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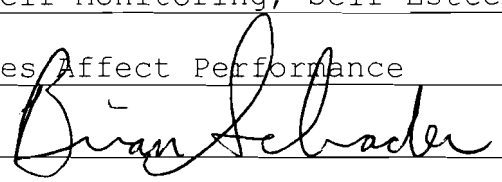
Abstract approved: 

This study investigated the effects of self-monitoring, self-esteem, and multiple feedback sources on performance. Participants were 142 Developmental Psychology students from a small mid-western university who completed the Rosenberg Self-Esteem Inventory and the Snyder Self-Monitoring Scale before participating in two group presentations. Participants were given feedback on their performance from a combination of self, instructor and peer feedback depending on the condition they were assigned. Results indicated that feedback does play a role in performance improvement. In addition, feedback systems with more than one source of feedback produce significantly greater performance improvement than those with just one source of feedback, suggesting that multi-source feedback systems are more effective than the traditional top-down feedback systems used by most organizations today.

AN EXAMINATION OF INDIVIDUAL DIFFERENCES AND FEEDBACK SYSTEMS: HOW SELF-MONITORING, SELF-ESTEEM, AND MULTIPLE FEEDBACK SOURCES AFFECT PERFORMANCE

A Thesis

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CHAPTER 1

INTRODUCTION

Multi-source feedback systems are becoming increasingly popular in the business world today (Atwater, Waldman, & Brett, 2002; Dalessio, 1998; Luthans & Peterson, 2003). With this increased popularity have come questions about the actual effectiveness and usefulness of such systems. Furthermore, Adsit (as cited in Luthans & Peterson, 2003) argues that the degree to which individuals use their feedback results depends on individual differences.

To date, not much research has been conducted regarding how individual differences relate to the use of multi-source feedback systems (Dominick, Burne, & Reilly, 2004). Moreover, personality characteristics may play a significant role in the usefulness of multi-source feedback systems (Dominick et al., 2004; London & Smither, 1995). However, evidence supporting this relationship is still needed.

Determining this information regarding personality and multi-source feedback systems would make it easier for employers to customize these feedback programs for individual employees, thus maximizing their effectiveness and ability to produce a needed behavior change and

performance improvement. Therefore, the purpose of this study is to identify if and how the individual personality characteristics of self-esteem and self-monitoring affect the usefulness of multi-source feedback systems and to determine if multi-source feedback systems are actually more effective than the top-down feedback methods used in the past.

In order to fully understand individual differences in multi-source feedback usefulness, a review of the relevant literature is required. In addition to multi-source feedback systems, the role of both the control theory of motivation and individual differences will also be included.

Review of the Literature

Multi-Source Feedback Systems

According to Dalessio (1998), multi-source feedback systems can be defined as evaluations that are gathered from two or more rating sources. These rating sources most often include sources such as: self, supervisors, subordinates, peers, direct reports, internal customers, external customers, and vendors or suppliers. Multi-source feedback systems are used as a source of performance appraisal, which is the process by which an individual's performance is evaluated based on sets of standards, by

which is relayed to the individual (Mathis & Jackson, 2005). Performance appraisal information, such as the multi-source feedback system, serves two main purposes. First, the feedback can be used for administrative purposes such as determining salary, wages, and promotion opportunities. Second, the feedback may serve developmental purposes where it is used to identify the individual's strengths and weaknesses in order to improve performance (Dalessio, 1998). Multi-source feedback systems, also referred to as 360 degree feedback systems, were developed because it has become evident that the supervisor is not the only source of performance appraisal information that can be provided to an individual (Mathis & Jackson, 2005).

Luthans and Peterson (2003) suggest that one out of every five organizations use multi-source or 360 degree feedback systems. Multi-source or 360 degree feedback systems allow organizations and companies to gather information about developmental needs from a variety of sources, helping the organization align their feedback systems with the less hierarchical business culture of today (Luthans & Peterson, 2003). Organizations have begun to recognize that having numerous perceptions of the multidimensional nature of jobs will help in guiding organizational development (London & Smither, 1995).

Advantages of multi-source feedback systems. Multi-source feedback systems have numerous advantages that help them to produce better results over the traditional top-down feedback method (Church & Bracken, 1997). Multi-source feedback systems allow the ratees to receive information about how they are being perceived which, in turn, gives them more information for improvement. Multi-source feedback systems also offer ratees the opportunity to collect ratings and feedback from different groups that may have special insights about their abilities and/or performance (Hellervik, Hazucha, & Schneider, 1992; Luthans & Peterson, 2003).

In addition to these advantages, multi-source feedback systems have been demonstrated useful as developmental tools (Dominick, Burne, & Reilly, 2004). Furthermore, Dominick et al.(2004) argue some key findings regarding multi-source feedback systems. They suggest that multi-source feedback systems help foster behavior change. Moreover, this behavior change can be sustained over time. Furthermore, Dominick et al. (2004) suggest that self-regulatory theories of motivation, such as control theory, can help to explain ratee reactions to multi-source feedback.

Multi-source feedback has also been shown to be a valid tool for individual performance improvement (Wallis, 2003). Furthermore, Atwater et al. (2002) also suggest that multi-source feedback systems have demonstrated the ability to increase overall performance. This, in turn, provides us with evidence that some sort of behavior change is taking place.

Role of self-awareness. Dominick et al. (2004) suggest that improvement in overall performance is more likely to occur if individuals are able to see differences in how they perceive themselves compared to how others perceive them. Furthermore, the first step in utilizing multi-source feedback systems for performance improvement is self-awareness. Self-awareness is the degree to which an individual understands his or her own strengths and weaknesses (Fletcher & Baldry, 2000).

Self-awareness can be developed by determining the discrepancy between self-ratings and the ratings of others (Luthans & Peterson, 2003). Studies show that, on average, there is a lack of agreement between self-ratings and the ratings of others thus producing a discrepancy (Harris & Schaubroeck, 1988). Moreover, self-ratings tend to be slightly higher than the ratings of others (Luthans & Peterson, 2003). This lack of agreement allows ratees to

examine the discrepancy, become aware of their developmental needs, and make changes in their behavior accordingly (Atwater et al., 2002). Korman (1970) stated that this change indicates self-consistency theory. When individuals get an insight that there is a discrepancy between others and themselves in terms of ratings, they are motivated to eliminate this discrepancy thus restoring cognitive balance (Korman, 1970).

Feedback usefulness. Although the opportunity to use feedback for developmental change is available through multi-source feedback, the actual usefulness of the feedback ultimately depends on the individual. Furthermore, Adsit (as cited in Luthans & Peterson, 2003) argued that the degree to which individuals use their feedback results for development is a function of how they react to it. Atwater et al. (2002) also argue that the individual's reactions are important when they state the following:

> Understanding leader's attitudes and reactions to multi-source feedback is important because theory and research suggests that the ways in which individuals react to feedback is a critical determinant of whether or not they will take actions to improve following feedback. (p. 200)

Luthans and Peterson (2003) furthered this idea when they suggested that understanding personality factors associated with multi-source feedback reactions help foster a professional development environment.

Dominick et al. (2004) argued that behavior change, resulting from multi-source feedback systems, can be explained using the control theory of motivation. This literature review will now turn to the control theory of motivation and its systematic role in the effectiveness of the multi-source feedback system.

Role of Control Theory of Motivation

Although goal-setting theory has continued to increase in popularity in recent years, it fails to address the issue of self-regulation and how individuals react to different performance environments (Donovan, 2001). This issue has led researchers, such as Donovan, to the control theory of motivation, which is classified into two models: the original cybernetic model and the rational model. The original cybernetic model of control theory can be traced back to Wiener's 1948 work on cybernetics (Boekaerts, Pintrich, & Zeidner, 2000). Wiener developed the idea of cybernetics which was based, in part, on work done in the engineering field. Wiener proposed the idea of a negative feedback loop to explain behavior. Wiener's work was later

expanded in 1978 by Power when he developed the Perceptual Control Theory. This theory, unlike the others, was a theory of human systems. Power adapted Wiener's original model by adding an input function and disturbance to the other pieces which included a reference signal, output, compensator, and effector. Power suggested that these pieces work together to control human behavior. Control theory evolved in the early 1980s to the Rational Model of Control Theory (Boekaerts et al., 2000) which has continued to make itself useful in modern literature

According to Carver and Scheier (1981), control is defined as "sequencing that is implicit in a series of instructions, each of which awaits the execution of a previous instruction and upon which the execution of a subsequent instruction depends" (p. 15). In theory, this less mechanistic approach means that control is based on a series of events or processes; each of which is dependent on the event or process preceding it. Carver and Scheier's control theory consists of what they term a feedback loop which is made up of four pieces (see Figure 1): the standard or goal, the sensor or input function, the comparator, and the effector or output function. The standard or goal is an individual's desired behavior or outcome.

