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Gender and the Internalization of Group Feedback: The Moderating Effects of Task Type, Collectivism, and Perceived Contribution

By

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

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ABSTRACT

Gender and the Internalization of Group Feedback: The Moderating Effects of Task Type, Collectivism, and Perceived Contribution

by

Stacey L. Turner

The purpose of the present study was to examine the extent to which men and women in a group internalize group feedback, and what mechanisms might underlie this internalization. Task/gender congruence, perceived contribution, and collectivism were all proposed contributors to gender differences in feedback internalization, and the consequent relationship between self- and collective-efficacy beliefs. Participants completed a brainstorming class and were given false group feedback. Results indicated that there were gender differences in response to the task-oriented condition. Also, perceived contribution moderated the relationship between feedback and self-efficacy, and between self-efficacy and collective-efficacy.
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Gender and the internalization of group feedback: The moderating effects of task type, collectivism, and perceived contribution

Within organizations, feedback is a primary vessel for communicating information about performance. Group feedback can come in many forms, from an informal annual progress report to a formalized performance appraisal. The increased use of groups and teams within organizations has engendered a movement to give rewards based on group performance, which could heavily influence group members’ motivation. The way in which feedback is interpreted can vary across individuals and situations, especially in the case of group-level feedback. People are generally the most interested in feedback that generates information about themselves, and the way in which they extract this information when confronted with group feedback might yield important cross-level effects. Specifically, the extent to which an individual member within a group or team internalizes group feedback might have important motivational implications for future group tasks.

Given the ubiquity of teams in organizations, it is now more necessary than ever to understand the individual cognitions and behaviors that contribute to group process and function. On one hand, given that the American society has, from its conception, been comprised of principles of rugged individualism (Triandis, 1996), perhaps team members strive to retain their individualism even in a group context. On the other hand, given that teams are more often than ever comprised of women and individuals from collectivist countries, both of whom may be more likely to place emphases on others and on the group, perhaps these individuals are heavily influenced by group membership. The current research specifically assesses the relationship between gender and group
feedback internalization, and examines the mechanisms that possibly drive this relationship.

Finding the mechanisms and possible moderators for the differences in the interpretation of group feedback by women and men may be complicated, in that a number of factors could influence team members respond to feedback. Some research has indicated that the type of task for which men and women receive feedback may influence their consequent internalization of group feedback (Wood & Karten, 1986). For instance, women receiving negative feedback on female-related tasks might be particularly likely to internalize failure. Also, individual men in a group tend to perceive that their contribution is higher than women when given positive group performance feedback, while this trend is reversed for negative group performance feedback (Stake, 1990). Finally, research has demonstrated that collectivist-oriented individuals are more likely to define themselves in terms of their group, which might have implications for the degree to which they internalize group feedback.

This study explores the effect of these three variables, task, perceived contribution, and collectivism, on the relationship between group feedback and self-efficacy. Additionally, I will examine the effect of feedback internalization on the relationship between an individual’s self- and collective-efficacy beliefs. First, self-efficacy and collective-efficacy are introduced as the measures. Next, I will discuss the nature of group feedback, and the variants associated with men and women’s internalization of feedback. Lastly, I will examine the outcomes of these gender differences.
Self-Efficacy

Bandura (1986) introduced self-efficacy as a dynamic construct unique from expectancy theory and the seemingly similar construct of self-esteem. Specifically, Bandura defines self-efficacy as “...people’s judgments of their capabilities to organized and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses” (Bandura, 1986, p.391). Key to this definition is the specificity of self-efficacy toward a particular task. Measures of self-efficacy should be specifically tailored to the task being assessed (Pajares & Miller, 1995). Because of its dependence on a particular task, self-efficacy is not an inert predictor; it has the capacity to change over time with new information and experience (Gist & Mitchell, 1992). These changes are molded by the determinants of self-efficacy, which include enactive mastery (personal attainment), vicarious experience (modeling), verbal persuasion, and physiological arousal (Bandura, 1997). An individual’s cognitive and affective appraisal and integration of these events determine self-efficacy (Gist & Mitchell, 1992).

Repeated studies have shown self-efficacy to be an accurate predictor of performance (Bandura, 1982; Bandura, 1997). High levels of self-efficacy almost always lead to increased levels of performance and productivity (Bandura, 1997). In particular, self-efficacy has been linked to the establishment of more rigorous performance goals, and in consequence, higher performance (Earley & Lituchy, 1991). Not all studies have replicated these findings though. A small number of studies have found that high levels of self-efficacy actually have detrimental effects on performance (Hawkins, 1992; Vancouver, Thompson, Tischner, & Putka, 2002). For example, Sitkin (1992) found that
consistent prior success resulted in overconfidence, decreased attention, increased complacency, and committal of logic errors. Over time, these forces can culminate and result in a sharp decline of performance levels, and in consequence, a plummeting of self-efficacy levels. At the person-level analysis though, the positive effect of self-efficacy on performance is seldom debated.

Though self-efficacy has been linked to performance, and has been shown to play a key role in people’s motivation, it fails to capture the sense of efficacy one maintains toward their team or group. Since many people at one time or another are part of a group, and are working on a group task, in order to assess motivation for future performance, a different kind of measurement is needed.

**Collective Efficacy**

Collective-efficacy, a construct that has only recently been recognized as having a role in motivational development, stems from Bandura’s (1986) concept of self-efficacy. In general, studies have shown a high degree of correlation between self- and collective-efficacy, though these constructs demonstrate some orthogonality in terms of their specific antecedents (Parker, 1994; Turner & Quinones, 2003). Despite the sizable amount of research on the relationship between efficacy levels and performance, the antecedents of self- and collective efficacy have not received nearly the same amount of study. Specifically, the individual differences and contextual variables within a group that might moderate the relationship between the antecedents and the respective efficacy levels has gone largely unexplored.
Collective efficacy differs from "group" efficacy in that it is an individual-level construct measuring an individual's belief that her or his group or team can execute a task successfully (Mischel & Northcraft, 1997). Group-efficacy is generally measured by a group's agreement on a single efficacy score. Though there has been some debate over the most accurate definition of collective efficacy, for the present study the definition proposed by Zaccharo, Blair, Peterson, and Zazanis (1995) will be used, due to its reference to the construct's multidimensionality. Zaccharo et al. (1995) define collective-efficacy as "a sense of collective competence shared among individuals when allocating, coordinating, and integrating their resources in a successful concerted response to specific situational demands".

