroebe, 2006; Girotra, Terwiesch, & Ulrich, 2010)?

A growing body of research suggests that one way to mitigate processes loss and stimulate group ideation is to promote a culture of individualism, defined broadly as a culture in which the needs of the individual are prioritized over the needs of the group (Markus & Kitayama, 1991). Groups that attribute their success to individual achievement (Goncalo, 2004; Goncalo & Duguid, 2008), endorse individualistic rather than collectivistic values (Goncalo & Staw, 2006), maximize their own outcomes with little or no regard for the outcomes of others (Beersma & De Dreu, 2005) and are composed of independent as opposed to interdependent selves (Wiekens & Stapel, 2008; Goncalo & Kim, 2010) generate a wide range of novel ideas.

We are struck by the consistency of the findings that have accumulated over the last 5 years. To our knowledge, no study has yet documented any advantage of collectivism for group creativity. We suspect that if collectivism does contribute to group creativity, that it probably does so infrequently and only under narrow conditions. It is also becoming apparent, however, that within this stream of research individualism has been defined and operationalized in a number of different ways. On the one hand, an advantage of this theoretical and methodological diversity is that converging findings provide evidence for the robustness and generalizability of

the effect. The results attest to the strength of the phenomenon and not the idiosyncratic effects of a particular manipulation. On the other hand, the lack of precision over the basic definition of individualism may make accumulating results difficult to interpret. This ambiguity may lead to confusion over the underlying processes that explain why individualistic groups outperform collectivistic groups on tasks that demand creative solutions.

In this chapter, we distinguish between two important facets of individualism, independence and competition, which may each play a unique role in facilitating the expression of creative ideas. A long tradition of research on individualism from the perspective of culture and social cognition (Triandis, Bontempo, Villareal, Asai, and Lucca, 1988; Chen and West, 2008) and bargaining and negotiations (De Dreu & Boles, 1998; De Dreu, Weingart, and Kwon (2000) has distinguished between these two forms of individualism both theoretically and empirically. However, our review suggests that research on group creativity has glossed over this important distinction and has treated these two underlying constructs as largely interchangeable. The purpose of this chapter is to apply this distinction to research on group creativity and to generate a series of testable propositions that emerge when independence and competition are considered separately and in interaction with each other. By highlighting this distinction, we hope to clarify seemingly conflicting findings and suggest new avenues for future research.

INDIVIDUALISM AND GROUP CREATIVITY

There is growing evidence that individualism stimulates the expression of creative ideas. In this section, we review the evidence in detail and highlight key differences in the theoretical and methodological approaches that have been brought to bear on the issue.

Initial evidence for the link between individualism and group creativity comes from research on the group serving bias, which describes the tendency to attribute success to factors that are internal to the group and failure to factors that are external to the group (Forsyth & Schlenker, 1977; Schlenker and Miller, 1977; Taylor and Doria, 1981). According to Goncalo (2004), the group-serving tendency to attribute success internally (e.g. we cooperated, we communicated, we worked well together) could highlight how the group behaved prior to a successful outcome (Cialdini, Reno & Kallgren, 1990), thus creating pressure to conform to their point of view on subsequent tasks. The group serving bias might be corrected by highlighting the contributions made by each individual group member (e.g. Sam is political, Ed is energetic, Bill is cooperative) and thereby promoting a sense of uniqueness (Goncalo, 2004; Goncalo & Duguid, 2008). In one study, Goncalo (2004) gave groups false positive feedback on an initial group task and then asked groups to brainstorm new business ideas. Groups either attributed their success on the first task collectivistically (to the group as a whole), or individualistically (to the unique contributions made by individual group members). The results showed that individualistic attributions for past performance caused groups to generate more ideas and those ideas were more divergent. Divergent thinking is defined as thinking that moves outward from a problem in many possible directions whereas convergent thinking moves from a number of different alternatives to a single correct solution (Mayer, 1992). In other words, divergent thinking requires the group to break with a common theme to explore ideas that are very different from each-other.

These findings were replicated in a subsequent study in which success attributed to the individual caused groups to consider a wider range of decision alternatives prior to reaching consensus than success attributed to the group (Goncalo & Duguid, 2008). In addition,

attributions to the individual also facilitated the sharing of unique information in a hidden profile task which, in turn, increased decision accuracy (Goncalo & Duguid, 2008). Analyses of the groups' interaction provided some support for the role of conformity pressure; individualistic attributions liberated groups to express more disagreements.

Further evidence comes from Beersma and De Dreu (2005) who investigated the consequences of social motives; one's preferences for the distribution of outcomes between oneself and an interdependent other (Tjosvold, 1984). Motives can be either pro-self in which negotiators try to maximize their own outcomes, with no (or negative) regard for the outcomes obtained by others or motives can be pro-social in which the negotiator tries to maximize their own and others' outcomes (De Dreu & Boles, 1998). Beersma and De Dreu (2005) hypothesized that pro-self social motives encourage competition, which should facilitate the expression of ideas (Dugosh & Paulus, 2005) but interfere with the group ability to reach consensus. In two studies, a pro-self motive was manipulated by rewarding people either individually or collectively in an initial negotiating task. That task was then followed by either a creative idea generation task in which groups were asked to come up with advertising slogans for a new marketplace or a planning task in which groups were asked to solve a specific problem. Competition was not measured directly, but the results did support the hypothesis that pro-self motives facilitated performance on the divergent task, while pro-social motives facilitated performance on the convergent task.