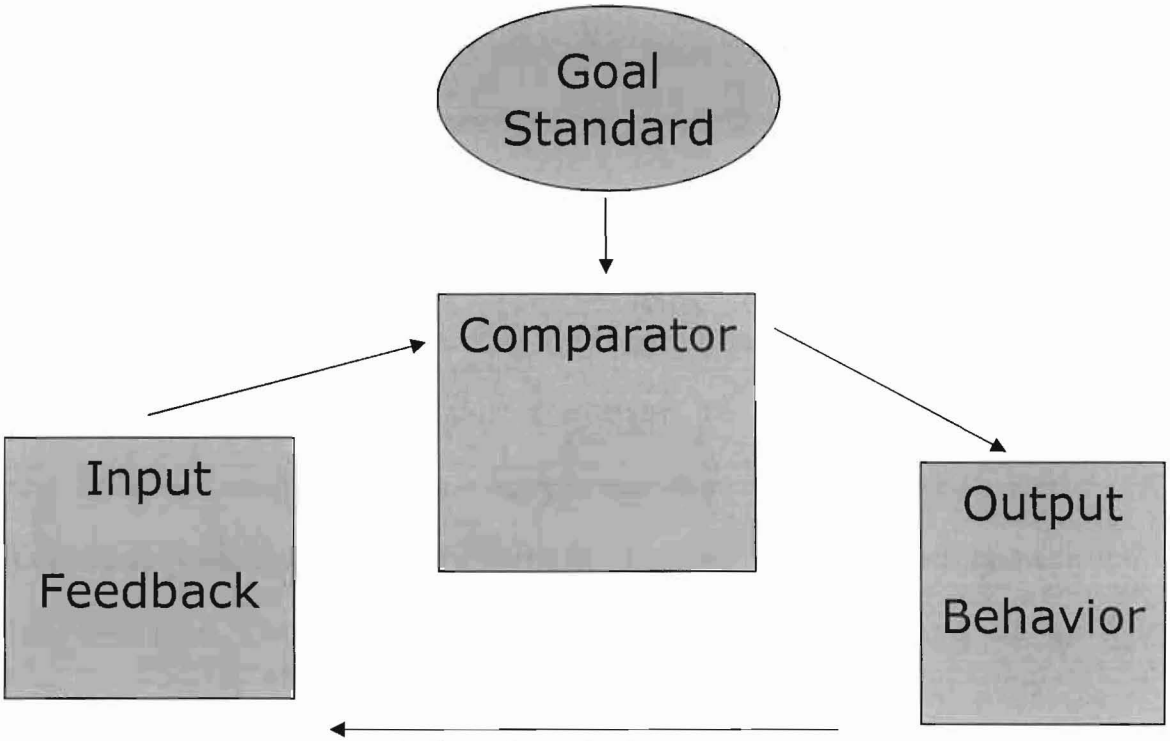

Figure 1. The Control Theory of Motivation

Adapted from C. S. Carver and M. F. Scheier, 1981, *Attention, and self-regulation: A control theory approach to human behavior.* Springer-Verlag Inc.

For instance, a student's standard may be to receive a grade of an A on an upcoming project. The sensor or input is the feedback that is received about the current behavior or goal state. In our example this would be a peer or teacher evaluation of the student's performance in regards to the project. The comparator does just that, compares the current goal state with the desired goal state. Finally, the effector or the output function is the behavior change the student exhibits to reach the desired standard. For example, the student may decide to add graphs and charts to improve the project and reach the desired standard of an A grade.

Miller, Galanter, and Pribram (1986) describe the T.O.T.E. system of self-regulation (see Figure 2). This T.O.T.E. system stands for test-operate-test-exit and is a prime example of Carver and Scheier's definition of control. Just as in the definition above, the T.O.T.E. system works based on a series of processes. First, is the "test" process. This process is a comparison between an existing state and some predetermined standard. This would be similar to a student comparing their current status in psychology class to their predetermined goal. The system then has two options: either the existing state differs from the standard (current status is different from goal)

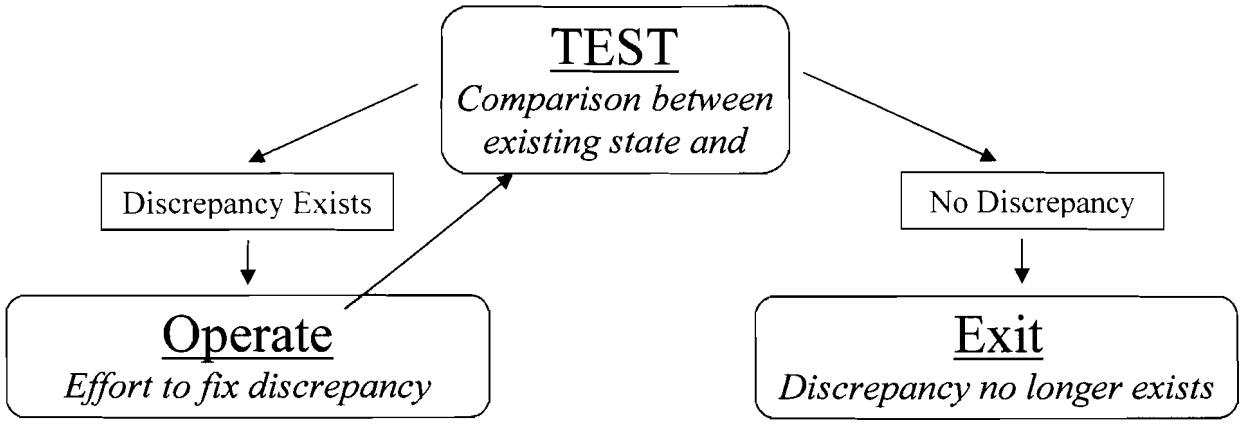

Figure 2. The T.O.T.E. System

Adapted from G. A. Miller, E. Galanter, and K. H. Pribram, 1986, *Plans and the structure of behavior*. Adams Bannister Cox.

or it does not (current status and goal are identical). If a discrepancy exists, then the system begins to "operate." In the student example above, the student would either increase effort toward the goal state or decrease effort toward the goal state. After the operation has occurred the system is transferred back to the "test" process where it is again tested for discrepancies. The entire process repeats itself until no discrepancy exists. The system then reaches the last process in the T.O.T.E. system, termed "exit". This means that all discrepancies between the existing state and the predetermined standard have been operated on and fixed. Therefore, the discrepancy disappears and there is no longer a need to test (Miller et al., 1986).

Because each process within the system is dependent on another process in the system the system operates as a feedback loop just as first proposed by Wiener. There are two types of feedback loops, negative and positive. Positive feedback loops can be considered anti-goal. This means that positive feedback loops are concerned with enlarging discrepancies that exist between the current state and standard. For example, a teenage girl is going through her rebellious stage. Therefore, she is trying every thing in her power to defy her parents. She compares

her current self to the standards set by her parents. Because she is trying to rebel against her parents, she wants to increase any discrepancies she finds, thus creating a positive feedback loop. Negative feedback loops are just the opposite; they are concerned with reducing any discrepancy that may exist between the current state and the standard. The student example mentioned previously represents a negative feedback loop because the student is trying to reduce or negate any discrepancy that may exist (Carver & Scheier, 1981).

Although the original cybernetic model and the more recent rational model of control theory both focus on how individuals gather and evaluate environmental feedback to regulate behavior; the rational model has come with a few modifications (Donovan, 2001). The rational approach recognizes that the mere presence of a goal-behavior discrepancy does not automatically trigger a self-correcting process like that of the original cybernetic model. Instead, individuals must be aware of that discrepancy in order for the self-correcting process to begin. Furthermore, the goal in which the individual is striving to achieve must also be important to the individual. Importance of the individual goal will determine whether or not the individual will tolerate the

goal-behavior or not. Williams, Donovan, and Dodge (2000) stated that some individuals are likely to tolerate a small goal-behavior discrepancy; therefore, in order for self-regulation to occur the goal must be important and the magnitude of the discrepancy worth correcting (Donovan, 2001).

This type of control process has been frequently used to explain how multi-source feedback systems lead to a change in behavior. This change in behavior often leads to performance improvements. Hellervik et al. (1992) suggested that there are five steps in changing behavior which include: (a) assessment of the need for change, (b) assignment of standards, (c) formation of a plan to achieve these standards, (d) expression of new behaviors in a change environment and (e) generalization of behavior to one's own daily environment. Hellervik et al.'s (1992) statement suggested the workings of the control theory of motivation within the multi-source feedback system. In fact, Carver and Scheier (1981) also suggested that two things must first happen in order for a behavior change to occur. First, the individual must focus attention on his or her own behavior. Second, the individual must self-regulate his or her behavior according to whether or not he or she believes a discrepancy between the observed behavior and

desired behavior or goal exists. These two components to behavior change can be seen in the control theory of motivation. Because control theory is concerned with self-regulation, it depends on a feedback loop, as described earlier, that helps to provide individuals with a means of tracking how close they are to a particular goal state (Klein, 1989). This theory implies that humans are in a constant state of seeking feedback (Pinder, 1998).

Pinder (1998) suggests that these pieces can be better understood if related to a thermostat. The standard or goal could be considered similar to the desired temperature of a room. The sensor or input function is the monitoring of the current temperature in the room. The comparator is the device which compares the desired temperature to the current temperature and the effector or output function would be the air conditioner or heater being activated which helps to reach that desired temperature.

Furthermore, because multi-feedback systems provide the individual with the opportunity to use the feedback system within the control theory of motivation it is easy to see how both multi-source feedback systems and control theory go hand in hand in creating a behavior change amongst an individual (Dominick et al., 2004).