There remains some inconsistency in how collective-efficacy is measured, though in the present study, each group member's beliefs that their group has the knowledge, skills, and abilities to perform group tasks effectively will be assessed. The measurement of collective efficacy highlights a substantial difference between self-efficacy and collective-efficacy. Collective efficacy is an evaluation of how well a group can coordinate and combine resources to complete a task, not simply a single judgment of the ability to perform a task.

A variety of factors contribute to a group member's collective efficacy, including shared beliefs of perceived competence. Perceptions of an individual in a group are based less on actual conditions within the group than they are on how he or she perceives these conditions and other group members' abilities. Necessary for measuring collective efficacy is an individual to be part of a team or group that has been given an interactive task (Paskevich, Brawley, Dorsch, & Widmeyer, 1999). Generally, the more interactive
the task, the more perceptible collective efficacy will be, though Zaccharo et al. (1995) suggested that even with little group interaction, characteristics of the group may still influence group members’ efficacy beliefs.

Feedback has a powerful influence on both collective- and self-efficacy, and can come in a variety of forms. Sometimes groups receive performance feedback by either succeeding or failing at a task, and the outcome is obvious. Other times, a group’s performance might be evaluated by an outsider, and this feedback might not be as unambiguous as performance feedback. In both cases however, the feedback can mold the self- and collective-efficacy of the members of the group.

**Internalization of Group Feedback**

In the discussion of group feedback, a differentiation should be drawn between the various other types of feedback. Group feedback is directed toward the way in which the group functions as a unit, and thus differs from individual feedback in groups. Individual feedback within a group is a type of feedback that gives each individual within the group information about their performance in the group setting. Two main factors contribute to the difference between group feedback and individual within a group feedback. The first factor is the nature of the information; group feedback is necessarily confounded by the actions of the others in the group, and therefore might not be an accurate measure of an individual’s performance (Archer-Kath, Johnson, and Johnson, 1994). The other factor is the limited ability that an individual might feel to act upon the given feedback, given the confines that groups impose. If an individual feels constricted
within a paradigm imposed by the group, this feeling might translate into less internalization of the group feedback, and thus less of an effect on self-efficacy.

Managers within organizations who give group feedback may be unaware of the motivational implications that this feedback might have on the individual members of the group. The way in which one group member interprets group feedback could be vastly different from how another member of the group might interpret the feedback. Some insight into this process can be gleaned from prior studies, which have looked at the relationship between feedback and self-efficacy. For example, a group member’s initial self-efficacy might moderate the degree to which they internalize group feedback, especially when the feedback is negative. Nease, Mudgett, and Quinones (1999) found that individuals with high self-efficacy are more resistant to consistent negative feedback whereas those with low self-efficacy show no difference in their acceptance of repeated negative feedback. Though this study was conducted by giving individual-referenced feedback and not group feedback, these same processes might play out when individuals are given group feedback. Nease et al. (1999) also found that individuals with low self-efficacy decreased their acceptance of repeated positive feedback, supporting what Swann (1987) termed “self-verification theory”. Self-verification theory proposes that individuals are more accepting of information (feedback) that complement their own self-evaluation. These findings are relevant to the present study in that gender differences have been found to exist in judgments of self-efficacy, and there is some evidence suggesting that men have higher self-efficacy beliefs than do women (Petruzzello & Corbin, 1988).
Men do not always have greater self-efficacy than women; gender differences in self-efficacy are likely to emerge for certain tasks. These differences might be the catalyst for differences in the way men and women interpret group feedback for certain kinds of group tasks.

**Type of task**

Groups are often given a wide variety of tasks. Prior research has shown that there are different expectancies for success on these tasks, depending on one’s gender. Differences in expectancies are specifically found between socioemotional and task-oriented types of tasks, especially when there is an emphasis placed on social comparison (Lenney, 1977). Women in mixed-gender groups tend to engage in more socioemotional behaviors than men, while men engage in more task behaviors than women (Piliavin & Martin, 1978). Perhaps as a result, women have a greater sense of self-efficacy when completing a socioemotional task, and men maintain an increased sense of self-efficacy when working on a very structured task. Men and women’s affective attitudes are influenced by their relative sense of efficacy. Men report higher levels of satisfaction when a task is presented as a test of ability, whereas women have a higher degree of satisfaction when a task is more ambiguously introduced as one that is open to personal interpretation. Leadership emergence studies demonstrate the same patterns; in groups in which the socioemotional component of a task is emphasized, women report greater satisfaction and self-efficacy than they do for strictly task-oriented activities (Karakowsky & Siegel, 1999). These findings indicate that women are more likely to internalize group feedback when the group task is socioemotionally-oriented, while men
are more likely to internalize group feedback when the group task is highly structured and there is minimal need for social interaction among the group members.

Some inconsistency exists among studies in the task type/gender domain; the existence of gender differences in self-efficacy between tasks has not received solid support (Anderson & Blanchard, 1982). The present study seeks to clarify these differences, if they exist, and to explore how the type of group task might differentiate the way in which males and females form their respective self-efficacy judgments. Certainly much of the available research indicates that women have a greater sense of self-efficacy for performing socioemotional group tasks, whereas men have a greater sense of self-efficacy in groups that are primarily task-focused (Ridgeway & Johnson, 1990). In other words, the gender-congruence of a task might moderate the extent to which an individual internalizes group feedback. Considering the available research, the following hypothesis is proposed:

*Hypothesis 1:* The strength of the relationship between group feedback and self-efficacy will be moderated by task-gender congruence. Specifically, individuals performing a task that is congruent with their gender will exhibit a stronger relationship between group feedback and self-efficacy than those performing a gender-incongruent task.

Task/gender congruence is a contextual factor that might affect group feedback internalization, but there is also a possibility that individual’s assessment of their degree of contribution for a group task might affect this process as well.
**Perceived contribution**

Seemingly, the greater an individual’s feeling of contribution toward a group task, the more they feel they have had a defining role in the group’s performance. Since men have been found to have a higher overall participation rate in task-groups (Carli, 1982), it is very possible that they will feel a greater sense of contribution to a group task than will women, especially for task-oriented activities. The degree of contribution one feels for a group task is very likely tied in to one’s self-efficacy beliefs for this task, and might be the mechanism behind gender differences in self-efficacy levels. Though no research has specifically examined the role of perceived contribution in the relationship between feedback and self-efficacy, one can draw key inferences from tangential research findings.