In another study, Goncalo and Staw (2006) primed groups to think of themselves as either individualistic or collectivistic and then measured their creativity on a subsequent group brainstorming task. They predicted that reduced levels of conformity pressure characteristic of individualistic cultures (Bond & Smith, 1996) would facilitate group creativity by permitting

greater independence from the group. People in individualistic cultures have an independent sense of self and therefore strive to express the attributes that make them unique, while people in collectivistic cultures have an interdependent sense of self and therefore strive to maintain harmonious relationships with other in-group members (Markus & Kitayama, 1991). Because individualistic cultures stress being "true" to one's self and one's unique set of needs and desires (Fiske, Kitayama, Markus, & Nisbett, 1998), people with an independent self concept may be encouraged to resist social pressure if it contradicts his/her personal opinions (Bond & Smith, 1996).

In the Goncalo and Staw (2006) study individualism was primed by asking participants to write three statements (a) describing yourself, (b) why you think you are not like most other people, (c) why you think it might be advantageous to stand out from other people. Collectivism was primed by asking participants to write three statements (a) describing the groups to which you belong, (b) why you think you are like most other people, (c) why it might be advantageous to blend in with other people. The results showed that groups primed to think individualistically generated more ideas that were rated as more novel and more divergent than groups primed to think collectivistically. Unlike the results obtained by Beersma and De Dreu (2005), however, individualistic groups also outperformed collectivistic groups when they were asked to select their most creative idea (convergent stage). Goncalo and Staw (2006) found that individualistic groups selected ideas that were more novel and reflected an original combination of more than one idea from their list.

There is also more recent evidence suggesting that an individualistic sense of self may be useful, even on tasks completed alone. Construing the self as independent ("I") induces the motivation to be alone and different, whereas construing the self as interdependent ("we")

induces the motivation to be accepted and to conform (Wiekens & Stapel, 2008). Consistent with research at the group level, participants with a salient "I" self-construal outperformed participants with a salient "We" self-construal on a task that called for divergent thinking. These results suggest that the group-level findings may have a cognitive component. In other words, individualism enhances the ability of group members to bring creative solutions to mind.

At the group level, however, simply thinking of creative ideas might not be sufficient if those ideas are not voiced. Indeed, Goncalo and Kim (2010) investigated the effects of self-construal on a face-to-face group brainstorming task and found no main effects. In other words, although independent selves may be better able to think of more novel ideas, they did not necessarily express them. The results showed that idea *expression* was highest in groups that were not only primed to think independently, but also endorsed a reward allocation rule that incited competition (equity) (Adams, 1963, 1965).

It is worth noting that none of the aforementioned experiments manipulated individualism by making individual payoffs explicitly contingent on individual success. In other words, none of the participants in these studies were paid in exchange for the number of ideas they expressed during the brainstorming session (Toubias, 2006). Rather, in each study individualism was primed on one task which, in turn, shifted groups' orientation on a subsequent task. For instance, Goncalo and Kim (2010) manipulated the equity rule not by paying each individual for their contributions but by asking the group to endorse the value of the equity rule during a discussion. Therefore, individualism in these studies is best understood as a psychological frame that guides how people view themselves in relation to others rather than a compensation system. We will discuss this priming approach in more detail in a subsequent section.

As a whole, this stream of research provides strong evidence that individualism, in various forms, stimulates group creativity. However, there are two important limitations in the current research. First, individualism is defined in many different ways which makes it somewhat challenging to map the conceptual terrain. The danger is that the term itself may become underspecified and over-applied. Second, individualism is also operationalized in very different ways which may make conflicting results difficult to interpret. For instance, why does individualism interfere with convergent outcomes in some studies but not others? We turn to these two important issues in the next section.

DEFINITIONS OF INDIVIDUALISM

Individualism is a concept that has been extremely influential and the subject of considerable research in both cross cultural psychology and social psychology. Although the concepts of individualism in these two literatures arose in different contexts and utilize different methodological approaches, they converge on the idea that individualism may reflect either the desire to remain independent from the group or the motivation to win in competitions. This distinction has not yet been made in research on group creativity, but bringing that distinction to the foreground may lead to a finer grained understanding of why individualism promotes creative expression.

Culture and social cognition

The modern research on individualism in cross-cultural psychology has been shaped by Hofstede (1980), who initially described individualism as a cultural value that is bipolar and one-dimensional. In other words, collectivism, for Hofstede (1980), was simply low individualism. Since then, researchers have come to agree that individualism is orthogonal to rather than on a continuum with collectivism (Bontempo, 1993; Rhee, Uleman & Lee, 1996; Singelis, 1994;

Triandis et al., 1988; Oyserman, Coon, & Kemmelmeier, 2002), hence the two constructs can be studied separately.

