Feedback Environment Intervention: Changing the performance management paradigm from systems to people

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Feedback Environment Intervention: Changing the performance management paradigm from systems to people
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Abstract

Title:
Feedback Environment Intervention: Changing the performance management paradigm from systems to people

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For years, empirical research has supported the claims that an organization’s feedback environment is related to numerous beneficial outcomes for employees and organizations. While we have a valid and reliable way to measure this feedback environment, we don’t know much about how to intervene in organizations to create a favorable feedback environment. This research study attempted to improve an organization’s feedback environment through a planned change intervention and therefore to create new institutionalized group norms often prevalent in a favorable feedback environment. The goal of the intervention was to train employees on the seven dimensions of the feedback environment and how to promote a favorable context for feedback within the work unit. Although the primary hypotheses predicting differences between the training and control group were not supported, the results suggest the intervention did have a favorable impact. The training intervention did improve the feedback environment when the initial environment perceptions were unfavorable, there was no improvement when the environment was already viewed as favorable. This
suggests that a feedback environment training intervention can help improve the feedback environment when it is needed most.
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Dedication

Dedicated to the memory of my Dad

Louis Frank Gallo

We love you so much and wish you could have been here to celebrate with all of us.
Introduction

Having a high-performance workforce is clearly a strategic value to organizations. One of the critical components of creating a high performing workforce is ensuring that employees are given timely and relevant feedback to their established goals; in other words, they need to understand what is working and what is not (Baker, Perreault, Reid, & Blanchard, 2013). Therefore, a critical component of creating a high performance workforce is performance feedback. Performance feedback is a type of communication process in which a recipient receives a message that contains information regarding their current or past behavior (Ilgen, Fisher, & Taylor, 1979). Within an organizational setting, feedback is part of the social environment and is an essential feature of interpersonal interactions (Ilgen et al., 1979). Feedback gives direction (Ilgen et al., 1979), provides clarification to behaviors that may minimize deviations from performance standards (Carver & Scheier, 1982), and motivates employees when it provides information about future rewards (Ilgen et al., 1979). Additionally, feedback can be valuable to those who emphasize the importance of higher order needs through task accomplishment for self-esteem and self-actualization (Hackman & Oldham, 1976; Maslow, 1943). Without this important information, individuals and organizations will have limited insight into what behaviors to adapt, change, or eliminate. Therefore, feedback is an important organizational resource that helps produce the performance and motivational outcomes that are most valued by organizations (Ashford & Cummings, 1985). Evidence supports that organizations with effective feedback practices have a competitive advantage (Baker, 2010). One could argue that feedback is at the heart of human existence and
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development (Festinger, 1954) and organizations in which feedback is constrained or void are likely to be ineffective. Feedback is akin to the lifeblood of performance communication and vital for human innovation, growth, and change (Ashford & Cummings, 1983).

While researchers and organizational practitioners would perhaps agree to the benefits of effective performance feedback, improving it continues to be elusive (Pulakos & O'Leary, 2011; Pulakos, Hanson, Arad, & Moye, 2015). Effective feedback processes involve employees who are consistently and proactively learning from each other, sharing relevant performance information, and proactively seeking information to increase their individual performance. London and Smither (2002), conceptualize performance feedback in a work setting as part of a longitudinal performance management process. This process not only influences but also contributes to how an individual views feedback and the context in which the feedback occurs. This person-environment interaction shapes both individual and organizational feedback characteristics over time. The extent to which an individual anticipates, processes and uses feedback is influenced by both their individual perception of feedback and the feedback culture.

Historically, organizations have focused their attention on the annual performance review as their vehicle to communicate performance feedback. Organizations report continuous investment of both human and financial resources to improve the performance appraisal process (Lawler, 2014; Pulakos & O'Leary, 2011). Yet, after all of the investment, numerous iterations of new performance management systems, and supervisor training programs, employees still find themselves in the same psychological
mindset of discontent with the performance management process and its limited impact on increasing performance related outcomes (Pulakos & O'Leary, 2011; Pulakos et al., 2015). Ultimately, annual performance reviews are universally disliked, seen as adding little to no value, and have failed to meet the goal of improving performance (Levy, Silverman, & Cavanaugh, 2015; Pulakos et al., 2015).

This discontent is the fuel that fires the debate to eliminate or keep performance review systems in organizations. In 2012 a San Francisco rewards and recognition company, Achievers, surveyed 645 HR managers and found that 98% of the HR believe their performance review was not useful (Ramirez, 2013). Another similar study from the Wharton School of Business found 60% of HR executives gave their performance-management systems a grade of C or below (Wharton, 2011). According to the Corporate Leadership Council (2014) only 23% of HR executives agreed with the statement, “Our performance management process accurately reflects employee contributions”, 45% indicated that significant changes are needed, and 41% indicated that they have recently made changes.

Criticism of the performance review process is not a recent phenomenon (Levy et al., 2015; Pulakos et al., 2015). Edward Lawler, one of the country’s leading management experts acknowledged that he first encountered condemnation of the performance review process in 1963 when he began his performance management studies (Lawler, 2014). Yet, fifty-two years later, performance reviews seem to be entrenched in business operations, and organizations continue to spend billions of dollars trying to improve them to no avail (Culbert, 2010), even with literature as far back as 1986.
questioning their wisdom and validity (Gabris & Ihrke, 2007). Subsequently, some organizations such as General Electric, Cargill, Eli Lilly, Accenture, Adobe and Google, to name a few, are moving away from the traditional annual review in which employees only receive feedback once a year (Duggan, 2015). For example, Adobe Systems have declared a performance appraisal-free organization by eliminating their annual performance review process altogether and replacing it with an informal “check-in” process. Within this process, there are no forms to fill out and the timing of feedback is up to the discretion of management (Lawler, 2014; Ramirez, 2013). GE removed its once a year rank-and-yank evaluation process and added a less rigid annual evaluation meeting accompanied by encouraging their managers to provide daily feedback through a new feedback app. Cargill introduced its “Everyday Performance Management” system that is designed to encourage daily performance feedback. Eli Lilly incorporated the theme of trust to empower employees to take more initiatives. While these organizations did not eliminate performance feedback, they are making a clear shift from the formality of the one time performance feedback session to on-going, informal day-to-day performance feedback sessions.