Attribution studies indicate that perceived contribution might be moderated by the valence of the feedback that one receives (Bradley, 1978). People who employ the self-serving bias might be less inclined to accept responsibility for a failure and in consequence, downplay their estimate of personal contribution in the task. This tendency for ego-protection may be dependent on one’s gender, though research is inconsistent in its assessment of gender differences in attributions. Though some studies find that women tend to make more external attributions for success and more internal attributions for failure, other studies, such as the recent meta-analysis by Swim & Sanna (1996), have failed to find sustained gender differences in types of attributions. The findings from the meta-analysis indicate that gender differences in previous studies stemmed from a lack of independence in the measurement of the different attributions (internal/stable,
external/unstable). Considering the lack of consistency in this area of research, this study will explore other mechanisms for gender differences in efficacy judgments.

Previous research has indicated that women tend to have lower estimates of self-efficacy than men (Stake & Stake, 1977; Petruzzello & Corbin, 1988). Furthermore, women with low self-efficacy report feeling more satisfied with a decision-making process when they had contributed less to that process (Stake & Stake, 1977). Thus, when given positive feedback, women are less likely than men to internalize it. Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971) found that individuals who expect to perform poorly tend not to choose to engage in achievement activities. Because of their initial low self-efficacy, women might not be as likely to perceive that they have contributed to a group task, assuming the feedback is positive. If the feedback is negative, these beliefs might be reversed.

Influence of other group members plays a large role in the formation of a group member's perceived contribution beliefs. Schlenker, Salvatore, and McCarthy (1976) found that high self-esteem participants felt that their contribution was not influenced by others when given positive feedback but that it \textit{was} influenced by others in the failure condition. Participants with low self-esteem felt equally influenced in both conditions. If this effect extends to self-efficacy, this could indicate a difference in perceived contribution for men and women, depending on their level of self-efficacy, and on the type of feedback given. Considering previous research, which has largely affirmed that women tend to have lower self-efficacy perceptions than men, it is likely that women will have lower perceived contribution estimates in groups than will men. The following hypotheses are proposed:
Hypothesis 2: Feedback sign will moderate the relationship between perceived contribution and gender such that men will perceive their contribution to the group as being higher than women when feedback is positive, but lower than women when feedback is negative.

Hypothesis 3: Perceived contribution will moderate the relationship between group feedback and self-efficacy such that, the greater the perception of contribution to the group task performance, the stronger the relationship between group feedback and self-efficacy.

In addition to differences in judgments of contribution, there might be stable individual differences, which will affect an individual’s degree of feedback internalization. Specifically, collectivism is one such individual difference that is likely to be a factor in this process.

Collectivism

An individual difference that is likely to come into play when individuals form self-efficacy beliefs is collectivism. Collectivism reflects the extent to which an individual’s values and beliefs toward him or herself are constructed through, and as a result of, existing social relationships with others (Hofstede, 1991). Triandis (1996) describes the degree of interdependence a person feels with a group as collectivism, and the extent of his or her feeling of differentiation in a group as individualism. An information-processing view of self (Ashford & Tsui, 1991), in which people seek information about themselves through various sources and referents, helps explain the difference between individualists and collectivists. Collectivists use a collective self
(group-referenced information) for their self-construal, whereas individualists draw from the private self (personal-referenced information) (Triandis, 1989). Collectivists have a tendency to internalize failure and externalize success as a means of supporting their group (Kashima & Triandis, 1986).

The concept of collectivism has traditionally been studied in the realm of cross-cultural psychology, but has recently received attention in gender studies. Research has shown that women display more collectivist behaviors and self-cognitions than men (Madson & Trafimow, 2001). Mortenson’s (2002) study of men and women in the United States (individualist culture) and China (collectivist culture) found that in both of these cultures, women were consistently more collectivist than men and that men were consistently more individualist than women. Maccoby (1990) suggests that men and women grow up in distinct subcultures; men are socialized to be independent and self-reliant, whereas women are taught to place value on their relationships with others, and to form interdependent networks with those in their community for support.

Because women are more likely to be collectivists, they are thus more likely to internalize group feedback. Because collectivist socialization fosters an interdependent sense of self in which boundaries between oneself and others are less distinct, women will be more likely to derive their self-efficacy from the collective climate when given group feedback. In other words, they will be more likely to internalize group feedback than men. Given prior research in this domain, the following hypotheses are proposed:

**Hypothesis 4:** Women will score higher on the collectivism scale than will men.
Hypothesis 5: Collectivism will moderate the relationship between group feedback and self-efficacy such that the higher scores on the collectivism scale will indicate a stronger relationship between group feedback and self-efficacy.

Outcomes of the Internalization of Feedback on Self- and Collective-efficacy

Self-efficacy and collective-efficacy can often be highly correlated with one another (Bandura, 1997). Individuals rating their own ability (self-efficacy) to perform within a team seemingly would have to consider the performance of the other team members in making this evaluation. A strong correlation between self- and collective-efficacy has not received unanimous support however. In an attempt to differentiate between the two constructs, Parker (1994) conducted a study comparing teachers’ self-efficacy scores with their collective-efficacy scores. The teachers’ collective-efficacy beliefs were operationalized by measuring their confidence in their school’s ability to teach mathematics, reading, and language. Although significant correlations were found between self- and collective-efficacy levels for the ability to teach reading and language, the mathematics efficacy scores suggested independence between the two constructs. These findings demonstrate that, though in some domains collective-efficacy and self-efficacy beliefs are related, they may demonstrate a degree of independence in certain situations or within certain individuals.

Feedback has demonstrated a powerful influence on both self- and collective-efficacy levels in prior research (Kluger & DeNisi, 1996). Furthermore, the type of feedback given in a task-group setting, whether individual- or group-oriented, differentially predicts self- and collective-efficacy levels. Unfortunately, there has been a
dearth of research in the isolation of feedback’s effects on both types of efficacy levels, none of which has yet looked at gender differences in this relationship. Turner and Quinones (2003) found that individual feedback was a better predictor of self-efficacy than group feedback, and that group feedback predicted collective-efficacy better than did individual feedback. This finding alleviates some of the ambiguity surrounding the separate effects of individual and group feedback on both collective- and self-efficacy levels. When people perform a task both as an individual and together as a group, they are able to distinguish between their self- and collective-efficacy beliefs enough to form independent judgments of these beliefs when receiving feedback.

The question remains, however, as to whether the independence of these constructs remains when individual group members are given solely group feedback. Specifically, when only given group feedback, how do individuals form their respective self- and collective-efficacy judgments? One of the few studies aimed at examining the effects of group feedback on both self and collective-efficacy is Feltz and Lirgg’s (1998) study of hockey players. Their findings indicate that team victories (positive performance feedback) increased team-efficacy more than player-efficacy. That is, group feedback had more influence on collective-efficacy levels than on self-efficacy levels. Not yet understood is whether or not this effect is uniform across people and situations. Perhaps men and women demonstrate differences in the relationship between their self- and collective-efficacy beliefs.