Subsequent research has refined these constructs further and elucidated a number of different forms that individualism-collectivism may take (Brewer & Chen, 2007). For instance, Triandis (1995) introduced the vertical-horizontal distinction which refers to the extent to which a culture emphasizes equality or hierarchical differentiation. The vertical-horizontal dimension interacts with individualism to produce two distinct forms. Horizontal individualism is associated with the desire to be unique, self-reliant, and distinct from groups. In other words, the emphasis is on maintaining one's independence; all people are equal but each person is unique. Vertical individualism, on the other hand, is associated with the desire to distinguish one's self from others and to acquire status via competition. For example, college students in the United States are upset when they are labeled "average" (Weldon, 1984) because they strive to be and see themselves as superior to others (Triandis, 2000). Winning in competitions is a way to assert one's uniqueness to the group.

The distinction between independence and competition weaves its way through much of the research on individualism over the last two decades. In cultures that emphasize independence, there is a heightened concern for the self, personal autonomy and self-fulfillment, emotional independence, individual initiative, and the right to privacy (Hofstede, 1980). Such cultures also place a strong emphasis on personal responsibility and freedom of choice (Waterman, 1984). At the individual level, independence has been investigated in terms of how people construe themselves in relation to other people (Markus & Kitayama, 1991; Brewer & Gardner, 1996). Individuals with an independent self-construal behave in accordance with their personal cognition, emotions and motivations, and they prioritize their own needs over those of

the groups to which they belong (Markus & Kitayama, 1991; Hsu, 1985; Triandis et al., 1988). People with an independent self-construal are less attentive and sensitive to the needs of others (Markus & Kitayama, 1991; Singelis, 1994). This distinction has a number of implications for how people behave in social settings. For instance, an independent self-construal is also associated with the open expression of emotion, even in public. Such expression tends to focus on ego-focused emotions such as anger, pride, and frustration that may serve to assert one's independence to others (Markus & Kitayama, 1991; Eid & Diener, 2001).

When the definition of individualism has focused on competition it is typically associated with striving for individual achievement and the desire to get ahead of others (Chen & West, 2008). Numerous other studies have used a definition of individualism that is equated with competition (Triandis, Leung, Villareal & Clack, 1985; Triandis et al., 1988; Cox, Lobel & McLeod, 1991; Diaz-Guerrero, 1984; De Dreu, Nijstad & van Knippenberg, 2008). Triandis et al. (1985) found that individualists in the United States emphasize competition, social recognition and personal pleasure. Cox et al. (1991) found that groups consisting of individualists behave competitively whereas groups consisting of collectivists behaved more cooperatively. Diaz-Guerrero (1984) also found an emphasis on competitive behavior in individualists in comparison to Latin American collectivists. In fact, Triandis et al. (1988) determined in a factor analysis that the largest contribution to individualism in the US, approximately 35% of the variance, stems from a single factor which was labeled "self-reliance with competition." Interestingly, some have argued that competition is a different element of culture than individualism and should be considered separately (Schimmack, Oishi & Diener, 2005; Brewer & Chen, 2007) but they are more often treated interchangeably, particularly in the research on group creativity.

Bargaining and negotiation

In social psychology, individualism has also been an extremely important construct but it arose in the context of group dynamics and has considerable influence in research on bargaining and negotiation (De Dreu & Boles, 1998; De Dreu et al., 2000). According to the Theory of Cooperation (Deutsch, 1949; 1973; Deutsch & Krauss & Rosenau, 1962), social interaction can be understood in terms of how people perceive their goals to be related to others. In cooperation, people perceive their goals as positively related; the attainment of one's goal facilitates the attainment of another's goal. In competition, people perceive their goals as negatively linked; the attainment of one's goal precludes the attainment of another's goal.

In Deutsch's (1949) seminal study, he manipulated these social motives in two sections of an introductory psychology course. In one section, students were told that all group members would receive the same grade, and that their grade depended on how well they performed relative to similar groups. In another section, students were told that their grade would be based on their individual contribution; the person who contributed the most would get the highest grade. There were striking differences between the two sections in terms of how they related to each other. The cooperative sections reported having friendly discussions, feeling more satisfied, being more attentive to others and feeling more personally secure. The competitive sections reported feeling aggressive, not listened to and not well understood by others.

De Dreu et al. (2000) distinguish between egoistic and competitive social motives. Whereas someone with an egoistic social motive tries to maximize their own outcome without regard for the other parties involved, someone with a competitive social motive tries to maximize their own outcome with a negative regard for the other parties involved. Thus, either zero or negative weight respectively is being put on the opposing party's outcome. De Dreu and Boles

(1998) found that competitive negotiators mainly consult competitive heuristics, whereas individualistic (egoistic) negotiators consult both competitive and cooperative heuristics. But, both competitive and egoistic negotiators are willing to use competitive heuristics if they are more effective. De Dreu et al.'s (2000) meta-analysis found largely the same consequences for these two social motives: engagement in less problem-solving behavior, more contentious behavior, and achievement of lower joint outcomes in comparison to pro-social negotiators. Competitive negotiators engage in more contentious behavior, in less problem-solving behavior and overall achieve sub-optimal solution relative to co-operative negotiators (De Dreu et al., 2000). Although existing research has shown that pro-self social motives stimulate greater creativity than pro-social motives, we do not yet know whether, within the pro-self category, competitive and egoistic motives might have similar effects.