Role of Individual Differences

Although research has found multi-source feedback to be popular and of great use the role of individual differences has yet to be studied in great detail. Moreover, not much is known about how individual differences affect reactions to multi-source feedback (Dominick et al., 2004). As personality tends to be an excellent source for measuring individual differences it is an ideal variable to study within this context (Barrick & Mount, 1991). Additionally, even though significant amounts of research on this topic have not been conducted many researchers (e.g., Brockner, Mikulincer, Kluger & DeNisi, as cited in Dominick et al., 2004; Fedor, Rensvold, & Adams, 1992; Wallis, 2003) claim that personality may still play an important role in the reactions towards individual feedback.

Carver and Schier (1981) suggested that personality itself is a system of goals and preferences. These systems of goals and preferences are likely to have an influence on the types of self-regulation information which we decide to process (Dominick et al., 2004). Furthermore, Fletcher and Baldry (2000) suggested that personality may play a distinct role in self-awareness which, as mentioned previously, is the key to one's self-regulatory processes.

Since self-regulation is vital to both control theory and feedback systems, knowing how personality variables affect these processes should be a question of great interest to both researchers and practioners alike. Such information would make it easier for employers to customize multi-source feedback programs for individual employees thus maximizing their effectiveness and ability to produce a needed behavior change.

As mentioned before, little is known about how specific personality variables affect feedback and self-regulation. However, the roles of self-esteem (Dominick et al., 2004; London & Smither, 1995) and self-monitoring, (London & Smither, 1995) have been linked to self-regulation and feedback systems. Although self-monitoring and self-esteem do not in themselves determine an individual's personality, they do play a role in the development of overall personality. Therefore, self-esteem and self-monitoring will now be focused on in more detail.

Self-esteem. According to Rosenberg (1989), self-esteem can be defined as "a positive or negative attitude toward a particular object, namely the self" (p. 30). Coopersmith (1967) define self-esteem as the "personal judgment of worthiness that is expressed in the attitude the individual holds toward himself" (p. 14). In other

words, self-esteem is how individuals think about and evaluate themselves (Wells & Marwell, as cited in Mruk, 1995). Self-esteem is made up of two facets: competence and self worth, and self worth is the sum of both self-confidence and self-respect (Branden, 1969). Self-esteem is determined by comparing an individual's ideal self to his or her self-concept (Pope, McHale, & Craighead, 1988).

Low self-esteem is characterized by self-rejection, self-dissatisfaction, and self-contempt. Those who are low in self-esteem often lack respect for the self that they observe (Rosenberg, 1989). Individuals who are low in self-esteem often underestimate their abilities, leading them to attempt less challenging goals. Furthermore, those low in self-esteem often lack clarity about their self. This lack of clarity leads individuals to keep their aspirations low because they truly do not know what they are capable of. On the other hand, individuals who are high in self-esteem are just the opposite. High self-esteem can be described as a feeling that one is "good enough" (Rosenberg, 1989, p. 31). Rosenberg (1989) also stated that individuals high in self-esteem feel as if they are individuals of worth and often have a great deal of respect for themselves. However, they do not stand "in awe" of themselves (p. 31). These individuals set relatively high goals and are also very

concerned with enhancing their public image. When it comes to performance, high self-esteem individuals tend to overestimate their performance while individuals with low self-esteem underestimate theirs (Harris & Schaubroeck, 1988).

When it comes to self-esteem and feedback, the results are somewhat mixed (Baumeister, 1993). Although individuals high in self-esteem often have superior performance, they often receive negative feedback from others due to their overestimated performance thus creating a discrepancy. Nevertheless, these individuals bounce back after receiving negative feedback to work harder than ever. Those high in self-esteem also tend to be more optimistic about future performance than those with low self-esteem (Baumeister, 1993).

Because self-esteem focuses on one's self-concept, it should be considered frequently when an individual self-regulates such as he or she does when using a multi-source feedback system. Moreover, Luthans and Peterson (2003) and Funderburg and Levy (1997) suggested that individuals who are high in self-esteem will have more favorable attitudes towards feedback. Individuals who are low in self-esteem may see feedback as a threat to their self-concept while individuals high in self-esteem see feedback as an

opportunity for growth and a way to enhance their public image. Therefore, those high in self-esteem should see performance evaluations from their peers and supervisor as an opportunity to make improvements, thus using the multi-source feedback programs to their advantage producing a behavior change which, in turn, increases their performance significantly.

Self-monitoring. According to Snyder (1987), almost everyone tries to control the impressions that they make on others. In fact, for some this is a way of life. Snyder (1974) suggested that everyone differs in how they regulate themselves in a social context. This regulation is what is referred to as self-monitoring or self-monitoring theory. Self-monitoring theory is concerned with how an individual promotes and develops their public appearance (Gangestad & Snyder, 1991; Synder, 1974; Snyder, 1987). In addition, Snyder (1974) defined self-monitoring as the extent to which individuals differ in their control of self-presentation behaviors. Self-monitoring is closely related to impression management; however, impression management is much more than just self-presentation (Caligiuri & Day, 2000).

Those who are high self-monitors show more control over their social behaviors and regulate these behaviors to

specific social situations. High self-monitors are very sensitive to the situational appropriateness of their social behavior and use cues to monitor their behavior and self-presentation (Snyder, 1987). Low self-monitors, however, are more apt to project a stable self which is consistent with their own inner beliefs and attitudes (Czellar, 2003; Snyder, 1987). Low self-monitors are not as concerned with constantly assessing the social climates around them. In fact, low self-monitors are less attentive to the social information presented to them about the appropriateness of self-presentation; therefore, low self-monitors do not possess a lot of self-presentation skills. Their behavior is consistent in nearly all social situations even if it means going against these social environments (Snyder, 1987).

Gangestad and Snyder (2000) suggest that high self-monitors will attempt to create public images that suggest social status and utilize such images to try and enhance their current social status while low self-monitors are contrarily motivated by their own personal accomplishments and values.

In terms of multi-source feedback, an individual's level of self-monitoring could suggest how they perceive the feedback they are given and how they choose to utilize

it. High self-monitors are concerned with performance products that are status-oriented. In contrast, low-self monitors are concerned with quality and functional performance (DeBono, 1987). This suggests that high self-monitors, in comparison to low self-monitors, may be more concerned with how they are viewed by their peers since peer groups often determine an individual's status. This suggests that high self-monitors may be more likely to view their peers as a more credible source than their teacher; therefore, utilizing this peer feedback more often than teacher feedback to enhance their public image and social status among their peer group. On the other hand, low self-monitors may exhibit the opposite behavior. Because these individuals are concerned with the quality of their performance they are more apt to use their teacher's recommendations over their peers to enhance the quality of their performance, consistent with their own values and beliefs.

The Big Five. More recently Dominick et al. (2004) noted a possible relationship between the five factor model of personality and self-regulation.

The five factor model of personality, also known as the BIG Five, can be traced back to McDougall's 1932 attempt to develop a taxonomy of personality (Barrick &

Mount, 1991). Moreover, McDougall broke down personality into five categories: intellect, character, temperament, disposition, and temper. This taxonomy progressed from the work of Cattell 10 years later and then again by Fiske in 1949 (Barrick & Mount, 1991). Cattell developed a model which consisted of 16 factors and 8 second order personality factors to which Fiske determined was not as good of a fit as McDougall's original five factors. Tupes and Christal reanalyzed both Fiske's and Cattell's work in 1961 only to find further support for the original five factors. However, Tupes and Christal's (as cited in Barrick & Mount, 1991) five factors consisted of surgency, emotional stability, agreeableness, dependability, and culture. These five factors are very similar to the five factor or Big Five model used by researchers today (Barrick & Mount, 1991).

Today the Big Five has been revised to find the following five factors: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism or emotional stability (Davis & Palladino, 2004; Dominick et al., 2004; Howard & Howard, 2001). Openness to experience is the tendency to be open to new ideas and interests and have an open imagination. Conscientiousness involves being responsible, well-

organized and paying attention to details. Extraversion is the tendency to be talkative, gregarious and sociable while agreeableness involves being cooperative, caring, kind, and non- confrontational. Finally, neuroticism or emotional stability involves security and relaxation. Those high in emotional stability tend to be composed, secure and relaxed while those low in emotional stability tend to be anxious, hostile and stressed (Davis & Palladino, 2004). Dominick et al. (2004) were the first researchers to study the Big Five in the context of behavior change in teams. They assessed the Big Five and then measured behavior change based on peer feedback from members of the individual's team. More specifically they hypothesized that conscientiousness and openness to experience would likely play a role in the behavior change they were assessing. Dominick et al. (2004) argued that because the control theory of motivation involves the individual changing their behavior in response to a gap between self and others' ratings that those high in the personality dimension of conscientiousness would be more concerned with setting and meeting standards because they tend to be more detail-oriented. Because of this personality variable, these individuals should be more apt to focusing on the gaps between self and others thus reacting to it accordingly.

Dominick et al. (2004) also suggest that openness to experience would also play a role in the behavior change in this context. More specifically, they argue that in order for individuals to change their behavior they must be open to change and trying new ideas and methods. Furthermore, those who are high in openness to experience are more interested in the feedback they receive and open to trying new ways to change behavior. The researchers found that openness to experience did in fact play a role in the behavior change in a team setting. However, the results for conscientiousness were not so concrete and require further evidence.