Perceived contribution and collectivism may have an influence on the relationship between group feedback and self-efficacy. It seems likely that a manifestation of this influence lies in the consequent relationship between self- and collective-efficacy, after
receiving group feedback. Collectivist individuals are hypothesized to have a greater tendency to internalize group feedback, as are individuals who perceive that their contribution to the group task is large. Considering these relationships, in addition to the previously stated prediction concerning the relationship between task/gender congruence and feedback internalization, the following hypotheses are proposed:

_Hypothesis 6:_ Collectivism will moderate the relationship between self-efficacy and collective-efficacy such that collectivists will demonstrate stronger relationships between their self- and collective-efficacy after group feedback than will non-collectivists.

_Hypothesis 7:_ Perceived contribution will moderate the relationship between self-efficacy and collective-efficacy such that higher levels of reported perceived contribution will lead to stronger relationships between self- and collective-efficacy after group feedback.

_Hypothesis 8:_ Task/gender congruence will moderate the relationship between self-efficacy and collective-efficacy such that gender congruent tasks will lead to stronger relationships between self- and collective-efficacy after group feedback.

In summary, this study examines the extent to which men and women in a group internalize group feedback, and furthermore, what mechanisms underlie this internalization. This research could provide important information for managers and others who regularly give feedback, and I anticipate that the present study will uncover information that could be vital to the method in which organizations give group feedback to work-based teams.
Method

Participants

Participants consisted of 85 males and 109 female undergraduate and graduate students (194 in total) at a private southwestern university who either volunteered to participate or who received partial psychology course credit for participating.

Design

The design of this study is a 2 X 2 X 2 factorial, the independent variables being feedback (positive or negative), sex (men or women), task-type (socioemotional or task-oriented).

Procedure

Participants were recruited in groups of three from a sign up sheet, but were scheduled to arrive at staggered times and led into one of three small cubicle-like rooms that were adjacent to one another. This method allowed us to fabricate the appearance of a group arrival, if any of the four individuals failed to show. Participants could hear doors opening and shutting, substantiating that other group members were arriving. Upon arrival, the participants signed a consent form and completed the demographics measure. Participants were then given the brainstorming task, which by random assignment was either socioemotional-oriented or task-oriented. For the socioemotional task condition, participants wrote down on a piece of paper their ideas for how a group could become a cohesive and coordinated unit, and what socially facilitative behaviors would be necessary in achieving this aim. For the task-oriented condition, participants gave their
ideas for how a group could best achieve a task, and more specifically, what steps and procedures would be the most efficient and effective in performing a group task.

Participants believed they would be working as a group with the two other individuals in the adjacent rooms. After given the brainstorming task, participants learned that their response to the task was to be aggregated with the responses of the other group members, and that their performance on the task was then to be evaluated as a whole. After given these instructions, but before beginning the task, the participants filled out self-efficacy and collective-efficacy measures. They were then instructed to begin and given ten minutes to complete the brainstorming task.

After completion of this task, participants waited approximately ten minutes for it to be ostensibly evaluated. While waiting, they completed the neuroticism and collectivism measures. Then, depending on the condition to which the participant was assigned, he or she was given the false group feedback, which was either positive or negative. Feedback level was operationalized by giving the participants normative performance scores. They were given a piece of paper with their group’s performance rated in the top third percentile or the bottom third percentile in comparison to other groups. The evaluation of their responses was explained by comparing their group’s aggregated response to empirical research findings in group dynamics studies. Following this feedback, participants completed feedback acceptance and perceived contribution measures. They were then told that they were to complete another similar task, but before doing so, they were asked to complete self-efficacy and collective-efficacy measures again. After completing these measures, the participants were informed that they were not
required to complete the second task after all. Participants were then debriefed fully, thanked, and dismissed.

**Measures**

Except where otherwise noted, all measures were based on 5-point Likert scales anchored by (1) = “agree strongly” and (5) = “disagree strongly”, with (3) = “neither agree nor disagree”.

*Self-efficacy.* The self-efficacy measure was adapted from the Quinones (1995) study and consists of ten items relating to the perceived ability of performing the brainstorming task. A sample question from this measure is “I feel confident in my ability to perform this task effectively”. The scale demonstrated sufficient alphas at both administrations (i.e., .86 and .91).

*Collective-efficacy.* The same measure used to assess self-efficacy was used to measure collective-efficacy but the participants were instructed to rate their group’s ability of successfully performing the brainstorming task. The items were altered to reflect this change (e.g. “I feel confident in my group’s ability to perform this task effectively”). This scale yielded alphas of .88 and .93 at Times 1 and 2, respectively.

*Feedback acceptance.* A four-item scale, adapted from the Nease, Mudgett, and Quinones (1999) study, assessed the degree to which the subjects perceived the given group feedback to be accurate. A sample question is, “The feedback I received was an accurate evaluation of my performance”. This measure exhibited an alpha of .66.

*Collectivism.* The collectivism scale used was developed by Triandis (1996) and was designed to measure the degree to which a person exhibits collectivist attitudes and
cognitions. The measure has demonstrated high validity and reliability in previous studies. The scale yielded an alpha of .72 in the present study.

*Perceived contribution.* A three-item scale measured the degree to which participants felt that they contributed to their group. An additional fourth item assessed the percentage of contribution participants felt they gave toward the group performance. These scales were combined by converting all observed scores to z-scores, resulting in a four-item scale with an alpha of .68.

*Demographics.* Measure consisted of two demographic items: sex and race.

*Neuroticism.* A 20-item subscale of the IPIP (International Personality Item Pool) was used to assess the participants’ degree of neuroticism. This test has demonstrated high reliability in previous usages, and for the present study produced an alpha of 0.93.