In sum, the distinction between competitive and egoistic motives is strikingly similar to the distinction between competition and independence in cross-cultural psychology. At a general level, the research from two distinct literatures converges insofar as both individualism and pro-self social motives facilitate creative performance more so than collectivism and pro-social motives. However, within these very broad categories, independence and competition may have differential effects on group creativity, but existing research has not yet disentangled the role of each motive in the creative process.

DIFFERENTIAL EFFECTS OF INDEPENDENCE AND COMPETITION

In this section, we develop a series of propositions that distinguish between the consequences of independence and competition for group creativity. The first set of propositions focuses on idea generation and the second set of propositions focuses on the process of idea selection. To date, most studies of group brainstorming have focused on productivity in terms of

how many ideas a group generates in a fixed amount of time and the extent to which those ideas are novel (Rietzschel, Nijstad, & Stroebe, 2006; Girotra et al., 2010). This longstanding emphasis on productivity has been criticized in part because there are many outcomes that indicate an effective brainstorming session other than the sheer number of ideas generated (Sutton & Hargadon, 1996). In an intriguing development, recent research has broadened to include the idea selection stage because the creative process does not involve merely generating ideas, but selecting one that might be implemented (Rietzschel et al., 2006; Faure, 2004; Putnam & Paulus, (in press). Interestingly, idea generation and idea selection may only be loosely coupled in the sense that coming up with a large number of novel ideas does not necessarily guarantee that the group will select a creative idea (Rietzschel et al., 2006). Surprisingly, a recent study suggests that groups actually avoid novel ideas unless specifically instructed to do so (Rietzschel, Nijstad, & Stroebe, 2010). Here we examine the unique effects of independence and competition at both stages of the creative process.

Idea generation

There is considerable research suggesting that competition facilitates productivity in brainstorming groups in which the goal is to generate as many ideas as possible (Osborn, 1957; Simonton, 1999). Competition has been shown to facilitate idea generation in both electronic and face-to-face groups by motivating individuals to match their performance with a more productive member of the group (Paulus, Larey, Putman, Leggett & Roland, 1996; Munkes & Diehl, 2003; Dugosh & Paulus, 2005). Groups are more productive (e.g. they generate more ideas) when each member of the group is trying to generate more ideas than everyone else. The expression of a large number of solutions (productivity) may, in turn, lead to more creative solutions. According to evolutionary theories of creativity (Campbell, 1965; Staw, 1991;

Simonton, 1999; 2003) creativity is a probabilistic consequence of quantity which explains why, for instance, the most creative people in many fields are also the most prolific (Simonton, 2003). Therefore, competition may facilitate group creativity by increasing productivity because the more ideas that are generated, the more likely those ideas will be novel departures from existing solutions.

Unlike competition, independence may not necessarily increase the number of ideas generated during group brainstorming sessions. The motive to remain independent may cause people to focus on their own ideas and be unmotivated to carefully consider the ideas shared by others. In other words, the preference for being alone and for working autonomously may make independent selves simply uninterested in collaborating to reach an optimal group outcome (Wiekens & Stapel, 2008). Indeed, Goncalo and Kim (2010) primed individual group members with either an independent or interdependent self-construal and did not observe any main effects of self-construal on the number of ideas or the novelty of ideas expressed in face-to-face brainstorming sessions. In other words, although an independent self-construal may stimulate divergent thinking among individual group members, their ideas may remain unexpressed. Therefore, unlike competition, independence alone may not have an impact on either the productivity or creativity of group ideation.

> **Proposition 1:** The positive relationship between competition and group creativity is mediated by productivity whereas independence is unrelated to both productivity and group creativity.

Idea Selection

Although competition may promote idea expression, it may become a liability at the idea selection stage. A competitive norm may cause group members to derogate each other's ideas, promote their own ideas even if they are not optimal and refuse to compromise (De Dreu et al.2008). These problems may be exacerbated in naturalistic settings where receiving credit for a highly creative idea may be extremely profitable (Audia & Goncalo, 2007). There is intriguing evidence to support this prediction from research on the effect of rivalry on knowledge valuation (Menon, Thompson & Choi, 2006). The results of three studies showed that people ignore good ideas suggested by members of one's own group because endorsing their good ideas would make one look like a follower and cause a loss of status. The potential threat to the self causes people to look outside the group for inspiration and even to endorse ideas suggested by external rivals (Menon, et al, 2006). This research suggests that the degree of competition within the group should be inversely related to their ability to select creative ideas.

Proposition 2: Competition causes the group to derogate each other's ideas and reduces the likelihood of selecting the most creative idea from their pool of available ideas.