Lawler (2014) suggests that while there is general agreement that performance appraisals are poorly done and create a multitude of problems, they exist because of the need to motivate, direct, and improve performance. Those who advocate eliminating them point out that while these goals are worthy, managers do not need a formal process to achieve these goals, and therefore, performance appraisals are a redundant, bureaucratic, troublesome activity (Culbert, 2008, 2010; Lawler, 2014). The assumption
here is that good managers will provide performance feedback without the need of a formal process, and will hold themselves accountable for giving their employees quality feedback on a regular and consistent basis. While this assumption may be valid for some, it’s perhaps unlikely that this skill of providing effective informal performance feedback or facilitating the environment that supports this informal performance feedback would be developed on its own.

Pulakos and O’Leary (2011) contend that formal performance management systems are disconnected from day-to-day activities, which determine performance management effectiveness. They suggest that while popular interventions such as cascading organizational goals to individual employees, creating SMART (specific, measurable, attainable, relevant, time-bound) goals, defining competency ratings through performance standards, and multi-source feedback systems, are implemented to improve performance management and may have some merits, none of them address the key component of effective feedback communication and employee-supervisor relationships. The Corporate Leadership Council (2002), in a large-scale organizational study, found that specific manager behaviors for promoting performance management include: (a) helping employees to understand their job expectations, (b) supporting them to find solutions, (c) helping them to identify their strengths and weaknesses by playing to their strengths, (d) finding a balance of their strengths and contributions and offering developmental feedback, and (e) having regular informal performance feedback conversations which are fair and accurate improve performance. Additionally, Marelli (2002) suggests that a lack of managerial courage contributes to ineffective performance
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management. A critical component of performance management is to provide feedback frequently, honestly, and constructive so employees can have a better understanding of what they need to improve and modify their behavior. These developmental messages can be uncomfortable and managers will often avoid them (Marrelli, 2011). Supervisors need to have the courage to address these constructive conversations and employees need to have the courage to seek developmental feedback.

For the past 50 years, we have lived in a vicious cycle of reinvention after reinvention, creating an increasingly bureaucratic and disconnected system of performance feedback (Pulakos et al., 2015). Contributing to this dysfunction has been our focus on how to use automated systems and tools (Pulakos et al., 2015), rather than focusing on the psychological and social dynamics of feedback (London et al., 2003). So here in-lies the question or the debate. Do we continue to revamp and revise, or eliminate? Perhaps the answer to this question is none of the above! A better approach may be addressing the individual complexities of feedback and the context in which they exist. Perhaps it’s time to change to a new paradigm and look at increasing the value of performance feedback by transforming the culture within which feedback exists (Linderbaum & Levy, 2010; Pulakos & O'Leary, 2011).

Research suggests, that we’ve been looking in the wrong direction and perhaps it is not the performance management system that is broken, but the environment within which feedback occurs that needs to be “fixed” (Anseel, Lievens, & Levy, 2007; Levy & Williams, 2004). This environment is commonly referred to as an organization’s feedback culture (London & Smither, 2002) or feedback environment (Steelman, Levy, &
Snell, 2004). Both conceptualizations refer to the context within which individuals continuously receive, solicit, and use feedback to improve their job performance. The feedback environment refers specifically to the day-to-day interactions between individuals within the organization and not the formal performance review discussion that most supervisors and employees rely upon to give and receive feedback.

Empirical evidence strongly supports the notion that a favorable feedback environment supports important individual and organizational outcomes (Levy & Thompson, 2010). We also have a reliable way to measure the feedback environment and are confident that it accurately measures the construct as it has been defined (Levy & Thompson, 2010; Steelman et al., 2004). However, we don’t know very much about how to intervene in organizations and effectively modify and develop an organization’s feedback environment (Levy & Thompson, 2010). Research is needed along these lines that will allow us to better understand how to improve the feedback environment and thereby, all of the positive outcomes that flow from it. Research has validated the importance of a favorable feedback environment; therefore we can now shift our focus to exploring ways to change and improve this environment rather than merely validating its value.

The current body of research supports the notion that contextual factors such as the feedback environment are crucial for successful feedback transmissions (London & Smither, 2002). However, while the feedback environment may set the tone for feedback processes, there are other elements that influence this process, including an individual’s perception towards feedback (London & Smither, 2002). London and Smither (2002)
define this perception as an individual’s feedback orientation or more precisely, “a construct consisting of multiple dimensions that work together additively to determine an individual’s overall receptivity to feedback and the extent to which the individual welcomes guidance and coaching (p.82-83).” They contend that individuals with a favorable feedback orientation will have an overall positive affect towards feedback, seek feedback more often, process feedback thoughtfully, value feedback, and feel accountable to act on feedback (London & Smither, 2002). Additionally they suggest a positive relationship between an organizations feedback culture and an individual’s feedback orientation; in other words, the environment in which one works is likely to affect how one views feedback and vice versa (Levy & Thompson 2011). London and Smither (2002) adopt a person-environment interaction perspective of feedback, suggesting that individual and organizational characteristics shape feedback over time. In theory, as a feedback culture improves, so too does an individual’s propensity to seek and receive feedback more often and use it to calibrate and adjust their behavior. As more individuals have positive experiences with feedback, likely increasing their feedback orientation, an organization’s feedback environment becomes stronger (London & Smither 2002). Thus, an individual’s feedback orientation and feedback culture are mutually reinforcing, either in a positive or negative manner. Unfortunately, as of yet, there is no research that examines these processes.

This study hopes to lead the discussion away from the formality of performance feedback and more towards broadening our understanding of the psychological and social dynamics of feedback by implementing an intervention designed to change behaviors to
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those that will produce the behaviors associated with a favorable feedback environment. This study will also address the current movement to eliminate the formality and administrative bureaucracy within the performance feedback realm, by offering a critical and often left out a piece of the puzzle; the informal psychological and social dynamics of feedback. That is, organizations wishing to reduce or eliminate their reliance on formal performance appraisal need to have a mechanism to support and facilitate on-going feedback processes— an intervention designed to improve the feedback environment.