**Results**

*Preliminary Analyses*

The distributions for the variables were all fairly normal, though self- and collective-efficacy had a slightly negative skew. Self-efficacy for both pre- and post-feedback measures ranged from 1 to 5 with a mean of 3.98 for prior self-efficacy and a mean of 3.91 for post-feedback self-efficacy. Collective efficacy ranged from 1 to 5 as well, with a pre-feedback mean of 3.97 and a post-feedback mean of 3.80. Descriptive statistics for all variables are reported in Table 1, along with correlations and reliability coefficients. Alpha values for the self- and collective-efficacy measures ranged from 0.86 to 0.93, and for the other measures ranged from 0.66 to 0.93. The perceived contribution measure, which was composed of items measured on two different scales, was standardized by converting all observed scores into z-scores. The new composite
Table 1
Means, Standard Deviations, Alphas, and Correlations for All Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>---</td>
<td>---</td>
<td>(---)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Race</td>
<td>---</td>
<td>---</td>
<td>-.08</td>
<td>(---)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Feedback sign</td>
<td>---</td>
<td>---</td>
<td>.00</td>
<td>.00</td>
<td>(---)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Task type</td>
<td>---</td>
<td>---</td>
<td>-.01</td>
<td>.07</td>
<td>-.03</td>
<td>(---)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Neuroticism</td>
<td>2.62</td>
<td>0.70</td>
<td>.11</td>
<td>.00</td>
<td>-.02</td>
<td>.01</td>
<td>(.93)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Feedback acceptance</td>
<td>2.77</td>
<td>0.70</td>
<td>.05</td>
<td>.01</td>
<td>.38**</td>
<td>.11</td>
<td>.11</td>
<td>(.66)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Collectivism</td>
<td>2.95</td>
<td>0.38</td>
<td>.08</td>
<td>.08</td>
<td>-.06</td>
<td>.01</td>
<td>-.18*</td>
<td>-.02</td>
<td>(---)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Perceived contribution</td>
<td>1.50</td>
<td>0.50</td>
<td>.07</td>
<td>.10</td>
<td>.34**</td>
<td>.01</td>
<td>.00</td>
<td>.35**</td>
<td>.00</td>
<td>(.68)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Self-efficacy (Time 1)</td>
<td>3.98</td>
<td>0.51</td>
<td>.12</td>
<td>.10</td>
<td>.12</td>
<td>.00</td>
<td>-.09</td>
<td>-.10</td>
<td>.01</td>
<td>.17*</td>
<td>(.86)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Self-efficacy (Time 2)</td>
<td>3.91</td>
<td>0.62</td>
<td>.02</td>
<td>.07</td>
<td>.30*</td>
<td>-.06</td>
<td>-.16*</td>
<td>-.06</td>
<td>-.03</td>
<td>.16*</td>
<td>.73**</td>
<td>(.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Collective-efficacy (Time 1)</td>
<td>3.97</td>
<td>0.51</td>
<td>.18*</td>
<td>.08</td>
<td>.12</td>
<td>-.03</td>
<td>-.02</td>
<td>.05</td>
<td>.20*</td>
<td>.29**</td>
<td>.58**</td>
<td>.43**</td>
<td>(.88)</td>
<td></td>
</tr>
<tr>
<td>12. Collective-efficacy (Time 2)</td>
<td>3.80</td>
<td>0.69</td>
<td>.11</td>
<td>.04</td>
<td>.48**</td>
<td>-.05</td>
<td>-.16*</td>
<td>.16*</td>
<td>.11</td>
<td>.36**</td>
<td>.40**</td>
<td>.68**</td>
<td>.51**</td>
<td>(.93)</td>
</tr>
</tbody>
</table>

Note.  N = 194.  Cronbach alphas are in parentheses.
* p < .05.  ** p < .01.
scale was factor analyzed in order to assure that the scale tapped only one factor, which was confirmed by this analysis.

**Main Analyses**

In testing Hypothesis 1, a Feedback Sign by Sex by Task (2 X 2 X 2) factorial analysis of covariance was performed on post-feedback self-efficacy, controlling for pre-feedback self-efficacy. All independent variables demonstrated homogeneity of regression slope in respect to pre-feedback self-efficacy, thus justifying its usage as a covariate. The results indicated a significant 3-way interaction, \( F(1, 185) = 4.01, p < .05 \). Figure 1 illustrates the nature of this interaction. As shown, the type of task played a role in post-feedback self-efficacy beliefs. The socioemotional task condition was more predictive of self-efficacy than the task-oriented condition for both males and females. Differences among genders exist for the task-oriented condition in that for the females, positive feedback increased consequent self-efficacy, whereas this pattern was reversed for males; positive feedback actually caused a slight decrease in self-efficacy for males.

Hypothesis 2 was tested by conducting a Feedback Sign by Sex (2 X 2) factorial analysis of variance on perceived contribution. The predicted interaction between the feedback and gender was not supported by the data, \( F(1, 190) = 2.60, p > .05 \).

Hypothesis 3, which predicted a Perceived Contribution by Feedback sign interaction on self-efficacy, was tested by a multiple regression. Regression results revealed a significant interaction (\( \beta = .54, p < .05 \)) (see Appendix A for all regression equations). To graph the interaction, a median split was used to dichotomize perceived contribution. Observations that were 1 SD above and below the median were used to form “high” and “low” perceived contribution scores. See Figure 2 for a graph of the
Figure 1. Plot of Feedback Sign by Sex by Task Interaction on Self-efficacy
Figure 2. Plot of Feedback Sign by Perceived Contribution Interaction on Self-efficacy
interaction. As the graph shows, high perceived contribution scores led to lower estimates of self-efficacy with negative feedback, and higher estimates with positive feedback, as compared to low perceived contribution scores.

Hypothesis 4 predicted that collectivism scores would differ by gender, and a linear regression was used to test this hypothesis. This prediction was not supported by the data ($\beta = .08, p > .05$).

A Collectivism by Feedback Sign interaction on self-efficacy was predicted by Hypothesis 5, and was assessed by performing a multiple regression. Results from the regression indicated that this hypothesis was not supported ($\beta = -.14, p > .05$).

The last three hypotheses predicted the respective effects of collectivism, task/gender congruence, and perceived contribution on the relationship between self-efficacy and collective-efficacy. A series of multiple regressions were performed, using the interaction between each of these variables and self-efficacy as the predictor of collective-efficacy. Only Hypothesis 7, predicting a Perceived Contribution by Self-efficacy interaction for the prediction of collective-efficacy, was supported by the data ($\beta = .70, p < .01$). Figure 3 illustrates the nature of this interaction. As can be observed from the graph, a stronger correlation between self- and collective-efficacy exists for those with high, as opposed to low, perceived contribution scores. Controlling for pre-feedback collective-efficacy in the other two regressions did not yield significantly different results, though the task/gender congruence interaction came close to being significant ($\beta = .61, p = .08$).
Figure 3. Interaction of Perceived Contribution by Self-efficacy on Collective-efficacy
Ancillary Analyses

Some additional analyses, not specifically related to the hypotheses of the present study, were conducted in order to obtain an overall picture of some of the main effects, and in an attempt to uncover other possibly relevant findings. To visually inspect differences among self- and collective-efficacy in response to group feedback, a comparison of these scores was examined. Figure 4 contains a graph that compares the effect of group feedback on both self- and collective-efficacy. To see whether or not the Feedback Sign by Task interaction was replicated for collective-efficacy as well as self-efficacy, a Feedback Sign by Task factorial analysis of variance was performed on collective-efficacy. Results indicate a significant interaction, $F(1, 190) = 5.51, p < .05$. Figure 5 contains a graphical depiction of this interaction, which shows the greater impact on collective-efficacy that the socioemotional task has across feedback, in comparison to the task-oriented condition. To further understand how perceived contribution differed across feedback, a univariate analysis of variance was performed, which found significant differences in perceived contribution depending on feedback sign, $F(1, 192) = 35.24, p < .01$. Specifically, perceived contribution increased with positive feedback.