Student Samples

LaTour, Champagne, Rhiel, and Behling (1990) as well as Flanagan and Dipboye (1981) suggest that the use of student samples for research is continuing to increase in the Industrial/Organizational Psychology field. Although the use of these student samples has been heavily debated, many researchers do suggest that students may be just as reliable as business persons for psychological and business research under certain circumstances (Dipboye & Flanagan, 1979; Flanagan & Dipboye, 1981; Greenberg, 1987; Khera & Benson, 1970; LaTour et al.). Dipboye and Flanagan (1979) suggested that the common myth that field studies are more

generalizable than laboratory studies is highly invalid. They add to this statement by stating that the heterogeneous nature of the college classroom is highly representative of the working population. Oakes (as cited in Greenberg, 1987) followed up this statement by adding that all almost any research population is atypical. This suggests that both laboratory and field research may equally represent the somewhat atypical working population. Flanagan and Dipboye (1981) stated that because the laboratory provides greater experimental control, it is likely that more theory and hypothesis testing be done in this setting. Khera and Benson (1970) suggested that students may be a viable sample for research when they have a sufficient background of the task at hand. Furthermore, LaTour et al. (1990) stated that experience is key. For example, student samples would not be good for research tasks involving employee selection because they have not had adequate experience doing this particular task. However, tasks such as giving and receiving feedback would provide an optimal research setting because students have had numerous opportunities to receive and give feedback through life experience.

Given that the present study contains both psychological and business research, it seems viable that a

student sample would provide accurate results. Furthermore, LaTour et al. (1990) spoke of experience. Because of the nature of being a student, all students should have a sufficient amount of experience giving and receiving feedback making them an ideal sample for this type of research. For example, students are given feedback on their performance in classes regularly through tests, assignments, and course grades. Students also regularly give feedback to instructors through end of the year teacher evaluations. Therefore, a student sample will be used for the present study.

Linkage

Multi-source feedback is a performance appraisal tool used for both developmental and administrative purposes. When used for developmental purposes, the premise is that an individual will use the information provided by the system to better his or her performance. This suggests that a change in behavior is taking place as a result of the multi-source feedback system. Furthermore, the control theory of motivation provides evidence of how a change in behavior may occur after receiving multi-source feedback. The control theory of motivation takes into account that the individual uses the feedback provide to them to make comparisons between how others expect them to perform and

how they are currently performing. Furthermore, evidence suggests that individual difference factors may have an affect on the feedback outcomes gained through multi-source feedback systems. Specifically, the type of personality or personality characteristics an individual has may determine what types of information or feedback they attend to and use for developmental purposes. Moreover, understanding the relationships between multi-source feedback systems, the control theory of motivation, and individual differences may provide insight on ways to make performance appraisal systems, such as multi-source feedback, more effective for each individual. The present study seeks to examine these relationships by studying the multi-source feedback system in terms of the control theory of motivation and how individual difference factors such as self-esteem and self-monitoring may affect its outcomes.

The Present Study

The present study was guided by previous research done by Dominick et al. (2004). The goal for this study was to test the role of individual differences on behavior change and performance improvement, focusing on self-monitoring and self-esteem. However, unlike the previous study, both peer feedback as well as supervisor feedback were gathered in addition to self-feedback in a team setting thus testing

not just individual difference effects but also the overall effectiveness of the multi-source feedback system combinations. This study was conducted in a classroom setting.

Hypotheses

The present study tested the following hypotheses:

H1: There would be a behavior change over time as a result of feedback.

Receiving feedback should help the participants pinpoint their developmental needs thus resulting in performance improvement (Dalessio, 1998).

H2: The number of feedback sources received would affect performance. More specifically, the more sources of feedback a participant receives the greater performance he or she should produce.

Multi-source feedback systems allow the ratees to receive information about how they are being perceived which, in turn, gives them more information for improvement. Multi-source feedback systems also offer ratees the opportunity to collect ratings and feedback from different groups that may have special insights about their abilities and/or performance (Hazucha, Hezlett, & Schneider, as cited in Wallis, 2003; Luthans & Peterson, 2003). Therefore, more rating or feedback sources means more information the

individual will receive regarding his or her performance thus providing the individual with a better opportunity for performance improvement.

H3: Participants receiving any type of multi-source feedback would perform significantly better than participants who received just traditional top-down feedback measures.

As multi-source feedback systems provide the individual with more information about his or her performance (Church & Bracken, 1997), the individual should be able to effectively pinpoint areas for improvement thus outperforming individuals who receive feedback from only one source.

H4: Participants who receive self-feedback as part of their feedback system would perform significantly better than participants who do not.

Self-regulation is an essential part of the control process. Therefore, to improve their performance, individuals must develop self-awareness about their current performance (Carver & Scheier, 1981). Individuals not receiving self-feedback will not effectively identify any gap that may exist between their ideas of performance and their evaluators.

H5: Participants high in self-esteem would make better use of feedback evaluations, thus performing significantly better than those who are low in self-esteem.

Individuals who are high in self-esteem have more favorable attitudes towards feedback (Luthans & Peterson, 2003). Therefore, they should be able to more effectively use feedback to improve performance.

H6: Participants high in self-monitoring would perform significantly better in response to peer feedback than those who are low in self-monitoring.

Individuals high in self-monitoring often try to protect their self-image by adapting to the thoughts and behavior of those around them (Caligiuri & Day, 2000). Moreover, these individuals should be more likely to respond to members of their own social group than those who are low in self-monitoring, thus producing a greater performance improvement.

CHAPTER 2

METHOD

Participants

A student convenience sample was used for the present study. 146 undergraduate developmental psychology students at a regional university in the Midwest participated in this study in fulfillment of class requirements. Participants included 73.4% females and 26.6% males with a mean age of 20.44. All individuals who scored 95% or above on Group Project One were removed from data analysis thus controlling for a ceiling effect, which is when participant's scores are close to the high end of a rating scale and therefore do not have much room for improvement. Therefore, the total sample size was reduced to 64. To ensure the ethical consideration of human subjects, Institutional Review Board (IRB) approval was granted before research was conducted (see Appendix A).

Measures

Feedback sources. Each participant was assigned to a group consisting of four or five individuals. These groups were then assigned to one of four feedback conditions or feedback combinations (see Appendix B). Condition 1 (C) was the control group. Participants in this condition received traditional top-down feedback given by the instructor only.

Condition 2 (SI) participants received feedback from both themselves as well as the instructor. Condition 3(PI) participants received feedback from group peers as well as the instructor. Condition 4 (ALL) participants received feedback from themselves, group peers and the instructor.

Performance score. The dependent variables for this study were performance and behavior change. Participants participated in two group projects. These projects consisted of a group presentation which was developed and presented by all members of the group collectively (see Appendix C). A total score was then determined by the instructor for each individual based on a presentation rubric developed by both the researcher and the classroom instructors (see Appendix D). The rubric consisted of criterion categories such as information quality, information organization, information communication, presenter preparedness, presenter attire, and time requirements. All instructors participated in rater training before the semester began to reduce possible rater error. Group project scores were then gathered for both Group Project 1 and Group Project 2. These scores served as the performance indicators or performance scores for this study. Scores from Group Project 1 and Group Project 2 showed a test-retest reliability of .51 ($p < .01$).

Individual Differences Measures

Self-monitoring. Self-monitoring was assessed using Snyder's (1974) 25-item original Self-Monitoring Scale (see Appendix E). This true/false scale taps various self-presentation behaviors (e.g., I find it hard to imitate the behavior of other people; I guess I put on a show to impress or entertain people). This scale has a Kuder-Richardson 20 reliability of .70 and a test-retest reliability of .83 (Snyder, 1974). The validity of this scale has been determined using peer ratings, stage actors, psychiatric patients, expression of emotions, and social comparison information (see Snyder, 1974 for more details). In this study, the reliability for the Self-Monitoring Scale was not quite as consistent with an internal consistency reliability of .56. Once a self-monitoring score had been determined, participants were then categorized into groups of low (0-8), medium (9-16), and high (17+) self-monitors based on the mean (12.51) and standard deviation (4.11) reported by Snyder (1987).

Self-esteem. Self-esteem was assessed using Rosenberg's (1965) Self-Esteem Inventory (See Appendix F). This ten-item Guttman scale assesses individual general feelings about themselves (e.g., On the whole, I am satisfied with myself; I feel I do not have much to be

proud of). The scale is scored using a 4-point response format (strongly agree, agree, disagree, strongly disagree) which results in a possible score from 10-40 with the higher score meaning high self-esteem. Participants were then classified into low (10-20) or high self-esteemers (21-40) based on author recommendations (Rosenberg, 1965). The Rosenberg Self-Esteem Inventory has been deemed reliable by two difference researchers (e.g., Dobson et al., 1979 and Fleming & Courtney, 1984, both cited in Blascovich & Tomaka, 1991). Dobson et al. (1979) found a Cronbach alpha of .77 while Fleming and Courtney (1984) found a Cronbach alpha of .88. Both researchers' results show that the inventory is a reliable measure of self-esteem. For this study, the internal consistency reliability was .78, which was consistent with previous researchers. The self-esteem inventory has also been validated by numerous researchers as well. Lorr and Wunderlich (as cited in Blasovich & Tomaka, 1991) tested the inventory's convergent validity by comparing it to popularity (r = .65). Furthermore, the Rosenberg Self-Esteem Inventory had a positive correlation (r = .72) with the Lerner Self-Esteem Scale (Blasovich & Tomaka, 1991). Therefore, past research supported the validity of this given instrument.