Additionally, we hope this study will create a momentum of its own by refocusing research on feedback interventions that create environments in which individuals are consistently and proactively learning from others, sharing performance feedback, and proactively seeking information to increase their individual performance. This refocus could ultimately create a new paradigm shift in which both employees and managers view performance feedback as a critical need for development and performance, and not with disdain and suspicion. Once we understand and learn how to increase favorable feedback behaviors, the formality of the annual review may become less uncomfortable, destructive and bureaucratic, thus transforming the formal review into an interactive goal setting strategy and performance recap discussion, and likely reducing the call to eliminate the formal appraisal and satisfying data-driven scientists and practitioners.

This new focus of addressing an organizational feedback environment could also have unintended beneficial consequences for those organizations that are reluctant to eliminate the formal review process. For example, an environment in which employees and supervisors feel comfortable and frequently talk about performance could reduce or
eliminate perceived performance discrepancies between the employee and their supervisor during the annual review. Reducing these discrepancies could reduce stress levels and biased measurement within the formal review process (Gravina & Siers, 2011). The performance review then transforms into a summary of past discussions and future goals and, therefore, eliminates surprises, anxiety, and stress (Culbert, 2008). The Corporate Leadership Council (2004) showed that both employee performance and engagement are higher when managers set clear expectations and provide regular informal feedback to help others develop and succeed (Pulakos et al., 2015). Ultimately, these behaviors can be learned with proper training and coaching.

The purpose of this study is to develop and assess the impact of an intervention designed to change an organization’s feedback environment. This will be a planned change intervention in which new group norms for a favorable feedback environment are created and institutionalized. We will assess the impact of this intervention by examining its relationship to subsequent feedback environment ratings, individual feedback orientation, and feedback seeking behaviors. This study answers a call from for research into how to improve on-going feedback processes within organizations (Dahling & O’Malley, 2011; Pulakos & O'Leary, 2011).
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**Literature Review**

**Feedback Environment**

Early researchers referred to the feedback environment as the set of information that informs individuals on how well they are performing to a stated goal, and focused primarily on the amount of information that is provided from different sources (Greller & Herold, 1975; Hanser & Muchinsky, 1978). In 2002, London and Smither proposed that a strong feedback culture exists when individuals continuously receive, solicit, and use feedback to improve their job performance. This feedback culture is linked to effective policies and programs in performance management and continuous learning. They believe that organizations can shape this feedback culture by certain organizational practices and interventions which include: (1) training for managers on how to give effective feedback, (2) providing clear standards for behaviors that are expected by the organization, (3) clearly communicating the performance measurement approach, (4) tying individual results to organizational indexes, and (5) providing adequate time to review and clarify feedback with others. Researchers stress that employees should have continuous access to performance feedback from multiple sources, that different cues can serve as feedback information, and that available feedback is affected by a range of factors other than a single performance episode (Ashford & Cummings, 1983; Herold & Parsons, 1985). Developing a favorable feedback culture could stimulate feedback openness among employees (Levy & Williams, 2004; Steelman et al., 2004).

More recent conceptualizations of the feedback environment define it as a context that is supportive of on-going feedback interactions and processes (Steelman et al., 2004).
According to Steelman et al. (2004), the feedback environment refers to day-to-day contextual interactions between a supervisor and subordinate and among coworkers, rather than a formal performance appraisal process. An individual’s perception of the feedback environment will channel from two sources, the coworker and the supervisor. Additionally, there are seven specific facets within each source: source credibility, feedback quality, feedback delivery, favorable and unfavorable feedback, source availability, and promotion of feedback seeking.

Typically, employees will receive feedback on their performance from their direct supervisor during the annual review process or after a critical event that is either positive or negative. Research suggests that when supervisors frequently communicate feedback, subordinates experience decreased role ambiguity, improved job performance, and satisfaction (Churchill Jr, Ford, & Walker Jr, 1976). Unfortunately, supervisors often have other responsibilities, which remove them from directly overseeing their employee’s work. A possible unintended consequence of this limited direct supervision is missing opportunities for providing feedback.

On the other hand, co-workers/peers often have more direct contact with each other and could be in a better position to offer both positive and or negative feedback. Employees are increasingly asked to work together in teams (formal or informal) that are integral to the success of the company. Teams have become entrenched within our organizational structures (Dominick, Reilly, & Mcgourty, 1997). Blanchard (2006) found that 54% of respondents indicated they spend 30% of their time in a team setting and 34% spend as much as 50% working with a team (Blanchard, 2006). Working on a
team implies a degree of self-management by the individual members of the team and the
team itself (Hackman, 1986). Within the self-managing context, individual team
members can play an important role in providing feedback to each other (Dominick et al.,
1997). Creating an environment that promotes team members giving feedback to each
other can be crucial from both an evaluative and developmental perspective (Murphy &
Cleveland, 1991). Ideally, this evaluation and feedback of other team members could be
a good developmental tool for all members (Dominick et al., 1997). In fact, Dominick et
al. (1997) found that co-worker feedback is a useful approach to help team members to
improve their interpersonal effectiveness.

Ultimately, receiving feedback from both feedback sources (supervisor and co-
workers) opens up additional channels for information about one’s work performance.
Having more than one channel of feedback communication increases the likelihood of
receiving the feedback needed to perform effectively, ultimately reducing any feedback
obstruction that is currently present in the work environment. Feedback obstruction
occurs when one attempts to get feedback but those efforts are blocked (Walsh, Ashford,
& Hill, 1985). Either an individual receives little feedback or their ability to retrieve
feedback is thwarted by contextual or interpersonal factors (Walsh et al., 1985). Yet, co-
worker feedback is not always prevalent in the workplace, due to perhaps organizational
norms suggesting feedback should come from your supervisor. While sometimes an
individual may ask for help from a co-worker, it is not common practice for a co-worker
to give feedback unless requested. Therefore, creating an environment in which co-
workers are encouraged and supported to give feedback to each other would be beneficial for development purposes.