Discussion

The results of this study partially support the idea that gender differences exist in feedback internalization. Additionally, the findings contribute to group research by highlighting the important role that perceived contribution plays in the process of group feedback internalization. The first hypothesis, which predicts that the relationship
Figure 4. Group Feedback Effects on Self- and Collective-efficacy
Figure 5. Plot of Feedback by Task Interaction on Collective-efficacy
between group feedback and self-efficacy would be moderated by task-gender
congruence was partially supported. Clearly women demonstrated this pattern; feedback
had a much stronger effect on self-efficacy for the socioemotional, rather than task-
oriented task condition. This is consistent with previous findings (Karakowsky & Siegel,
1999). Women did not demonstrate a significant feedback internalization effect for the
task-oriented condition, which was hypothesized.

The results for the men in the sample were surprising. Men did not internalize the
group feedback for the task-oriented condition, but feedback was internalized for the
socioemotional, or gender-incongruent task; men demonstrated higher self-efficacy
scores for positive feedback. The lack of a feedback effect on self-efficacy for both men
and women in the task-oriented task condition is somewhat perplexing. Women did
demonstrate somewhat more internalization than did men for this task. Perhaps women
were surprised when they received positive feedback for the gender-incongruent task-
oriented condition, and were happy to accept it, which would lead to a greater degree of
self-efficacy than it did for men. Perhaps the men in the sample expected to perform
even better on this type of task. The feedback that the participants received indicated that
their group was in the “top (or bottom) one-third percentile” of comparison groups.
Perhaps men, because of the importance they tend to place on social comparison
(Lenney, 1977), thought they could or should have done better than this normed feedback
suggests. For example, perhaps they thought their performance warranted a “top 5%”
evaluation.

Another explanation for this pattern of gender differences might be because of the
men’s high baseline self-efficacy in the negative feedback/task-oriented condition. This
indicates that men were more resistant to negative feedback for this gender-congruent task. Perhaps socialization processes have fortified men’s need for competence in highly structured tasks (Ridgeway & Johnson, 1990). Negative feedback in this domain might be perceived as a personal threat to their self-identity, and thus negative group feedback could be easily attributed to the other members of the group instead of themselves. Interestingly, men reported higher self-efficacy than women in both the positive and negative feedback conditions for socioemotional tasks. Women reported lower self-efficacy in the task-oriented condition than men, though their mean self-efficacy was even lower in the socioemotional, negative feedback condition.

The differences observed here among men and women in task-type on group feedback internalization definitely warrant further analysis. These gender differences reflect a disparity in underlying cognitions related to the way in which certain tasks are related to the sense of self. Perhaps a field study would yield different results; at the very least it would increase generalizeability. Also, a policy capturing approach might be useful for understanding what it is about certain kinds of tasks that cause men and women to differ in their degree of group feedback internalization. This approach could be carried out by administering a battery of specific tasks, and examining the similarities between those that cause differences in group feedback internalization.

In support of Hypothesis 3, the results suggest that perceived contribution moderates the effect of feedback on self-efficacy. Specifically, the greater a person’s feeling of contribution toward a group task, the more they internalize group feedback. The participants scoring high in perceived contribution had lower self-efficacy in the negative feedback condition and higher self-efficacy in the positive feedback condition.
than the subjects who rated themselves low in perceived contribution. This finding is interesting in that the participants had no basis upon which to make an accurate evaluation of their individual contribution to the group. They were given group feedback with no specific information about how the group’s responses were aggregated in order to produce the composite for which their group was evaluated. Yet still, the people in the high-perceived contribution group made contribution estimates that were strongly related to their self-efficacy after group feedback. Not surprisingly, estimates of perceived contribution were much higher in the positive feedback condition than in the negative feedback condition, across both task and gender.

The predicted moderating effect of gender on the relationship between feedback and perceived contribution was not supported. This result seems to diverge from related findings on gender and group participation/contribution in other studies (Stake & Stake, 1977). Considering the small, though consistent gender difference in self-efficacy that has been found in previous studies (Turner & Quinones, 2003), it was expected that women would be less likely than men to take credit for positive feedback, but more likely than men to take the blame for negative group feedback. A few explanations exist for the lack of support for this hypothesis. Because the feedback was rather ambiguous, women might have been less likely to take blame for negative feedback that they did not fully understand. In less ambiguous group feedback scenarios, this effect may very well be supported. Another possible explanation for not finding a gender difference in this domain might be a result of the lack of interaction among group members. The extant literature suggests that when women are in groups composed mostly of men, there is a
greater possibility that men and women will differ in their degree of feedback internalization (Schlenker, Salvatore, & McCarthy, 1976).

Collectivism did not demonstrate any significant correlations with the other variables of interest. Collectivism was positively correlated with collective-efficacy, though this finding does not relate specifically to any of the hypotheses. No gender differences were found in collectivism, which was counter to predictions. Women have demonstrated higher scores on measures of collectivism across all cultures (Mortenson, 2002), thus it was somewhat surprising that this effect was not replicated in the present study. It was hypothesized that those scoring higher on the collectivism scale would internalize group feedback more so than those who scored lower in collectivism. There was very little variance on the collectivism measure, which might have contributed to the lack of findings for this variable. The measure itself was not extremely reliable, which might also have been part of the problem. The effects of collectivism on group feedback internalization might be better explored cross-culturally, which would be an interesting direction for future research.