Procedure

Participants were assigned to groups consisting of four or five individuals who were immediately assigned to one of five feedback conditions. Conditions were defined by the combination of multi-source feedback participants within the group received (see Appendix B). All participants were then asked to read and sign an informed consent form (see Appendix G). Upon completion of the informed consent, participants completed demographic questions regarding age and gender and also chose a code name so that confidentiality could be kept between the researcher, peers, and participants. The instructors had the only access to real names throughout the duration of this experiment. Once demographics and code names had been recorded, participants then completed the Rosenberg Self-Esteem Inventory (Rosenberg, 1989) and Snyder's Self-Monitoring Scale (Snyder, 1974). After completion of the scales, participants completed Group Project 1 (see Appendix C) with three or four classroom peers. Group Project One involved participating in a group presentation which was presented during normal class time (see Appendix C for full project details). Once Group Project 1 had been completed, participants were then evaluated by the peer and/or self, and the instructor evaluation forms (see

Appendices H, I, J), depending on which multi-source feedback combination (condition) they had been assigned. For example, a participant who received Condition 1 received only instructor feedback using the instructor feedback form while a participant who received Condition 2 received feedback from both their instructor (see Appendix J) as well as themselves (see Appendix I). Once feedback had been given it was then shared with the participant by written summary sheets for peer feedback (see Appendix K), the instructor feedback form (see Appendix J) for instructor feedback, or by the written summary form for self-feedback (see Appendix L) for self-feedback. A project score was then computed for each individual based on the presentation rubric developed by both the researcher and the instructors (see Appendix D). Participants then completed Group Project 2 which consisted of the same requirements as Group Project 1 with exception of the subject matter (see Appendix C). For example, participants may have presented their Group Project 1 over Attention Deficit Disorder and their Group Project 2 over Schizophrenia. Feedback was once again collected by the same sources as Group Project 1 and given to the participant by written summary sheets for peer feedback, the instructor feedback form for instructor feedback, or

the self-feedback form for self-feedback (see Appendices H, I, & J). A project score was again developed for each individual based on the presentation rubric constructed by both the instructor and the researcher just as with the first project. Participants were then debriefed. Debriefing included information about the project as well as the opportunity to ask any questions regarding the study (see Appendix M).

CHAPTER 3

RESULTS

Data obtained from this study were analyzed using the Statistical Package for the Social Sciences (SPSS) software. To control for a possible ceiling effect, all individuals who scored 95% or above on Group Project 1 were removed from data analysis. In addition, participants who did not complete Group Project One were also removed from statistical analyses.

The researcher expected to find that multi-source feedback would be more effective at producing a performance improvement than traditional feedback. In addition, the researcher expected to find that the individual difference characteristics of self-esteem and self-monitoring would have an effect on how individuals used feedback received to produce a performance improvement.

Hypothesis 1

Hypothesis 1 stated that there would be a behavior change over time as a result of feedback. To assess this hypothesis, a one-way repeated measures analysis of variance (ANOVA) was conducted with scores from Group Project 1 and Group Project 2 as the dependent variables and feedback condition as the independent variable. All

assumptions underlying the ANOVA model were verified and met. An omnibus *F* test showed that there was an overall significant difference between time one and time two in terms of performance improvement (see Table 1) [$F(3, 60) = 4.04$, $p = .01$] providing support for Hypothesis 1 (please see Table 2 for means and standard deviations). This suggests that a behavior change did occur as a result of feedback.

Hypothesis 2

Hypothesis 2 stated that the number of feedback sources received would affect performance. Hypothesis 2 was examined using a three-way ANOVA ($p < .05$) to protect against possible experimental-wise Type I error. The performance score for Group Project Two served as the dependent variable while number of feedback sources, self versus no self feedback, and low versus high self-esteem served as the independent variables. Only main effects were examined. All assumptions underlying the ANOVA model were verified and met. An omnibus *F* test revealed a significant difference in performance scores in terms of the number of feedback sources [$F(2, 56) = 3.55$, $p < .05$] providing support for Hypothesis 2 (see Table 3 for ANOVA summary). A Tukey post hoc analysis was performed to investigate this significant difference.

Table 1

Summary of One-Way Repeated Measures Analysis of Variance of Performance Score as a Function of Experimental Condition

Source	*SS*	*df*	*MS*	*F*
Performance Score	4.13	1	4.13	0.58
Condition	138.52	3	46.17	7.75*
PS x Condition**	6.21	3	28.74	4.04*
Error	427.16	60	7.12	

*$p < .05$

** Conditions:

C1: Control — Instructor only

C2: SI — Self and Instructor

C3: PI — Peers and Instructor

C4: ALL — Self, Peers and Instructor

Table 2

Summary of Means and Standard Deviations of Performance Scores by Experimental Condition

Performance Score	*n*	*M*	*SD*
Group Project 1			
Condition 1	16	44.90	1.44
Condition 2	16	45.38	1.31
Condition 3	16	44.81	3.25
Condition 4	16	46.00	1.27
Total Group Project 1	64	45.28	2.00
Group Project 2			
Condition 1	16	41.88	5.56
Condition 2	16	46.63	1.50
Condition 3	16	45.38	0.50
Condition 4	16	45.81	1.72
Total Group Project 2	64	44.92	3.47

Table 3

Summary of Three-Way (Number of Feedback Sources, Whether or Not Self Feedback Was Received, and Low Versus High Self-Esteem) Analysis of Variance on Performance Score (Main Effects Only)

Source	*SS*	*df*	*MS*	*F*
# of Feedback Sources	68.07	2	34.03	3.55*
Self Feedback	1.32	1	1.32	0.14
Self-Esteem Score	0.31	1	0.31	0.03
Error	537.63	56	9.60	

*p < .05

It showed that there were significant differences between one feedback source (M = 41.97, SD = 0.80) and two feedback sources (M = 45.64, SD = 0.77) and between one feedback source and three feedback sources (M = 45.81, SD = 0.84). No difference was found between two feedback sources and three feedback sources in terms of participant performance improvement. These results suggest that the number of sources an individual receives does affect their performance improvement. More specifically, if more than one source of feedback was given, performance improvement was greater.

Hypothesis 3

Hypothesis 3 stated that participants receiving any type of multi-source feedback would perform significantly better than participants who received just traditional top-down feedback measures. Hypothesis 3 was examined using a three-way ANOVA ($p < .05$). Just as with Hypothesis 2, the performance score for Group Project 2 served as the dependent variable while number of feedback sources, self versus no self feedback, and self-esteem score served as the independent variables. Only main effects were examined. All assumptions underlying the ANOVA model were verified and met. An omnibus F test revealed a significant difference in performance scores in terms of the number of

feedback sources [$F(2,56) = 3.55$, $p < .05$] providing support for Hypothesis 3. (see Table 3 for ANOVA summary). Tukey post hoc analyses revealed, just as with Hypothesis 2, that individuals receiving either two or three sources of feedback out-performed those who received just one feedback source. This result suggests that receiving more than one source of feedback produces better performance improvement than a single source of feedback.

Hypothesis 4

Hypothesis 4 stated that participants who received self-feedback as part of their feedback system would perform significantly better than participants who did not. Hypothesis 4 was examined using a three-way ANOVA where performance score from Group Project 2 served as the dependent variable and whether or not self-feedback was received as part of the feedback system, number of feedback sources, and low versus high self-esteem served as the independent variables. An omnibus F test revealed no significant difference in performance scores in terms of whether or not self-feedback was received as part of the multi-source feedback system $F(1, 56) = 0.14$, $p > .05$. Therefore, Hypothesis 4 was not supported (please see Table 3 for ANOVA summary). This suggests that self-feedback is not

necessarily needed to produce a performance improvement when using a multi-source feedback system.

Hypothesis 5

Hypothesis 5 stated that participants high in self-esteem would make better use of feedback evaluations thus performing significantly better than those who were low in self-esteem. Hypothesis 5 was examined using a three-way ANOVA where performance score from Group Project Two served as the dependent variable and self versus no self feedback, number of feedback sources, and low versus high self-esteem served as the independent variables. An omnibus F test revealed no significant difference in terms of self-esteem scores $F(1,56) = 0.33$, $p > .05$. Therefore, Hypothesis 5 was not supported (please see Table 3 for ANOVA summary). This result suggests that self-esteem may not have an effect on how feedback evaluations are used for performance improvement.

Hypothesis 6

Hypothesis 6 stated that participants high in self-monitoring would perform significantly better in response to peer feedback than those who were low in self-monitoring. Hypothesis 6 was assessed using a two-way ANOVA. Performance scores for group project two served as

the dependent variable while self-monitoring scores and whether or not peer feedback was received served as the independent variables (see Table 4). Only the interactive effects were examined. An omnibus *F* test showed no significant interaction between self-monitoring and whether or not peer feedback was received [$F(2, 58) = 0.24$, $p > .05$]. These results provided no support for Hypothesis 6 and suggest that high self-monitoring may not necessarily have an effect on how individuals utilize peer feedback within a multi-source feedback system.