Independence may also have negative consequences for idea selection but may do so through different underlying mechanisms. According to the motivated information processing in groups (MIP-G) model the quality of group decision making is higher when groups are willing to "expend effort to achieve a thorough, rich and accurate understanding of the world, including the group task and decision problem at hand" an orientation called epistemic motivation (De Dreu et al, 2008: pg. 23). Whereas, independent selves might be highly motivated to reach correct or creative solutions on individual tasks on which they can work alone and receive credit for their own work, they may be withdrawn, unmotivated and unwilling to expend effort on group tasks

that demand social interaction. There is indirect evidence to support this prediction from

research on narcissism showing that narcissists generate more ideas in brainstorming groups

when their individual contributions were identifiable than when individual contributions were

anonymous (Wallace & Baumeister, 2002). Although narcissism and independence are clearly

not identical, they do share a pre-occupation with the self; narcissists are more likely to use

singular first person pronouns in speech (e.g. I, me) and the use of such pronouns has been

shown to prime a independent self-construal (Raskin & Shaw, 1988; Brewer & Gardner, 1996).

It is possible that independence may cause groups to reach premature closure on the first

minimally acceptable idea simply to end the discussion and perhaps turn their attention to solo

tasks where there is a greater opportunity to receive personal recognition. Therefore, we predict

the following:

> **Proposition 3:** Independence reduces epistemic motivation on group tasks and reduces
>
> the group's ability to select creative ideas.

INTERACTION BETWEEN INDEPENDENCE AND COMPETITION

In the last section, we distinguished between independence and competition as important

facets of individualism that may either exert different effects on group creativity or produce

similar effects through different mechanisms. The possibility that independence and competition

are conceptually distinct raises the intriguing possibility that they may interact to influence group

processes and performance. In other words, one might think of independence and competition as

two bi-polar continuums that, when considered together, may result in a 2 x 2 factorial (See

Figure 1 for a summary). Independence is on a continuum with conformity to the group (Asch,

1956; Allen, 1965) and competition is on a continuum with cooperation (Deutsch, 1949; Messick

& McClintock, 1968). In this section, we consider the consequences for group creativity that

may result from this interaction.

Insert Figure 1 about here

Cell A in Figure 1 represents an interaction between independence and competition and

might be similar to vertical individualism which indicates a desire to assert one's uniqueness by

outcompeting others (Triandis, 1995). Indeed, these two separate characteristics of

individualism have been shown to co-exist in the United States (Triandis et al., 1988; Chen &

West, 2008; Oyserman et al., 2002). Interestingly, there is recent evidence to suggest that

independence and competition may interact to stimulate group ideation. Goncalo and Kim (2010)

theorized that groups composed of people with a salient independent self-construal might express

novel ideas, but only if they also endorse an equity reward allocation rule which permits people

to compete for a larger share of the group reward (Deutsch, 1985). Interdependent selves may

not be as motivated by an equity rule since they do not seek opportunities to stand out but rather

prefer to blend in and to maintain harmony with other group members (Markus & Kitayama,

1991). In contrast, independent selves might be more motivated to compete since the equity rule

allows them the opportunity to stand out by expressing more ideas than others (Triandis &

Gelfand, 1998).

In an experiment, Goncalo and Kim (2010) crossed an independent versus interdependent

self construal with a competitive or cooperative reward allocation rule in a factorial design. The

results did not reveal any main effect of either self-construal or of reward allocation rule. Instead,

they showed that groups generate more ideas and more novel ideas when they are simultaneously primed to think independently and to endorse a competitive reward allocation rule. Participants in this condition also reported being more vertical individualistic (Triandis, Chen and Chan, 1998) and video tape data of the groups' brainstorming sessions also revealed that people in this condition showed less regard for other peoples' ideas (and cut into each others' turn during the brainstorming session). Each mechanism fully mediated the productivity gain observed in the groups that were both independent and competitive.

Future research might investigate the possibility that independence causes creative ideas to come to mind (Wiekens & Stapel, 2008) and competition provides the motivation to express ideas to others (Dugosh & Paulus, 2005). Group ideation suffers when either ingredient is missing. Subsequent work might also investigate whether this combination has any impact on idea selection. Apropos of our earlier point, the competitive behavior that results may interfere with the process of choosing an idea to pursue.

Proposition 4: Independence interacts with competition to facilitate the expression of creative ideas such that group creativity is highest (and creative idea selection lowest) when individuals are motivated to demonstrate their independence by competing with other group members.

Cell D in Figure 1 represents what is, in our view, the least creative combination of elements: The desire to both cooperate and to conform to the group. Such groups might avoid productive conflict, withhold their most novel ideas for fear of causing controversy and suggest ideas that converge with those suggested by others. In other words, "You have a great idea! I have one just like it!" These processes might promote harmony but may be inimical to the task

of generating creative solutions. Some might argue that conforming and cooperative groups might actually be in an excellent position to generate creative ideas if they are simply instructed to do so. After all, their willingness to galvanize their efforts to complete assigned goals should make them productive and efficient. Goncalo and Staw (2006) tested this possibility in an experiment in which they instructed individualistic and collectivistic groups to generate either creative or practical solutions. The results showed that collectivistic groups underperformed individualistic groups even when specifically instructed to be creative, thus casting doubt on this rather optimistic proposition. One suspects that the collectivistic groups were probably very happy to work together but blissfully unaware that their ideas were few and mundane.