The last three hypotheses related to the moderating effects of perceived contribution, collectivism, and task/gender congruence on the relationship between self- and collective-efficacy. A strong relationship between self- and collective-efficacy was predicted to be the outcome of feedback internalization. Group feedback has demonstrated a strong effect on collective-efficacy in past research (Feltz & Lirgg, 1998; Turner & Quinones, 2003), and this was replicated in the present study. It follows then that as group feedback internalization increases, the stronger the relationship between self- and collective-efficacy. The hypothesis that collectivism would moderate the
relationship between these two constructs was not supported, which is expected, considering the lack of support for the other hypotheses relating to collectivism.

The prediction that task/gender congruence would moderate the relationship between self- and collective-efficacy was also not supported. This finding is not entirely surprising since, as discussed in reference to the first hypothesis, both men and women were more likely to internalize feedback for the socioemotional task. This task was gender-congruent for females but gender-noncongruent for males. Though some gender differences were found when feedback was added to the predictor equation, this study can be included among other studies that have failed to find a clear-cut gender difference in self-efficacy toward gender-congruent/non-congruent tasks (Anderson & Blanchard, 1982).

The influence of perceived contribution in feedback internalization was again supported, this time in reference to the outcome of feedback internalization. Perceived contribution was found to moderate the relationship between self- and collective-efficacy. The greater one's feeling of contribution towards a group task, the closer is the alignment between their self- and collective-efficacy after receiving feedback on the task. For example, if people feel that they have contributed a great deal to a group task, and receive negative feedback, their self-efficacy is affected, as discussed previously. Because the relationship between group feedback and collective-efficacy is so strong, self-efficacy will necessarily be related more strongly to their collective-efficacy, post-feedback. This finding makes intuitive sense, but until this study, had not been empirically tested. The results from this study show how perceived contribution links up group feedback, self-
efficacy, and collective-efficacy. This linkage provides evidence of the importance of self-efficacy in the relationship between group feedback and collective-efficacy.

Future research in this area might be directed toward testing how the findings in the present study would hold up for different races or race/gender combinations of people. Racial differences might predict group feedback internalization, and it would be particularly interesting to look at gender differences within certain racial categories. The sample from this study was too racially homogenous to get at these differences, but recruitment of a more diverse subject pool could allow for these kinds of studies.

Implications and Future Research

There are a variety of implications for the findings uncovered in the present study. This study is the first to examine both the individual differences and contextual issues that might contribute to the internalization of group feedback by individual members of the group. Although the data was not unilaterally supportive of all hypotheses, the obtained results call into question the assumption that group feedback affects all members of a group in the same way. These results demonstrate that group feedback might be interpreted differently by individual members of the group, depending on the gender-congruence of the task, and the degree of contribution that each group member perceives they have made to the group task. A group member’s perceived contribution might stand in stark contrast to their observed, objectively-rated contribution, thus this cognition is not necessarily visible. Though an individual group member’s contribution to the group task might seem unambiguous to an outsider, or even to all other group members, the member’s perception of their contribution might contradict these beliefs. In consequence, group feedback for individuals such as these might cause unexpected
effects on self- and collective-efficacy that could influence motivation for future group tasks.

From an applied standpoint, the findings from this study suggest that managers, or any others who are responsible for administering group feedback, should be aware of differences among group members when forming their expectations of how group feedback will affect a group and their future performance. Group feedback is often the only type of feedback that a group or team will receive after performance. Managers should specify the outcomes that they expect to result after administering group feedback, and then assess whether differences in group members' tendency to internalize group feedback might affect these outcomes. Situations might arise for which individual and group feedback should be given conjointly, if there is justified doubt that group feedback will be internalized in the manner expected. As noted previously, self- and collective-efficacy are strongly related to motivation (Bandura, 1986). Group feedback could have various consequences for motivation, depending on the degree to which feedback is internalized. For example, to increase motivation and learning in group training contexts, development of differential training techniques might be necessary, depending upon the gender composition of the group and the trained task

Limitations

As is always the case in lab studies, there are a variety of limitations that must be considered in the interpretation of the results (or lack thereof). One limitation that existed in the present study relates to the lack of variability in the sample. The sample consisted of undergraduate and graduate students at a competitive academic institution, and thus gender differences are less likely to be found. There is not a lot of variability in
self-efficacy, since the vast majority of students have such a high base level for most tasks. Also, some of the scales for the measured variables had only moderate reliability, which has the tendency to decrease correlations among variables.

Lastly, there are some difficulties inherent in engendering a true feeling of “groupness” among people with a lack of actual group interaction, though this problem exists even when group interaction is allowed. This factor might have led to smaller effect sizes, though if groups members did interact with one another, a number of possibly confounding variables, such as group composition and personalities of other members might have been affected the data. This study was conservative in its approach, which led to a much more controlled situation than would be allowed in group interaction scenarios. Admittedly, the generalize ability of these findings cannot be assured.

Conclusions

In summary, these results demonstrate how individual differences and cognitions can affect the group feedback internalization process. Group feedback, though aimed at the group as a whole, may have discrete effects on the individual members of that group, depending upon the individual’s gender, and the type of group task. Additionally, the important role of perceived contribution in the feedback internalization process is underscored by the empirical support that this study supplies for its relationship to self-efficacy in group feedback scenarios.
References


Appendix A
Regression Equations

Hypothesis 3: $\hat{y}_{SE2} = \beta(fdbk) + \beta(\text{contrib}) + \beta(fdbk*\text{contrib})$

Hypothesis 4: $\hat{y}_{Collec} = \beta(\text{Gender})$

Hypothesis 5: $\hat{y}_{SE2} = \beta(fdbk) + \beta(\text{collec}) + \beta(fdbk*\text{collec})$

Hypothesis 6: $\hat{y}_{CE2} = \beta(\text{SE}) + \beta(\text{collec}) + \beta(\text{SE*collec})$

Hypothesis 7: $\hat{y}_{CE2} = \beta(\text{SE}) + \beta(\text{contrib}) + \beta(\text{SE*contrib})$

Hypothesis 8: $\hat{y}_{CE2} = \beta(\text{SE}) + \beta(\text{congruent}) + \beta(\text{SE*congruent})$
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Appendix E
Perceived Contribution Measure

1. Please give the percentage value of what you think is probably representative of your contribution to the group task. As a general guide, if you feel that your input was the primary contributor to the group task, enter “100%” in the blank below. If you feel that your input was not at all reflected in the group task, respond with 0%. To whatever extent you feel somewhere between these two extremes, indicate that number in the blank below.