Table 4

Summary of Two-Way (Self-Monitoring and Peers versus No Peer Feedback) Analysis of Variance of Performance Scores

Source	*SS*	*df*	*MS*	*F*
Peer Feedback	24.45	1	24.45	2.04
Self-Monitoring	19.97	2	9.99	0.83
Peers x SM	5.73	2	2.86	0.24
Error	694.27	58	11.97	

CHAPTER 4

DISCUSSION

Past research (e.g. Atwater et al., 2002; Dalessio, 1998; Luthans & Peterson, 2003) has shown that 360 degree feedback systems, or multi-source feedback, have become increasingly popular in the business world today. However, not much research has been conducted to understand the role of individual differences on performance improvement within these feedback systems. Therefore, the goal for this study was to test the role of individual differences on behavior change and performance improvement, focusing on self-monitoring and self-esteem. Results indicated that performance improvement did, in fact, occur as a result of multi-source feedback; however, in terms of individual differences the results were inconclusive.

Hypothesis 1

Hypothesis 1 stated that there would be a behavior change over time as a result of feedback. Support for Hypothesis 1 suggested that there was, in fact, an overall behavior change over time as a result of feedback. These results support Dalessio's (1998) finding that receiving feedback helps an individual pinpoint their developmental needs thus aiding in performance improvement. In addition,

this result also provides evidence for Kluger and DeNisi's (1996) finding that compared to individuals who received no performance feedback, those who received feedback generally enhanced their performance. Without feedback, individuals would not understand exactly what is guiding their performance. Furthermore, Atwater et al. (1995) stated that feedback from others is important in improving one's overall performance. Similarly Prue and Fairbank (1981) agreed when they stated that regardless of whether the feedback is positive or negative, objective feedback is said to have a positive effect on individual performance. Therefore, this shows that feedback greatly aids in performance improvement over time just as the researchers above suggested.

Hypotheses 2

Hypothesis 2 stated that the number of feedback sources received would affect performance. Support for hypothesis two suggests that the number of feedback sources received does affect performance. This finding suggests that the number of feedback sources delivered to an individual does make a difference in terms of performance improvement. This again provides support for the use of multi-source feedback systems in terms of performance improvement just as Wallis (2003) suggested. Tukey post hoc

analyses showed that participants who received two sources of feedback (either instructor and self-feedback or instructor and peer feedback) outperformed those who received only one source (instructor feedback only). In addition, participants who received three sources of feedback (instructor, self and peer feedback) also outperformed those who received only one feedback source. However, no difference was found between participants who received three forms and those who received just two forms of feedback. This can lead to two possible conclusions. First, this suggests that a feedback system with more than one source of feedback is better than the traditional one source, top-down feedback system. However, it seems that there is no difference between two and three sources of feedback suggesting that it does not matter how many sources a multi-source feedback system has but only that more than one source is being used. Since the definition of a multi-source feedback system is as system that utilizes evaluations from two or more rating sources (Dalessio, 1998) it seems fitting that finding be true. Having more than one feedback rating or source provides the individual with more than one source of information about their specific abilities and performance thus aiding in the determination of where improvement needs to take place

(Luthans & Peterson, 2003). Secondly, although this study did not find evidence that three sources of feedback resulted in better performance improvement than two sources, it could be argued that feedback sources, other than the ones presented in the study, might have produced better findings. More research is needed to determine the impact of multiples sources on performance improvement.

Hypothesis 3

Hypothesis 3 stated that participants receiving any type of multi-source feedback would perform significantly better than participants who received just traditional top-down feedback measures. Support for Hypothesis 3 suggests that multi-source feedback is, in fact, better than the traditional top-down feedback method in terms of performance improvement just as Church and Bracken (1997) stated. In addition, since a difference between two and three sources of feedback was not found in terms of performance improvement for Hypothesis 2, results for Hypothesis 2 reiterate the conclusions found for this hypothesis. These resulted indicate that multiple sources make a difference in overall performance improvement when part of a feedback system supporting Dominick et al.'s (2004) suggestion that overall performance improvement is likely to occur when individuals are able to see

differences in how they perceive themselves compared to how others perceive them. This finding provides useful information for anyone who plans to use feedback to stimulate performance improvement. These additional feedback sources offer special insight to the ratee about their performance thus allowing them to better perform the next time they were given a chance (Hellervik et al., 1992; Luthans & Peterson, 2003). Just as Church and Bracken (1997) suggested, multi-source feedback systems produce better results than traditional top-down feedback methods. Furthermore, multi-source feedback has been shown to not only aid in a behavior change but also help to sustain this change over time (Dominick et al., 2004).

Hypothesis 4

Hypothesis 4 stated that participants who received self-feedback as part of their feedback system would perform significantly better than participants who did not. As previously indicated, Hypothesis 4 was not supported by this research. Dominick et al. (2004) suggested that motivational theories, such as the control theory, can be used to explain rate reactions to multi-source feedback. Furthermore, these researchers as well as others, such as Carver and Scheier (1981), believe that self-awareness is key to performance improvement.

Self-awareness is the degree to which individuals understand their own strengths and weaknesses. For this study, self-feedback was implemented to serve this purpose. The results regarding Hypothesis 4 suggest that self-awareness is not necessarily needed for performance improvement to occur. However, one must consider how self-awareness information is gathered. It could be argued that individuals could understand their own strengths and weaknesses by gathering information from sources other than themselves. Therefore, participants in this study may have been gaining self-awareness from peer and instructor feedback, not necessarily needing self-feedback. On the other hand, Harris and Scaubroeck (1988) suggested that the lack of agreement between self-ratings and the ratings of others tend to produce a discrepancy which fuels performance improvement. It is not known whether that discrepancy existed in this research. Furthermore, if a discrepancy did exist, it is inconclusive whether or not it was large enough to motivate participants to produce a change in behavior. In addition, because this study used a student sample, it could also be argued that participants were obtaining self awareness through other courses or classroom experiences in which they were involved. It might be the case that participants were utilizing feedback about

their performance in other classes to gain self-awareness and therefore were not utilizing the self-feedback offered in this multi-source feedback system. More research is needed to determine the role of self-feedback and self awareness in performance improvement.

Hypothesis 5

Hypothesis 5 stated that participants high in self-esteem would make better use of feedback evaluations thus performing significantly better than those who were low in self-esteem. This was based on Luthans and Peterson's (2003) and Funderburg and Levy's (1997) finding that individuals high in self-esteem have more favorable attitudes towards feedback. Therefore, those with high self-esteem should make better use of feedback provided to them. As the results indicated, Hypothesis 5 was not supported by the present study. This suggests that self-esteem may not have an effect on performance or performance improvement. As mentioned in the review of the literature, results regarding self-esteem are somewhat mixed (Baumeister, 1993). However, the researcher believes that the lack of significance for this hypothesis may stem back to the population being measured as well as the way the data was categorized. A median split was used to categorize participants into one of two categories, high or low self-

esteemers. When looking over the data, one can see that the distribution of individuals into each category was quite skewed, with more individuals falling into the high self-esteem category. The researcher further suggests that because this study used a student sample, it is possible that those attending college may have higher self-esteem in general making it hard to distinguish between low and high self esteemers in terms of performance and performance improvement. Furthermore, more research is needed to determine the role of self-esteem in performance and performance improvement.

Hypothesis 6

Hypothesis 6 stated that participants high in self-monitoring would perform significantly better in response to peer feedback than those who were low in self-monitoring. Support for Hypothesis 6 was not found suggesting that individuals high in self-monitoring did not respond better to peer feedback than those low in self-monitoring. Caligiuri and Day (2000) suggested that individuals high in self-monitoring often try to protect their self-image by adapting to the thoughts and behaviors of those in their social group. It could be argued that the individuals in this study were not necessarily receiving feedback from peers in their particular social group due to

random assignment. Because participants were randomly assigned to groups for this study, individual social groups within the classrooms may have been separated at the beginning of the study causing participants to receive peer feedback from complete strangers. As these strangers are not a part of the participants overall social group, peer feedback in this context may not have been as effective. Furthermore, Gangestad and Snyder (2000) suggested that high self-monitors tend to be concerned with creating public images that suggest social status. It could be argued that individuals high in self-monitoring were more concerned in enhancing their overall academic image or social status rather than their classroom social status. Therefore, high self-monitors may have utilized all sources of information equally to enhance their performance and furthermore enhance their overall academic image by performing well in the classroom with any means possible.

Workplace Significance

Because of the increasing popularity of multi-source feedback systems in the business world today (Atwater et al., 2002; Dalessio, 1998; Luthans & Peterson, 2003), the findings within this study are inherently important for the utility of such systems. Organizations have begun to understand that having numerous perceptions of a job, like

those found in a multi-source feedback system, are becoming increasingly important to both the worker and the organization as a whole (London & Smither, 1995). Having a multi-source feedback system that actually fosters behavior change can easily assist any organization that uses it with aligning the system's feedback with business or organizational culture (Luthans & Peterson, 2003). This multi-dimensional view of today's jobs can also guide the development of organizations as well as lend great support in determining not only the organization's developmental needs but also the individual employee's needs as well (Luthans & Peterson, 2003). Multi-source feedback systems have numerous advantages over the traditional top-down feedback methods (Church & Bracken, 1997) and generally serve two purposes. The first is administrative which is what most companies are using multi-source feedback systems for (Dalessio, 1998). This purpose means that companies are using these systems for salary determination, promotion opportunities and termination decisions (Mathis & Jackson, 2002). However, as Dominick et al. (2004) demonstrated in their research, these systems have great developmental implications as well. Understanding how multi-source feedback systems aid in not only administrative decisions but also developmental applications can add much value to

the use of multi-source feedback systems. Knowing how many sources make a difference and which sources count provide organizations with the knowledge necessary to customize their multi-source feedback systems for maximum effectiveness.