Within the feedback environment, there are seven specific facets for each feedback source (Steelman et al., 2004). Source credibility is an individual’s perception of the competence and trustworthiness of the feedback source. Competence is a feedback source’s knowledge of the recipient’s job performance and the ability to accurately judge that performance. Trustworthiness is a person’s trust in another individual to present accurate performance information. An individual who is perceived to be credible is one who has the expertise in the particular subject matter and is considered a good source for accurate information (Fedor, Rensvold, & Adams, 1992). Ilgen et al. (1979) stated that the credibility of the feedback source could influence an individual’s perception and acceptance of feedback, as well as the desire to respond to it. An important aspect of how individuals perceive the fairness of the feedback is how in they perceive the individual is giving them feedback, i.e. are they honest, accurate, objective, unbiased, and trustworthy (Gabris & Ihrke, 2007). In fact, Bannister (1986) found that individuals receiving feedback from a credible source judged the feedback as more accurate, had greater satisfaction with the feedback, viewed suggestions to improve performance as helpful, and had a greater intent to use the feedback received (Bannister, 1986).

According to Kouzes and Posner (1988) credible leaders practice the following kinds of behavior: (1) challenge the process by searching for new opportunities and taking risks, (2) inspiring a shared vision of the future and enlisting others, (3) enabling others to act by fostering trusting relationships and strengthen others, (4) modeling the
way by setting good examples and creating small wins, and (5) encouraging the heart by recognizing individual accomplishments and celebrating successes (Posner & Kouzes, 1988). Gabris and Ihrke (2007) found that leadership credibility had positive and significant correlations with procedural justice, distributive justice, and performance review validity. Additionally, they found that employees who perceive their leaders as poor are unlikely to accept the validity of their performance management system regardless of its technical sophistication. Steelman and Rutkowski (2004) found that employee are more motivated to use unfavorable feedback from a highly credible source to improve their performance than unfavorable feedback from a less credible source.

Feedback quality is determined by the consistency and usefulness of the information as perceived by the recipient (Greller, 1980; Hanser & Muchinsky, 1978; Herold, Liden, & Leatherwood, 1987; Steelman et al., 2004). High-quality feedback is specific, consistent and provides information across time on behaviors and processes specific to performance outcomes, and is perceived as more useful than low-quality feedback. (London, 2003; Steelman et al., 2004; Whitaker & Levy, 2012). Quality feedback provides information on performance gaps and increases the attentional resources needed for successful performance (Kanfer & Ackerman, 1989; Whitaker & Levy, 2012). Empirical evidence suggests that feedback high in quality and specific to either the task, strategy or behavior influences performance in a positive manner (Kluger & DeNisi, 1996). Feedback quality is a powerful contextual determinant of feedback seeking and job performance (Morrison, 2002). According to self-enhancement theory, individuals will withdrawal from the feedback process due to a desire to maintain levels
of self- worth (Anseel & Lievens, 2006). Having an organizational environment that provides high quality feedback may increase or maintain self-concept levels (Whitaker & Levy, 2012).

The perception of feedback quality leads the recipient to believe in the feedback as having utility in achieving personal effectiveness. Utility is a multidimensional element of feedback orientation (Linderbaum & Levy, 2010; London & Smither, 2002). This element of feedback orientation is thought to be a semi-malleable personality characteristic that evolves in response to contextual influences (London & Smither, 2002; Whitaker & Levy, 2012). In 2012, Whitaker and Levy found significant positive relationships between the perception of feedback quality and utility. Additionally, Steelman and Rutkowski (2004) found that feedback quality significantly moderates the relationship between unfavorable feedback and motivation to use feedback suggesting that employees are more motivated to use feedback when the perception of quality is high than when it is low. Therefore, any training intervention designed to increase feedback acceptance and change should include content that is related to teaching individuals at all levels on how to give feedback that is specific, consistent and has relevancy to increasing job performance.

When giving feedback, the sender not only needs to be aware of the quality but the delivery method and its appropriateness with the receiver. Feedback delivery is an individual’s perception of the feedback source’s intentions in giving the feedback. Individuals will be more likely to accept and respond to feedback when it is given in a considerate manner. It’s not what you say but how you say it (Leitman et al., 2010).
Ilgen, Peterson, Martin, and Boeschen (1981) found that when individuals give feedback in a considerate way, recipients viewed the feedback session as positive, viewed the feedback as helpful, and were satisfied with the feedback. Young et al. (2011) found that recipients receiving negative feedback from their supervisors displaying empathy were more likely to report positive affect than those receiving feedback in a no empathy control condition. Steelman and Rutowski (2004) also found that feedback delivery significantly moderates the relationship between unfavorable feedback and motivation to use feedback. Ultimately individuals are more motivated to use feedback that is delivered in a tactful and considerate manner than one in a less considerate manner.

One of the essential features of feedback is its sign, either positive or negative. Research commonly finds that positive and negative feedback occur relatively independently (Greller & Parsons, 1992; Steelman et al., 2004). Negative feedback occurs when an individual receives information that his/her performance is not meeting the employer’s expectations, and is commonly used in performance appraisals, 360-degree feedback, and coaching. Negative feedback assists employees in identifying the gap between their actual performance and desired performance. Receiving negative feedback may allow an individual to see clearly the deficiency between what is expected and actual performance, and may bolster an individual’s understanding of the expectations of his or her job relative to performance (Whitaker, et al., 2007). This performance information is important and necessary to feed back to employees who are not meeting performance standards (Ilgen & Davis, 2000). Organizations must be able to redirect employee behaviors when they are not meeting organizational expectations.
Opposite to negative feedback is positive feedback, which may incentivize, motivate or reinforce (Thorndike, 1913) current employee behaviors that are meeting or exceeding organizational expectations. Researchers refer to positive feedback as positive reinforcement for a desirable behavior, especially if the specific feedback has rewards associated with it (Cianci et al., 2010). Employees generally like to hear good things about themselves; in fact, self-enhancement is a central purpose of human existence (Swann, Pelham, & Krull, 1989).