Cells A and D in Figure 1 are the two cells that are typically contrasted in most studies of individualism-collectivism. In our view, however, it is the diagonal from cell B to C that is the most intriguing and unique in the context of existing research. It is theoretically possible that independence may co-exist with cooperation and conversely that competition can co-exist with conformity to the group. We explore these quadrants in more detail below.

Independence motivated by the desire to cooperate

The idea that independence can be motivated by cooperation (Cell B) is surprisingly consistent with Asch's (1956) original conception of independence from the group majority. Asch (1956) found that when confronted with an unanimous majority, people can sometimes ignore the evidence of their own senses and adopt the majority point of view. They do so either because they want to be liked and accepted or because they assume the majority must be privy to some information that the lone individual is unaware of (Deutsch & Gerard, 1955). As Levine (1999) reminded us, Asch (1956) assumed that individuals maintain an independent position

because they want the group to detect a correct solution, and they are willing to surrender their position if the evidence suggests they are wrong. According to Levine (1999: pg. 361), this kind of independence is, "group oriented, cooperative and open minded." Much like the proverbial whistleblower, individuals may risk ostracism because they care about the group and want to see it prosper (Morrison & Milliken, 2000).

Asch (1956) also correctly surmised that independence is critical to group functioning because exposure to dissenting opinion may arouse doubt and make the group more open to alternatives. This notion is consistent with subsequent research on minority influence showing that dissent stimulates divergent thinking in the majority (Nemeth, 1986; Nemeth & Goncalo, 2005; Nemeth & Goncalo, 2010). However, the assumed motives behind the expression of dissenting opinions in the minority influence literature (Maas & Clark, 1984) are quite different from those assumed by Asch (1956). According to Moscovici (1976), dissenting points of view are maintained when people are convinced they are right and they want their point of view to prevail (Levine, 1999). When dissent is maintained over time with consistency and confidence (Nemeth & Wachtler, 1973) then they are more likely to convert the majority, at least in private (Moscovici, 1980). In order to "win" dissenting opinions cannot falter in the face of majority pressure. However, unlike Asch (1956) the motives underlying minority influence are "self-oriented, competitive and close-minded" (Levine, 1999: pg. 361). In that sense, this perspective is most consistent with the conditions present in Cell A: independence combined with a sense of competition. Thus we would expect similar consequences: Independence motivated by competition may stimulate creative ideation but may interfere with the process of reaching consensus on an idea to pursue to the implementation stage.

Independence motivated by cooperation may be the most advantageous for group creativity because it may stimulate both ideation and permit idea selection. Independence provides a mindset conducive to creative thought (Wiekens & Stapel, 2008) and the desire to cooperate with the group to reach a high quality solution may motivate idea expression since building upon, combining and improving the ideas suggested by others will help the group reach its goal. At the idea selection stage, independence may provide the confidence to stand alone, and if necessary to advocate for unpopular ideas that the rest of the group may initially dismiss. Dissent at the idea selection stage may cause the group to consider more ideas and to deliberate more carefully prior to making a decision (Nemeth, Brown & Rogers, 2001). However, independence motivated by the desire to cooperate may cause the dissenter to compromise if they are satisfied that the group has made an optimal selection. A more competitive orientation may cause conflict to escalate to the point of being destructive and personal as opposed to task focused (Jehn, 1995; De Dreu & Weingart, 2003) because the desire to prevail may override the willingness to eventually compromise.

Research showing that individually focused attributions raise the quality of group decision making (a convergent task) might be reinterpreted in light of this interaction (Goncalo & Duguid, 2008). Attributions to the contributions made by each individual member may have promoted a sense of independence from the group (e.g. I make a unique contribution to the group), but a recent experience of shared success may imbue the group with positive affect which, in turn, increases cooperation and commitment (Lawler, 2001). An increased willingness to cooperate may explain why individualistic attributions facilitated the exchange of knowledge and raised the quality of group decision making following success but not following failure (Goncalo & Duguid, 2008). Therefore, we predict the following:

Proposition 5: Independence interacts with cooperation to facilitate both the expression and selection of creative ideas such that group creativity and creative idea selection are highest when independence is motivated by the desire to cooperate with the group.

Competition motivated by the desire to conform

Our model also suggests the counterintuitive possibility that competitive behavior can be motivated by the desire to conform to the group (Cell C). However, competition in this context will not be a driver of novelty but a motivator of counterproductive behavior. Like the catchphrase, "Keeping Up With the Joneses," people might compete, not by diverging from their competitors, but by attempting to imitate them.