Limitations and Future Research

There are a few limitations to this study that should be noted. First is the re-occurring issue of the use of a student sample. Although several researchers suggest the appropriateness of student samples in psychological research (Flanagan & Dipboye, 1981; Greenberg, 1987; Khera & Benson, 1970; LaTour et al., 1990), the issue of generalizability continues to be a debated topic. A student sample was used in this study, however because this study dealt with work-life business topics, it may be more appropriate to use a field sample. Future research should focus on obtaining a field sample where supervisors and subordinates can be studied.

Another limitation to this study involves a strong ceiling effect that was noticed within the data. The present study used two classroom group projects for its measurement of performance improvement. However, most participants scored higher than a 95 percent on the first

group project causing the number of participants to drop from 142 to 64.

The medium used for this study was also problematic. Group projects were used as a means of measuring performance and performance improvement resulting in a high ceiling effect. Future research should focus on developing a task in which a poorer beginning is more likely so that more significant improvements can be sought. The group projects in this study did not allow participants to improve their performance enough to make a difference. The researcher suggests using a medium that is novel to the participants so that improvement over time can be seen.

The self-others discrepancy also provides a possible limitation to this study. Harris and Schaubroeck (1998) suggested that the lack of agreement between self-ratings and the ratings of others produces a discrepancy which motivated individuals to produce a behavior change. This study did not compare self ratings with the ratings of others to determine if a discrepancy did exist. It is possible that the discrepancies within this study were not large enough to foster behavior changes thus impacting the results of the study. Future researchers should focus on determining the size of this discrepancy as well as

interrater reliability; both of which can have major consequences on any study.

Conclusions

The study revealed a possible link between multiple feedback sources and performance improvement: however, the results are inconclusive. More research on this topic is needed to fully understand how individual difference factors, such as self-monitoring and self-esteem, as well as multiple feedback sources affect performance.

Because multi-source feedback systems are continuing to increase in popularity, it is important to understand the role they play in overall performance improvement. Understanding how the pieces of the system work together to aid in performance improvement can support the development of a more personalized system which, in turn, results in better overall effectiveness.

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Appendix A

Institutional Review Board (IRB) Approval Letter

EMPORIA STATE UNIVERSITY

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GRADUATE STUDIES AND RESEARCH
RESEARCH AND GRANTS CENTER
Campus Box 4003

January 13, 2005

Amber Ross
Psychology and Special Education
Campus Box 4031

Dear Ms. Ross:

Your application for approval to use human subjects, entitled "An Examination of Individual Differences and Feedback Systems: How Self-Monitoring, Self-Esteem, and Multiple Feedback Sources Affect Performance," has been reviewed. I am pleased to inform you that your application was approved and you may begin your research as outlined in your application materials.

On behalf of the Institutional Review Board, I wish you success with your research project. If I can help you in any way, do not hesitate to contact me.

Sincerely,

Dr. Jeffrey Tysinger
Chair, Institutional Review Board

pf

cc: Dr. Brian Schrader

Appendix B

Experimental Conditions Defined

Experimental Conditions Defined

Condition	Multi-source feedback combination
C1: Control	Instructor only
C2: SI	Self and Instructor
C3: PI	Peers and Instructor
C4: ALL	Self, Peers and Instructor

*Conditions will be equally represented in all five classroom sections to account for possible instructor biases.

Appendix C

Group Project One and Two Details

Group Project One and Two Details

Group Projects:

There will be two (2) group projects, each worth 150 points. Groups will be assigned in class and will be maintained for both projects. Groups will choose a topic for the project which must be approved by the instructor and divide up the work, so that each member will be responsible for some aspect of the group's topic. Groups will sign a collaborative work agreement. Each group project will consist of three parts, each worth 50 points:

1. **Paper:** Each group member will write a two-page paper (double spaced, 1 inch margins, 12 pt. font) on some aspect of your group's topic. This individual paper should demonstrate your contribution to the Group Project. The paper should include at least two references.
2. **Video:** All members of the group will work together to create a 30 min. video composed of movie and television clips relevant to your group's topic. Each group member should provide clips pertaining to their aspect of the group's topic. The group will need to compose a list of what clips were used.

Presentation: The group will collaboratively present their topic to the class in a 15 min. power-point presentation. Each group member will briefly discuss their findings of relevant research pertaining to their aspect of the group topic and will report which video clips may demonstrate the aspect. Group presentations should be well organized and well rehearsed. Be creative and informative!

Appendix D

Group Project One and Two Presentation Rubric

Group Project One and Two Presentation Rubric

General Area	Specific Areas/Notes:	Components of Specific Areas	Total Possible	Points Given
Presentation	Time Requirement:	15 min	10	
	Engaging/Creative:	Interesting and informative!	10	
	Clear Communication:	Clarity of presentation – well rehearsed Organization	10	
	Visual Aids/Demonstrations:	Powerpoint Presentation Quality/Creativity of additional visual aids (if applicable)	10	
	Personal Participation	Discuss your personal research findings	10	
Total			50	

Appendix E

Snyder Self-Monitoring Scale

SNYDER SELF-MONITORING SCALE

CODE NAME:

DIRECTIONS: The statements below concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. IF a statement is TRUE or MOSTLY TRUE as applied to you, **circle the "T"** next to the question. If a statement is FALSE or NOT USUALLY TRUE as applied to you, **circle the "F"** next to the question.	TRUE	FALSE
1. I find it hard to imitate the behavior of other people.	T	F
2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.	T	F
3. At parties and social gatherings, I do not attempt to do or say things that others like.	T	F
4. I can only argue for ideas which I already believe.	T	F
5. I can make impromptu speeches even on topics about which I have almost no information.	T	F
6. I guess I put on a show to impress or entertain people.	T	F
7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.	T	F
8. I would probably make a good actor.	T	F
9. I rarely seek the advice of my friends to choose movies, books, or music.	T	F
10. I sometimes appear to others to be experiencing deeper emotions than I actually am.	T	F
11. I laugh more when I watch a comedy with others than when alone.	T	F
12. In groups of people, I am rarely the center of attention.	T	F
13. In different situations and with different people, I often act like very different persons.	T	F
14. I am not particularly good at making other people like me.	T	F
15. Even if I am not enjoying myself, I often pretend to be having a good time.	T	F
16. I am not always the person I appear to be.	T	F
17. I would not change my opinions (or the way I do things) in order to please someone else or win their favor.	T	F
18. I have considered being an entertainer.	T	F
19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.	T	F
20. I have never been good at games like charades or improvisational acting.	T	F
21. I have trouble changing my behavior to suit different people and different situations.	T	F
22. At a party, I let others keep the jokes and stories going.	T	F
23. I feel a bit awkward in company and do not shoe up quite as well as I should .	T	F
24. I can look anyone in the eye and tell a lie with a straight face (if for a right end).	T	F
25. I may deceive people by being friendly when I really dislike them.	T	F

Appendix F

Rosenberg Self-Esteem Inventory

Rosenberg Self-Esteem Inventory

CODE NAME:

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I am a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD
11. I believe I will perform very well on the group projects in the course.	SA	A	D	SD

Appendix G

Informed Consent Form

Informed Consent

The Department of Psychology and Special Education at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

Procedures to be followed during the study consist of the completion of two personality inventories, two group projects, and receiving/providing feedback. The present study is an ongoing study which will begin at the beginning of the spring 2005 semester and conclude at the end of the semester. Just as with any other research project, participants should not discuss the project procedures or outcomes with any other individual, including those who are participating in the same study.

No study is completely risk free. However, the present study has little or no harm and/or discomfort toward the participant. In fact, it will not harm any procedures already taking place within the classroom.

By participating in this study you will complete all the research points required by the Department of Psychology and Special Education and your instructor for PY211. Furthermore, completion of group projects provides completion of some course requirements. If you chose not to participate in this study you will still be required to perform the two group projects that are considered requirements for the course. Instead, you will be required to achieve your research points by other means which are listed in your course syllabus.

For questions please contact Amber Ross by email at ross_amber@stumail.emporia.edu or by telephone at (620) 341-5803.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

_____ _____

Participant Signature Date

Appendix H

Peer Evaluation Form

Peer Evaluation Form

Think back to the task you just completed with your group. You will be rating how frequently your group members engaged in each of the specific behaviors and activities listed. Begin by writing your code name in the space provided . Then write in your fellow group members full names, one at the top of each column under the heading, "Other Group Members." You will use those columns to record your ratings of them. It is important that you record their names completely and accurately! Response options are provided to the right of each survey item. For each item, circle only one response per person. Remember:

① This information will remain confidential, so be completely candid. Only summary results will be given to your group members.

② Base your responses on actual behavior you observed

③ Respond to all items.