In regards to the feedback environment, favorable feedback is conceptualized as the perceived frequency of warranted positive feedback such as compliments or recognition from one’s supervisor and/or co-workers, compared to unfavorable feedback which is the perceived frequency of negative feedback such as criticism or expressed dissatisfaction from one’s supervisor and/or co-workers, when it is warranted. These basic definitions take into account the extent to which individuals, upon reflection, believe the feedback accurately reflects their performance (Steelman et al., 2004). According to Thorndike’s (1913) Law of Effect, positive feedback reinforces positive behaviors while negative feedback serves as a punishment or discouragement. Based on this theory, one would propose that both positive and negative feedback should improve performance. However, a complete lack of positive or negative feedback could have detrimental consequences for the individual and the organization. For example, an employee who only receives negative feedback may get frustrated and may exit from the organization while an employee who only receives positive feedback may miss out on opportunities for performance improvement. While there is no standard formula as to the
percentage of positive vs. negative feedback due to the complexities of individual personalities, environments, performance standards, etc., leaders need to understand that an unbalanced feedback culture in which recipients receive a disproportionate amount of either positive or negative feedback will not have beneficial outcomes for the individual or the organization. Therefore, it is important for managers to understand how to identify both positive and negative events and recognize both to create an overall favorable feedback environment. Non-threatening, behaviorally focused feedback, coupled with a strong link between performance improvement and valued outcomes could enhance the effectiveness of both negative and positive feedback (London & Smither, 2002).

Source availability refers to the perceived amount of time an individual has with his or her supervisor and/or coworkers. Inaccessibility may threaten the usefulness of supervisor feedback. It would be difficult to receive feedback from a supervisor who is not present (Walsh et al., 1985). The source availability dimension is operationalized as the perceived amount of time employees have with their supervisor and/or co-workers. Individuals are viewed as active information processors, with the goal of collecting information relating to a variety of goals they hope to achieve, and when this information is not available or obstructed, higher levels of anxiety, dissatisfaction and an increase in withdrawal behavior could occur (Walsh, Ashford, & Hill, 1985). Jamal (1984) found a positive relationship between job stress (operationalized as the level of role conflict, overload, and ambiguity) and withdrawal behaviors. Price (1997) argued that the absence of feedback would lead to dissatisfaction and ultimately turnover. Walsh, Ashford, and
Hill (1985) found significant relationships for organizational feedback obstruction, co-worker feedback obstruction and supervisor feedback obstruction with turnover intent. Supervisor feedback obstruction had the strongest correlation with turnover and employee anxiety. Therefore, the obstruction or unavailability of feedback is related to negative outcomes.

Feedback once a year, positive or negative, is not likely to have much impact on long-term performance. Supervisors who occasionally offer feedback will eventually seem disconnected from an employee’s daily activities. Feedback discussions that are more regular help both parties understand the expectations and developmental areas (Culbert, 2008). Additionally, the supervisor who provides regular feedback is in a better position to praise or offer developmental suggestions. Feedback should not be a surprise on an annual review. In a sense, the annual review should be a recap of previous conversations that occurred throughout the year (Culbert, 2008).

Research indicates that employees other than top performers often overestimate their level of performance, whereas top performers often accurately estimate their performance but underestimate as compared to others (Dunning, Heath, & Suls, 2004; Marrelli, 2011). Subsequently, when employees receive performance feedback less frequently or only during a formal review, they may feel that they are being treated unfairly (Marrelli, 2011) and not accept the feedback as accurate. Having regular, meaningful feedback conversations builds trust on both sides. Trust leads to credibility, and credibility leads better acceptance and use of feedback (Culbert, 2008; Steelman & Rutkowski, 2004). Having regular feedback discussions transforms the process from a
dysfunctional and intimidating event to an every-day communication tool. Being available for employees to receive feedback is the first step in guiding them to reach their goals.

Promotion of feedback seeking is defined as to the extent in which employees are encouraged and rewarded for seeking feedback, and they are comfortable asking others for performance information. Feedback seeking has been a dominant theme since 1983 when introduced by Ashford and Cummings (1993). Research within this area has proposed that individuals are active seekers of information and employees frequently report a desire for feedback (Ashford & Cummings, 1985). However, for ego maintenance and other reasons, employees may choose to forgo extra steps to ask for feedback (Levy, Albright, Cawley, & Williams, 1995). Supervisors can create an environment in which employees feel comfortable asking for feedback by encouraging their employees to ask questions without the threat of reprisal.

Developing a favorable feedback environment involves facilitating the seven dimensions from both the supervisor-source and the coworker-source. A favorable feedback environment has many advantages. For example, Whitaker et al. (2007) found that those who perceived a supportive feedback environment had higher levels of feedback seeking, role clarity and higher performance ratings than did those in an unsupportive feedback environment. Previous research has also shown that when supervisors provide a good feedback environment to their employees, person organization fit, and organizational citizenship behaviors are enhanced (Peng & Chiu, 2010). Rosen et al. (2006) found that when employees have greater access to information
from a high quality feedback environment, perceptions of politics are reduced, morale is enhanced, and performance outcomes are improved. Peng, Mei-Man, and Ling (2011) found that when employees perceive a favorable feedback environment with their supervisor, deviant behavior is reduced (Peng, Tseng, & Lee, 2011). Empirical evidence supports the assumption that a favorable feedback environment will increase employee performance and OCBs while decreasing organizational politics and deviant behavior.

A favorable feedback environment should enhance the constructive provision and use of feedback and support continuous learning (London & Smither, 2002). This is consistent with other theories identifying the importance of context in learning. For example, Tracey, Tannenbaum, and Kavanagh (1995) found that supervisor training is more likely to transfer to the job when the work environment supports continuous learning (Tracey, Tannenbaum, & Kavanagh, 1995). Further, Maurer and Tarulli (1996) reported that the support of the supervisor and coworker, along with company polices that enable participation in learning, were related to additional voluntary learning opportunities (Maurer & Tarulli, 1996). Ideally, through the impact of the environment, learning or performance feedback becomes part of how an organization does business.

A favorable feedback environment may also stimulate feedback openness among employees (Levy & Williams, 2004; Steelman et al., 2004) and may mitigate the tendency of an individual to reject negative feedback by helping employees to effectively regulate negative emotions associated with a negative feedback message. O’Malley and Gregory (2012) argue that the provision of a favorable feedback environment aligns with
the factors associated with positive psychology, and should increase the likelihood of negative feedback acceptance and improved performance.