_____ %

2. I feel that my individual contribution to the group task probably played a large role in the final product.

   1  2  3  4  5
   Strongly Disagree
   Strongly Agree

3. My individual performance had little influence on the group task

   1  2  3  4  5
   Strongly Disagree
   Strongly Agree

4. I feel responsible for the final group outcome.

   1  2  3  4  5
   Strongly Disagree
   Strongly Agree
Appendix F
Neuroticism Measure (International Personality Item Pool)

This questionnaire contains phrases describing people’s behaviors. Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself. Your responses are anonymous. Please read each statement carefully, and then fill in the blank with the number that corresponds to your response.

Response Options:

1 = Very Inaccurate
2 = Moderately Inaccurate
3 = Neither Inaccurate nor Accurate
4 = Moderately Accurate
5 = Very Accurate

1. I am relaxed most of the time.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

2. I seldom feel blue.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

3. I am not easily bothered by things.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

4. I rarely get irritated.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

5. I seldom get mad.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

6. I get stressed out easily.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

7. I worry about things.
   1  2  3  4  5
   Very Inaccurate  Very Accurate

8. I am easily disturbed.
   1  2  3  4  5
   Very Inaccurate  Very Accurate
   1  2  3  4  5
   Very Inaccurate  Very Accurate

10. I change my mood a lot.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

11. I have frequent mood swings.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

12. I get irritated easily.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

13. I often feel blue
    1  2  3  4  5
    Very Inaccurate  Very Accurate

14. I get angry easily
    1  2  3  4  5
    Very Inaccurate  Very Accurate

15. I panic easily
    1  2  3  4  5
    Very Inaccurate  Very Accurate

16. I feel threatened easily.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

17. I get overwhelmed by emotions.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

18. I take offense easily.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

19. I get caught up in my problems.
    1  2  3  4  5
    Very Inaccurate  Very Accurate

20. I grumble about things.
    1  2  3  4  5
    Very Inaccurate  Very Accurate
Appendix G
Brainstorming Task (Socioemotional condition)

Please read the paragraph, and answer the questions.

Imagine that for one of your classes, the professor has assigned a semester-long group project, and has placed everyone into groups of four. A large percentage of your individual grade will be based upon the grade your group receives for the project. In the past, the professor has found that groups that are able to solve inevitable conflict through open communication and sharing of feelings about fairness are more likely to succeed. Groups whose members foster positive interpersonal relationships among one another become more cohesive and thus create a more supportive group environment. Considering this information, what ideas do you have for the facilitation of cohesion and camaraderie within the group? Similarly, how would you build up relationships of trust and respect between the individual group members?

Your response to this question will be evaluated more in terms of the QUALITY, rather than merely the quantity, of your ideas. Your response, along with the responses of your other two group members, will be combined in order to assess how well the group did as a whole. The group will then be given feedback on how well their combined answers would achieve the stated objective of the brainstorming task. Please feel free to use the back of this paper if necessary. You do not need to put your answers in paragraph form.
Appendix H
Brainstorming Task (Task-oriented condition)

Please read the paragraph, and answer the questions.

Imagine that for one of your classes, the professor has assigned a semester-long group project, and has placed everyone into groups of four. A large percentage of your individual grade will be based upon the grade your group receives for the project. In the past, the professor has found that groups that maximize the time in their meetings by staying rigidly task-focused and resisting the temptation to waste time chatting amongst each other, maintain a higher level of performance and obtain better grades than other groups that are not as structured. Considering this information, what ideas do you have for the efficient and timely completion of the task? How would you keep other group members task-focused during your group meetings?

Your response to this question will be evaluated more in terms of the QUALITY, rather than merely the quantity, of your ideas. Your response, along with the responses of your other two group members, will be combined in order to assess how well the group did as a whole. The group will then be given feedback on how well their combined answers would achieve the stated objective of the brainstorming task. Please feel free to use the back of this paper if necessary. You do not need to put your answers in paragraph form.
Appendix I
Feedback Forms

(Task-oriented feedback)
Your group’s response to the brainstorming task was compared with empirically tested methods of increasing and maintaining high efficiency and productivity in group task performance. Group dynamics researchers have studied groups in a multitude of contexts, and have developed widely supported theories of group productivity. They have created a set of optimal responses to this brainstorming task, as well as a key with which to evaluate a group’s responses to the task. Based on the comparison of your group’s response to these experts’ evaluation system, your group scored in the:

__________________________ percentile

(Socioemotional feedback)
Your group’s response to the brainstorming task was compared with empirically tested methods of creating an atmosphere for group cohesion and positive socioemotional activity. Group dynamics researchers have studied groups in a multitude of contexts, and have developed widely supported theories of group coordination and cohesion. They have created a set of optimal responses to this brainstorming task, as well as a key with which to evaluate a group’s responses to the task. Based on the comparison of your group’s response to these experts’ evaluation system, your group scored in the:

__________________________ percentile
Appendix J
Experimenter Guide

Experimental Procedure

- Upon arrival, lead each subject directly into a cubicle room and have them sign a consent form. Try not to have participants see one another.
- If not all of the participants show up, open and shut doors, talk, and generally try to simulate the arrival of more people. Or, if only one person is signed up, tell this person that all the other group members are there already.
- Once participants have arrived and are in their cubicle rooms, give them the consent form and demographics measure.
- Tell them that they will be working as a group with two other participants in the adjacent rooms, but that we are studying web-based teams so there will be no face-to-face interaction. Let them know: (a) that they will be performing a brainstorming task, (b) that their individual performance will be aggregated with the other group members’ performance, and (c) that the group’s performance of the task will be evaluated as a whole.
- Give students one of the two brainstorming tasks, depending on what condition they were assigned.
- Have the participants read over the instructions for the task, but before allowing them to start, give them the self- and collective-efficacy measures. Tell them that after they have completed the form, they will have 10 minutes to complete the task.
- Leave the room for ten minutes while the participants work on the brainstorming task.
- After ten minutes, collect the task and ask them to wait about ten minutes while their responses are aggregated with their group members’ responses, and then evaluated.
- Ask them to complete “a variety of questions about yourself”, which in definitive terms will be the collectivism and narcissism measures.
- After ten minutes pass, give them the slip of paper with the false group feedback (pre-assigned, either positive or negative) that corresponds to their task condition.
- Ask participants to complete “some questions evaluating how you feel about the feedback you were given” (feedback acceptance measure) and “about your feeling of contribution toward the group task” (the perceived contribution measure).
- After the participants complete these measures, tell them that they are going to perform another brainstorming task, similar to the group dynamics situation in the previous task. Then, ask them to fill out the self- and collective-efficacy measure.
- After the subjects fill out these measures, inform them that in fact, the experiment is over.
- Give subjects a debriefing statement. Emphasize necessity of not telling classmates about the experiment. Ask if there are any questions, then dismiss them.