Competition motivated by the desire to conform could trigger envy; a negative emotion felt "when a person lacks another's superior quality, achievement, or possession and either desires it or wishes that the other lacked it" (Parrott & Smith, 1993: pg. 906; Cohen-Charash & Mueller, 2007). Envy only occurs when one perceives the envied person to be similar to oneself and when one lacks something important to the self concept. Harming the envied person can be seen as an affect-regulation technique (Baumeister, Smart, and Boden, 1996; Bushman, Baumeister, and Phillips, 2001) because frustration is reduced (Fox and Spector, 1999; Kulik and Brown, 1979; Smith, 1991; Spector, 1975, 1978). And, harming the envied person can also feel empowering and increase one's self-esteem (Fein and Spencer, 1997).

Unfortunately, feelings of envy might not be conducive to group creativity. If one member of the group suggests an idea that is greeted with excitement and hailed as a creative solution by others, envious team mates might respond by either sabotaging the idea or by

attempting to come up with an idea that is very similar so as to bask in reflected glory. Instead of motivating divergence from the status quo, envy is more likely to constrain the group to solutions that are at best, poor imitations of more creative ideas.

Proposition 6: Competition should interact with conformity to trigger envy and envy should, in turn, stifle creative expression.

The desire to simultaneously compete with and be similar to others may also create a sense of ambivalence between the group and its members. On the one hand, one is attracted to the group enough to want to be liked and accepted by them. On the other hand, one is willing to derogate and harm the group to ensure that they remain similar to you. This is the dilemma often faced by minorities who try to succeed in school and advance in their career only to be told they are "acting white" by members of their own group (Ogbu, 1986; Fryer & Torelli, 2006). The competitive drive to succeed is experienced at the same time as the fear of standing out from the group and garnering their disapproval.

Ambivalence is an emotion in which people experience coexisting, opposing feelings toward a person, object, or idea (Fong, 2003). There are two types of ambivalence, potential (Kaplan, 1972) and felt (Jamieson, 1993; Priester & Petty, 1996) ambivalence. Potential ambivalence refers to two opposing beliefs held by a person, who is unaware of this opposition presumably because she has never thought about it. Felt ambivalence, on the other hand, is in a person's awareness and creates internal conflict (van Harreveld, van der Pligt, & de Liver, 2009). One way to reduce ambivalence is to make a choice (e.g. reject the group and compete to get ahead). But, choices are associated with uncertainty about their consequences, which causes discomfort. Negative consequences are particularly prevalent in one's thoughts and carry considerable weight (Skrowonski & Carlston, 1989; Ito, Larsen, Smith, & Cacioppo, 1998; Eyal,

Liberman, Trope, & Walther, 2004). Emotions such as disappointment, fear, guilt, and especially regret (Loomes & Sugden, 1982) are anticipated to follow if the decision turns out to be wrong.

Ambivalence is particularly intriguing because there is evidence that felt ambivalence can actually stimulate creative thought. For instance, holding two contradictory thoughts in mind at the same time increases the likelihood that these opposing thoughts will be integrated into a novel idea (Rothenberg, 1990). Fong (2003) theorized that ambivalent emotions are unusual; they signal an unusual environment and thus make people sensitive to novel associations. The results of two experiments showed participants who were asked to either recall a time they felt ambivalent or to read a proverb that conveyed ambivalent emotions performed better on test of creative problem solving (Fong, 2003). Amabile, Barsade, Mueller and Staw (2005) suggested that ambivalent emotions might facilitate creativity by increasing the breadth of cognitive material available for recombination. Positive and negative emotional experiences are stored in different memory nodes and ambivalent emotions may trigger both networks and allow people to draw on a wider range of experiences (Bower, 1981; Blaney, 1986).

This research suggests that ambivalent emotions about one's group may actually stimulate creative thought. However, since this research has not yet been conducted in a group setting, it is unclear whether or how such emotions could influence the expression of creative ideas. Nevertheless, the proposition below would be intriguing to pursue in future research.

Proposition 7: Conformity and competition interact to trigger felt ambivalence, and felt ambivalence, in turn, stimulates creative problem solving at the individual level.

METHODOLOGICAL QUESTIONS

We have argued that individualism can refer either to independence or competition and each motive might exert different effects on group creativity. Future research may gain considerable leverage from making this distinction clear. However, separating these two constructs may create some empirical challenges that we address in this section.

Interestingly, although research in cross-cultural psychology has largely relied on cross national comparisons, relating individualism to group creativity has been strictly experimental. This approach is part of a trend that has been gathering force in recent years. Most of the research on the individual-collectivism dimension has found that national membership alters the person's self concept (Markus & Kityama, 1991), and that such differences in self-construal, much like a personality trait, can be used to predict behavior across situations. Typically, this research has compared differences between East Asians and European North Americans (Lehman, Chiu & Schaller, 2004) using nationality as a proxy for a person's underlying cultural values of individualism versus collectivism (Brockner, 2003). In spite of such between-country differences, however, there is also substantial within-country variation (Oyserman et al., 2002). In other words, cultural values might also be subject to more immediate influences in the social situation such as those present in laboratory settings (Oyserman & Lee, 2008).