London and Smither (2002) contend “as a positive feedback culture becomes stronger, individuals seek and receive feedback more often, deal with it mindfully, and use it to calibrate and adjust their behavior to improve performance” (p. 86). Therefore, they contend that a strong feedback culture may enhance an individual’s receptivity to feedback. The current body of research supports the assumption that contextual features of the environment are critical for successful feedback transmissions (Linderbaum & Levy, 2010). However, individuals make up this contextual environment. The overall feedback environment is an aggregate of individuals within a team, workgroup, division etc., and while it may represent the overall feedback perceptions within this environment, it does not represent all individual difference variables related to how an individual welcomes and is receptive to feedback. Therefore it is important to discuss these potential roles played by individuals during the feedback process (Linderbaum & Levy, 2010). Without people and their unique personalities towards feedback, there would be no contextual features we call the feedback environment. In other words, an individual’s personality could influence their perspective and subsequently their rating on the overall feedback environment (Gregory & Levy, 2008; Linderbaum & Levy, 2010). An individual’s receptivity to feedback is commonly referred to as feedback orientation.

**Feedback Orientation**

Individuals within organizations are inherently psychologically diverse in regards to personalities and individual difference variables, especially in regards to performance
feedback. London and Smither (2002) define feedback orientation as “a construct consisting of multiple dimensions that work together additively to determine an individual’s overall receptivity to feedback and the extent to which the individual welcomes guidance and coaching (p.82-13).” Those with a favorable feedback orientation: (1) believe feedback has a positive effect and have low levels of evaluation apprehension, (2) have a propensity to seek feedback, (3) process feedback mindfully and deeply, (4) are sensitive to others’ views of oneself, (5) believe that the feedback adds value and they will become more effective with it, and (6) feel accountable to act on the feedback (London & Smither, 2002). While an individual’s feedback orientation is generally viewed as stable, it can be influenced (to some extent) by individual or environmental change efforts over time (Linderbaum & Levy, 2010). Linderbaum and Levy (2010) developed a measure called the feedback orientation scale which measures receptivity to feedback and includes individual perspectives on feedback utility, accountability, social awareness, and feedback self-efficacy.

Utility is an individual’s belief that feedback is useful to their goals and their desired outcomes, consistent with London and Smither’s (2002) dimension “belief in the value of feedback” (p.83). This is an important factor that influences an individual’s reactions to feedback. If an individual perceives the feedback as useful they will be more motivated to accept, seek, and use feedback (Atwater, Waldman, & Brett, 2002; Linderbaum & Levy, 2010; Vroom, 1964). Makiney and Levy (1998) found that individuals were more likely to accept feedback from peers if the feedback was viewed as credible and useful (Makiney & Levy, 1998). Therefore, any intervention designed to
increase an individual's perceived utility should start by ensuring the feedback they receive is specific, perceived as useful, and delivered in way that creates a sense of credibility of the sender (Bannister, 1986; Posner & Kouzes, 1988).

Accountability is when an individual feels an obligation to follow up on feedback that is provided to them. This dimension is consistent with London and Smither's (2002) dimension referred to as “feeling accountable to act on feedback” (p.83). Tetlock’s (1992) theory on accountability proposes that individuals who are accountable will behave in a way to increase perspectives of them in a positive manner. Leonard and Williams (2001) suggest that an individual’s beliefs regarding accountability can affect their developmental process and subsequent behavior (Leonard & Williams, 2001; Linderbaum & Levy, 2010). Walker and Smither (1999) found that managers who followed up with their subordinates after receiving initial feedback improved over managers who did not hold themselves accountable for following up.

Social awareness is an individuals’ tendency to utilize feedback so as to be aware of how others view them and to be sensitive to these views. It encompasses London and Smither’s (2002) dimension of “sensitivity to others views of oneself” (p. 83). This dimension refers to an individual’s belief that feedback can help them understand the opinions of others and then can better influence how others perceive them (Linderbaum & Levy, 2010)

Feedback Self-efficacy is an individual’s perceived competence to understand and respond to the feedback appropriately. This feedback self-efficacy dimension measures
an individual’s self-efficacy as it relates to specifically to using feedback (Linderbaum & Levy, 2010).

In general, individuals are motivated to learn about themselves and verify their self-image (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Individuals with high feedback orientation will be more receptive to feedback and make constructive use of feedback until they have attained the competence they desire (Elliott & Dweck, 1988). In addition, individuals high in feedback orientation are likely to be receptive to coaching (London & Smither, 2002), seek feedback more frequently (Dahling, Chau, & O’Malley, 2012; Tuckey, Brewer, & Williamson, 2002), and have more favorable perceptions of their feedback environment (Gabriel, Frantz, Levy, & Hilliard, 2014), while those with a low feedback orientation are less receptive to feedback and will seek feedback less frequently. Historically, feedback orientation and the feedback environment have shared a positive relationship (Gabriel et al., 2014) and according to London and Smither (2002), this is indicative of the interplay between contextual variables and individual differences. In other words, the environment influences the individual and the individual influences the environment (London & Smither 2002; Levy & Thompson 2010)

Gregory and Levy (2007) suggested that if feedback orientation is an important and pervasive element of an individual’s personality, then it should influence how he or she interacts with others. For example, individuals who value feedback would be more inclined to create an environment by delivering frequent positive and negative feedback in a useful and supportive manner. A favorable environment should ultimately spill over and impact others’ feedback receptivity in a positive way. Although Gregory and Levy
(2007) did not find support for this proposition, Steelman and Wolfeld (2016) did find a positive relationship between a supervisor’s feedback orientation and subordinate’s perception of the feedback environment and use of effective coaching behaviors. They also reported that the feedback environment and effective coaching behaviors mediated the relationship between supervisor feedback orientation and subordinate feedback orientation. In other words, there is some evidence that effective feedback and coaching may drive employee receptivity to feedback. In addition, Dahling, O’Malley, and Chau reported a positive relationship between the feedback environment and feedback orientation supporting the notion that the environment is likely to be related to one’s orientation or receptivity to feedback. As explained by Steelman et al. (2004), a favorable feedback environment in which high-quality feedback is delivered tactfully and in a constructive manner will help individuals feel more confident in their ability to address goal–performance discrepancies and attain desired outcomes, and is likely to explain a positive relationship between feedback environment perceptions and feedback orientation. However, the cross-sectional studies thus far are unable to unwrap the causal relationship; does an individual’s feedback orientation affect the feedback environment or does the feedback environment influence an individual’s feedback orientation or perhaps they reciprocally influence each other as London and Smither (2002) suggest?