CODE:

RATING SCALE: 1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Always N=Does Not Apply

BEHAVIORS		OTHER GROUP MEMBERS WRITE FULL NAMES HERE ⇨			
Collaboration	1) Acknowledged conflict and worked to resolve issues among team members	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	2) Helped others by sharing knowledge and information	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	3) Encouraged diverse perspectives and differing points of view	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	4) Promoted balanced participation amongst team members	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	5) Demonstrated interest and enthusiasm during team activities	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	6) Acknowledged others contributions and ideas	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
Communication	7) Articulated ideas clearly and concisely	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	8) Listened attentively to other team members without interrupting	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	9) Restated what had been said to show understanding	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	10) Demonstrated sensitivity to other team members' feelings and personal interests	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	11) Effectively used facts to get points across to other team members	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	12) Probed for information by encouraging others to elaborate on their ideas and input	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
Decision Making	13) Anticipated problems and modified plans and solutions accordingly	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	14) Helped the team to generate alternative solutions	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	15) Solicited input from other team members	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	16) Analyzed problems from different points of view	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	17) Discouraged team members from rushing to conclusions	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	18) Made decisions based on factual information rather than "gut feel" or intuition	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
Self	19) Provided clear direction and defined priorities for the team	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	20) Kept the team focused on its tasks	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	21) Actively monitored progress to ensure completion according to team plan	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	22) Provided nonjudgmental and specific feedback to others	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	23) Helped the team devise procedures for working together	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N
	24) Acknowledged team accomplishments	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N	1 2 3 4 5 N

Appendix I

Self Evaluation Form

CODE:

Self-Evaluation Form

INSTRUCTIONS: **Think back to the Group Project you just completed with your classmates. You will be rating how frequently you engaged in each of the specific behaviors and activities listed below. Begin by writing your code name in the space provided. You will then read each specific behavior. Response options are provided to the right of the survey. For each item, circle only one response.**	NEVER	RARELY	SOMETOMES	FREQUENTLY	ALWAYS	NOT APPLICABLE
1. Acknowledged conflict and worked to resolve issues among group members.	1	2	3	4	5	N
2. Helped others by sharing knowledge and information.	1	2	3	4	5	N
3. Encouraged diverse perspectives and differing points of view.	1	2	3	4	5	N
4. Promoted balanced participation amongst group members.	1	2	3	4	5	N
5. Demonstrated interest and enthusiasm during group activities.	1	2	3	4	5	N
6. Acknowledged other's contributions and ideas.	1	2	3	4	5	N
7. Articulated ideas clearly and concisely.	1	2	3	4	5	N
8. Listened attentively to other group members without interrupting.	1	2	3	4	5	N
9. Restated what had been said to show understanding.	1	2	3	4	5	N
10. Demonstrated sensitivity to other group members' feelings and personal interests.	1	2	3	4	5	N
11. Effectively used facts to get points across to group members.	1	2	3	4	5	N
12. Probed for information by encouraging others to elaborate on their ideas and input.	1	2	3	4	5	N
13. Anticipated problems and modified plans and solutions accordingly.	1	2	3	4	5	N
14. Helped the group to generate alternative solutions.	1	2	3	4	5	N
15. Solicited input from other group members.	1	2	3	4	5	N
16. Analyzed problems from different points of view.	1	2	3	4	5	N
17. Discouraged group members from rushing to conclusions.	1	2	3	4	5	N
18. Made decisions based on factual information rather than "gut feel" or intuition.	1	2	3	4	5	N
19. Provided clear direction and defined priorities for the team.	1	2	3	4	5	N
20. Kept the group focused on its tasks.	1	2	3	4	5	N
21. Actively monitored progress to ensure completion according to group plan.	1	2	3	4	5	N
22. Provided non-judgemental and specific feedback to others.	1	2	3	4	5	N
23. Helped the group devise procedures for working together.	1	2	3	4	5	N
24. Acknowledged group accomplishments.	1	2	3	4	5	N

Appendix J

Instructor Evaluation Form

Instructor Evaluation Form

General Area	Specific Areas/Notes:	Components of Specific Areas	Total Possible	Points Given
Presentation	Time Requirement:	15 min	10	
	Engaging/Creative:	Interesting and informative!	10	
	Clear Communication:	Clarity of presentation – well rehearsed Organization	10	
	Visual Aids/Demonstrations:	Powerpoint Presentation Quality/Creativity of additional visual aids (if applicable)	10	
	Personal Participation	Discuss your personal research findings	10	
Total			50	

Appendix K

Peer Evaluation Summary Form

Peer Evaluation Summary Sheet for Code:

Listed below are the specific behaviors in which your group evaluated you. The behaviors have been broken down into four categories. For each category an average score has been computed. In addition, a total feedback score was computed and is shown below. Remember the rating scale looked like this:
1= Never, 2= Rarely, 3= Sometimes, 4= Frequently, 5 = Always

Collaboration	Score:
1)	Acknowledged conflict and worked to resolve issues among team members
2)	Helped others by sharing knowledge and information
3)	Encouraged diverse perspectives and differing points of view
4)	Promoted balanced participation amongst team members
5)	Demonstrated interest and enthusiasm during team activities
6)	Acknowledged others contributions and ideas

Communication	Score:
7)	Articulated ideas clearly and concisely
8)	Listened attentively to other team members without interrupting
9)	Restated what had been said to show understanding
10)	Demonstrated sensitivity to other team members' feelings and personal interests
11)	Effectively used facts to get points across to other team members
12)	Probed for information by encouraging others to elaborate on their ideas and input

Decision Making	Score:
13)	Anticipated problems and modified plans and solutions accordingly
14)	Helped the team to generate alternative solutions
15)	Solicited input from other team members
16)	Analyzed problems from different points of view
17)	Discouraged team members from rushing to conclusions
18)	Made decisions based on factual information rather than "gut feel" or intuition

Self	Score:
19)	Provided clear direction and defined priorities for the team
20)	Kept the team focused on its tasks
21)	Actively monitored progress to ensure completion according to team plan
22)	Provided nonjudgmental and specific feedback to others
23)	Helped the team devise procedures for working together
24)	Acknowledged team accomplishments

TOTAL FEEDBACK SCORE: ☐

Appendix L

Self Evaluation Summary Form

Self-Evaluation Summary Sheet for Code:

Listed below are the specific behaviors in which you evaluated yourself. The behaviors have been broken down into four categories. For each category an average score has been computed. In addition, a total feedback score was computed and is shown below. Remember the rating scale looked like this:
1= Never, 2= Rarely, 3= Sometimes, 4= Frequently, 5 = Always

Collaboration Score:

1)	Acknowledged conflict and worked to resolve issues among team members
2)	Helped others by sharing knowledge and information
3)	Encouraged diverse perspectives and differing points of view
4)	Promoted balanced participation amongst team members
5)	Demonstrated interest and enthusiasm during team activities
6)	Acknowledged others contributions and ideas

Communication Score:

7)	Articulated ideas clearly and concisely
8)	Listened attentively to other team members without interrupting
9)	Restated what had been said to show understanding
10)	Demonstrated sensitivity to other team members' feelings and personal interests
11)	Effectively used facts to get points across to other team members
12)	Probed for information by encouraging others to elaborate on their ideas and input

Decision Making Score:

13)	Anticipated problems and modified plans and solutions accordingly
14)	Helped the team to generate alternative solutions
15)	Solicited input from other team members
16)	Analyzed problems from different points of view
17)	Discouraged team members from rushing to conclusions
18)	Made decisions based on factual information rather than "gut feel" or intuition

Self Score:

19)	Provided clear direction and defined priorities for the team
20)	Kept the team focused on its tasks
21)	Actively monitored progress to ensure completion according to team plan
22)	Provided nonjudgmental and specific feedback to others
23)	Helped the team devise procedures for working together
24)	Acknowledged team accomplishments

TOTAL FEEDBACK SCORE: 

Appendix M

Debriefing Statement

AN EXAMINATION OF INDIVIDUAL DIFFERENCES AND FEEDBACK SYSTEMS: HOW SELF-MONITORING, SELF-ESTEEM, AND MULTIPLE FEEDBACK SOURCES AFFECT PERFORMANCE

Thank you for participating in the present study. The goal of this study is to examine the affects of the individual personality characteristics of self-esteem and self-monitoring on multi-source feedback outcomes. More specifically, research suggests that an individual's personality may affect what information or feedback he/she uses to develop their performance. Each participant in this study was assigned to a group of four or five individuals. Each of those groups was assigned an experimental condition defined by the feedback combination the participants were to receive after completing Group Project One.

The four conditions are listed below:

C1: Received feedback from the instructor only (CONTROL GROUP)
C2: Received feedback from self and instructor
C3: Received feedback from peers (group members) and instructor
C4: Received feedback from self, peers (group members), and instructor

A score was then computed for each individual for both Group Project One and Two. The scores for both group projects were then compared with feedback condition as well as individual scores on self-monitoring and self-esteem to determine if, and how, personality affects feedback outcomes.

For more information about this study or its results, please contact the researcher by using the following contact information.

Amber Ross
Campus Box 4031
Email: ross_amber@stumail.emporia.edu
Phone: (620) 341-5803.

Thanks again for participating in this study. Your cooperation is greatly appreciated.

I, Amber Ross, hereby submit this thesis to Emporia State University as partial fulfillment for the requirements of an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves financial gain will be allowed without written permission of the author.

Amber N. Ross

Signature of Author

December 13, 2005

Date

An examination of individual differences and feedback systems: How self-monitoring, self-esteem and multiple sources affect performance

Title of Thesis

Signature of Graduate Office Staff Member

12-15-05

Date Received