Unfortunately, we do not know whether manipulations used in the research on group creativity emphasize independence, competition or a combination of the two. The manipulation of pro-self social motives employed by Beersma and De Dreu (2005) seems to clearly tap competition, given the emphasis on acquiring a greater share of a reward than others. Conversely, the self-construal manipulation developed by Brewer and Gardner (1996), used by Wiekens and Stapel (2008) and Goncalo and Kim (2010) probably triggers independence, given the data

showing that this priming technique prompts people to think of themselves as independent, alone and different. The attribution manipulation used by Goncalo (2004) and Goncalo and Duguid (2008) probably also makes people feel independent from the group but may also trigger the desire to cooperate if the attribution follows success as opposed to failure (Lawler, 2001). Likewise, the priming manipulation used by Goncalo and Staw (2006) probably also promotes a sense of oneself as independent given that people were prompted to describe their individual attributes and think of reasons why they were unique.

These assumptions are consistent with the theoretical framework we proposed in this paper as well as the results of existing research. Competition facilitated creative idea generation but interfered with the group's ability to reach consensus (Beersma & De Dreu, 2005). In contrast, independence has not been shown to have a main effect on creative idea generation without specific instructions to be creative (Goncalo & Staw, 2006), positive feedback on a prior task (Goncalo, 2004; Goncalo & Duguid, 2008) or a salient equity norm that promotes idea expression (Goncalo & Kim, 2010). Moreover, independence does not necessarily interfere with the convergent stage of the creative process since individualistic (and perhaps independent) groups in these studies selected more creative ideas when instructed to be creative (Goncalo & Staw, 2006) and made more accurate decisions after receiving positive feedback (Goncalo & Duguid, 2008).

Future research, however, might include measures of independence and competition to verify which aspect of individualism is made salient to the participants. Oysermann et al. (2002) conducted two meta-analyses on the existing scales of individualism-collectivism. They found that 83% of the scales included in the meta-analyses focused on personal independence; more than any other underlying construct. Hui (1988), for example developed a scale that

distinguished collectivists from individualists on the basis of their interdependence with parents, spouses, relatives, coworkers, friends, and neighbors. Participants rated statements such as "It is desirable that a husband and a wife have their own sets of friends, instead of having only a common set of friends" or "When I am among my colleagues/classmates, I do my own thing without minding about them." Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim, & Heyman (1996) measured independence with statements such as "Being able to take care of myself is a primary concern for me," "I prefer to be self-reliant rather than depend on others," and "I should decide my future on my own." Other scales include ones by Singelis (1994), who used Markus and Kitayama's review to create a 24-item Self-Construal Scale that measured independence and interdependence directly. Similarly, Triandis, McCusker & Hui (1990) and Singelis, Triandis, Bhawuk and Gelfand, (1995) developed scales including measurements for independence. Hence, a variety of scales exist that measure independence and they may provide items that are useful manipulation checks.

There are also a number of promising measures of competition. For example, in their factor analysis Triandis et al. (1988) used a scale that included items such as "I feel winning is important in both work and games," and "Doing your best isn't enough; it is important to win." Simmons et al. (1988) measured competition via their cooperative/competitive strategy scale, which included items such as "It is important to me to do better than others," "To succeed, one must compete against others," and "Success can be best defined as a situation in which there are both winners and losers." Another scale measuring competition among other constructs was developed by Cassidy and Lynn (1989). They included items such as "I try harder when I am in competition with other people," "I judge my performance on whether I do better than others rather than on just getting a good result," and "It annoys me when other people perform better

than I do." In contrast to independence, however, items related to competition are not as frequently included in measures of individualism (Oyserman et al, 2002). Approximately 15% of scales included measures of competition, which was determined by items such as "It is important to me that I perform better than others on a task."

SUMMARY

Existing research clearly suggests that individualism provides an atmosphere conducive to creative idea generation. However, we have argued that individualism may reflect either independence or competition; a distinction that has been overlooked in research on group creativity. Highlighting the distinction between these two constructs uncovered several theoretical insights, including the possibility that independence and competition (a) are theoretically and empirically distinct, (b) have differential effects on idea generation but similar effects on idea selection through different mechanisms and (c) that they may interact to stimulate group creativity. Our review also underscored an important point: Creativity is most likely to flourish when individuals retain their sense of independence from the group, not merely for the sake of being different, or to impose their ideas on others, but with some sense of responsibility to the group with whom they have cast their lot. Therefore, we conclude with considerable homage to Solomon Asch (1956) who initially asserted that independence and cooperation might co-exist in this way.

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FIGURE 1

	Competition	**Cooperation**
Independence	*A* (1) Assert one's unique qualities by "winning" in competitions (2) Motives similar to those underlying minority dissent (3) Facilitates idea expression but interferes with idea selection	*B* (1) Independence that is group oriented and open minded. (2) Willingness to compromise before task conflict escalates (3) Motivates both idea expression and idea selection
Conformity	*C* (1) Compete not to be unique, but to imitate others (2) Triggers feelings of envy and counter-productive behavior (3) Causes ambivalence between the group and its members	*D* (1) Avoid conflict (2) Withold novel ideas that may trigger controversy (3) Suggest ideas that converge with those suggested by others