This study will involve a feedback environment training intervention, which is designed to improve all aspects of the feedback environment. A control group will receive the feedback environment training at a later time. Measures of the feedback
environment and feedback orientation (among others that will be discussed later) will be assessed pre-training, and two and four weeks post-training. See Figure 1 for details of the procedure.

We predict that a training intervention to improve the feedback environment in the workplace will be related to improvements in the feedback environment, but it also will be related to improvements in employee feedback orientation over time. Based on theories developed by London and Smither (2002) and Steelman and Wolfeld (2016), when the context supports the delivery and use of constructive feedback people will be more willing to embrace and value that feedback. Our prediction is that an organizational intervention that addresses all individual’s (sender and receiver) perspectives, talents, and skills related to giving and receiving feedback within the workplace will lead to a more favorable feedback environment. As individuals experience this new feedback environment and get comfortable with it, we predict that their perspective on the value of feedback will change, increasing their feedback orientation. Additionally, we predict that a supervisor’s baseline feedback orientation will influence the relationship between the feedback training and post training success. Within a training context, if a supervisor does not believe in the value of feedback, they may be less likely to support or encourage these new behaviors, and thus the feedback environment will not improve. See Figure 2 for a model of hypotheses 1 to 3.
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*Hypothesis 1*: The feedback environment training (FET) Group will report a more favorable post-training feedback environment (FE) as compared to the control group

H1a: Supervisor FE will increase compared to the control group

H1b: Co-Worker FE will increase compared to the control group

*Hypothesis 2*: Baseline Leader feedback orientation (FO) measured at time 1 will moderate the strength of the FET on FE. The relationship between the FET group and FE will be stronger when the group leader has high FO

H2a: Leader FO will moderate the relationship between FET and Supervisor FE.

H2b: Leader FO will moderate the relationship between FET and Co-Worker FE

*Hypothesis 3*: Post training FE will positively predict changes in FO (time 4).

**Feedback Seeking**

Research prior to Ashford and Cummings (1983) focused on feedback in a relatively passive way. Feedback was viewed as something given to employees and their responses were based on individual differences (Fedor, et al., 1992). Ashford and Cummings (1983) suggested that employees are not passive recipients of feedback, but rather actively seek out job performance feedback. Feedback seeking is a dynamic process in which employees will actively seek or avoid feedback information (Brutus & Greguras, 2008). Previous research has supported that proactive feedback seeking is an important resource to both individuals and organizational outcomes including job satisfaction, employee learning and motivation. (Whitaker, Dahling, & Levy, 2007).

There are two methods employees may utilize to seek feedback, either directly by inquiry or indirectly by observing various sources (Ashford & Cummings, 1985)
including peers, colleagues, supervisors, and customers (Brutus & Greguras, 2008) within their environment. These methods of seeking reveal different types of information.

Inquiry is an explicit verbal request for feedback. Inquiry can also be indirect which involves using indirect questions or third parties to seek feedback (Miller & Jablin, 1991). Monitoring involves observing other individuals that may provide clues to how one is doing (Festinger, 1954), in which the actual feedback is inferred. While monitoring may be effective in gaining feedback, it is more passive and may not lead to quality feedback specific enough to change behavior.

The work environment has changed with many individuals working virtually and not able to seek feedback information through indirect means such as monitoring (Ashford, Blatt, & VandeWalle, 2003). If feedback is unavailable and individual inquiry is rare, this will result in employees lacking the feedback necessary to change their behavior and increase their own performance. In addition, our workforce is becoming increasingly diverse, which creates a challenge for individuals to anticipate others’ feedback without asking directly (Ashford, et al., 2003). Organizations are also now recognizing the importance of self-awareness and interpersonal acumen, and feedback seeking is an inherent part of attaining and maintaining this awareness and acumen (Ashford, et al., 2003). Organizations are also learning through a painful process that when their leaders do not seek feedback, bad things can happen (scandals, profit loss, etc.), which could have been averted if they had sought feedback (Ashford, 2013).

Over 20 years, the feedback seeking research has identified five key aspects of feedback seeking including: the frequency of how often an individual seeks feedback, the
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method used to seek feedback (inquiry or monitoring), the timing of the feedback, the
target of feedback seeking, and the topic for which feedback is sought (Ashford, et al.,
2003). In addition, Ashford et al. (2003) present three primary motives that may underlie
feedback seeking including an instrumental motive, ego-based motive, and image-based
motive.

The instrumental motive is where individuals seek feedback because it has
informational value that helps them achieve their goals (Ashford & Tsui, 1991) and meets
the expectations of their employers. Individuals using this motive are attempting to
improve their performance through identifying possible performance gaps. The evidence
suggests that as the value of feedback increases, so too does the frequency of feedback
seeking (Morrison, 2002). Researchers have also found that if an individual thinks ability
is important, then feedback seeking on ability will increase (Ashford, et al., 2003; Stapel
& Tesser, 2001) and if goals are important they will seek feedback more frequently on
their progress toward their goals (Ashford, 1986).

The desire to reduce uncertainty may affect an individual’s receptivity to
feedback while the desire to protect one’s ego may affect whether and how one seeks
additional feedback (Levy, Albright, Cawley, & Williams, 1995). People are motivated
to protect their egos (Ashford, et al., 2003; Baumeister, Bratslavsky, Muraven, & Tice,
1998) and generally have a preference for favorable information that assists them in
maintaining their positive self-view. Ego motives can both encourage feedback seeking to
validate or reinforce an individual’s self-image (ego-enhancement motive) or discourage
feedback seeking to avoid information that would be considered as threatening to the
self-image (ego-defense motive) (Ashford & Cummings, 1983; Nakai & O'Malley, 2015). Feedback that could hurt an individual’s pride, ego, or vanity could motivate that person to avoid seeking feedback (Ashford, et al., 2003; Baumeister, et al., 1998; Morrison & Cummings, 1992). In short, when employees are motivated to protect their egos, they may not seek out feedback that they suspect will be unfavorable, or if they are motivated to enhance their ego they may seek out favorable feedback.

People generally like to hear good things about themselves and behavioral scientists have proposed that there is a fundamental human tendency for individuals to seek positive feedback (Swann, et al., 1989). Individuals may seek positive feedback for self-enhancement or self-verification. Self-enhancement is when people systematically seek information that will make them feel good about themselves. Self-verification is when an individual is invested in preserving their own self-conceptions and seek feedback to self-verify these perceptions (Swann, et al., 1989). Self-conceptions may act like a rudder on a ship allowing individuals to navigate during uncertain times (Swann, et al., 1989). Individuals may sometimes enhance their images by seeking favorable feedback even when there is no informational value or refrain from seeking unfavorable feedback to preserve their self-perception.

The final motive for feedback seeking is an impression management motive, also referred to as image costs. Impression management has been recognized as playing an important role in many organizational processes including socialization, the management of justice, performance evaluation, personnel selection, and reward allocation (Morrison & Bies, 1991). The desire to control the how others view us can incorporate both
defensive and or assertive behaviors (Morrison & Bies, 1991). Ashford and Cummings (1983) postulated that “the more individuals perceive potential face loss costs, the less they will seek feedback using active inquiry” (p. 390). There are two facets to impression management. First, employees will decide whether or not to seek feedback depending on the seeker’s assessment of how the act of feedback seeking will be interpreted by others. Second, the seeker assesses the potential favorability or unfavorability of the feedback and how the potential revelation of that information may affect their public image (Morrison & Bies, 1991). The research shows that individuals with a strong impression management motive will inquire for less developmental feedback (Tuckey, Brewer, & Williamson, 2002). Fedor et al. (1990) found that perceived image costs were negatively associated with feedback seeking. Image costs can be further broken down into defensive and assertive impression management motives. Defensive impression management occurs when an individual refrains from seeking feedback to avoid creating an unfavorable image and assertive impression management is when an individual will seek out feedback in order to enhance a favorable public image (Morrison & Bies, 1991; Tedeschi & Melburg, 1984).

Walsh et al. (1985) suggest that there may be environmental conditions that affect feedback seeking and reactions. These conditions may block an individual’s attempt to seek feedback. Feedback seeking is often rational and when there is a supportive feedback source and positive peer relations, organizations will see an increase in feedback seeking (Williams, Miller, Steelman, & Levy, 1999). Multiple researchers have concluded that a supervisor can enhance or depress feedback seeking (Ashford, et al.,
Walsh et al. (1985) showed that when managers are willing to provide feedback and follow up on that feedback in a positive way, their employees were more likely to increase their feedback seeking. Chen et al. (2007) demonstrated that negative feedback seeking by subordinates partially mediated the relationship between LMX and objective and subjective in-role performance. This suggests that increasing LMX will encourage employees to seek more developmental feedback and thus increase performance (Chen, Wing, & Zhong, 2007).

The feedback environment may also impact the frequency of feedback seeking. Recent research has shown that supportive environments may encourage feedback seeking by reducing the threat to an individual’s public image (Levy, Cober, & Miller, 2002). Whitaker et al. (2007) found a positive correlation ($r = .35$) between the feedback environment and feedback seeking. Facets of the feedback environment have also been individually linked to feedback seeking frequency. The credibility of the source is associated with increased feedback seeking, the more credible the source the higher the instrumental value of the feedback (Fedor, et al., 1992; Vancouver & Tischner, 2004). In terms of feedback delivery, helping individuals cope when they receive negative or constructive feedback may lessen their need to maintain positive self-esteem, and thus they may be more likely to seek feedback from supportive sources (Trope & Neter, 1994; Williams, et al., 1999). Leung, Su, and Morris (2001) state that if negative feedback is given with a sense of interpersonal fairness, the recipient will be more likely to have favorable reactions and accept the feedback. They argue that fairness often softens the
impact of negative feedback and the negative dispositional attributions while increasing positive attributions regarding feedback. When people are treated fairly, they will make positive attributions that their supervisor acted appropriately (Leung, Su, & Morris, 2001).

The Self-Concept Enhancing Tactician Model (Sedikides & Strube, 1997) hypothesized that when individuals seek feedback for self-assessment and improvement, they are motivated to improve performance and thus will increase performance (Anseel et al., 2007). The instrumental motive for feedback seeking allows individuals to obtain information regarding possible inadequacies in their performance (Ashford & Tsui, 1991; Chen et al., 2007; Moss, Valenzi, & Taggart, 2003) and once they have identified this performance gap they can choose to make behavior changes in an attempt to close it. These notions suggest that employees seeking negative feedback will have improved subsequent performance. Thus, those who seek negative or developmental feedback will better understand their current performance gap and be more attuned to making behavior adjustments to improve their performance.

In summary, research supports the positive relationship between the feedback environment and feedback seeking. Since this training is designed to increase the feedback environment, we predict that individuals who perceive a favorable feedback environment post-training will be more inclined to seek instrumental feedback more frequently than prior to the training and more than the control group. Likewise, we predict that the instrumental motive will increase, and ego and image feedback seeking motives, will decrease following the feedback training compared to the control group. Additionally, these feedback motives will be influenced by their work group supervisor’s
baseline feedback orientation. See Figure 3 for hypothesis 4 and Figure 4 for hypothesis 5 and 6.

*Hypothesis 4.* Post Training FE will positively predict FS (time 4).

4a: Post Training FE will positively predict supervisor FS

4b: Post Training FE will positively predict coworker FS

*Hypothesis 5:* The feedback environment training (FET) group will: a) increase instrumental motives b) decrease ego motives and c) decrease image motives post-training compared to the control group.

*Hypothesis 6:* Baseline Leader FO (time 1) will moderate the effect of the FET on feedback seeking motives, such that training will have a greater impact on the feedback seeking motives when the leader has stronger FO.

6a: FO will moderate the relationship between FET and instrumental motive.

6b: FO will moderate the relationship between FET and ego motive (defense and enhancement).

6c: FO will moderate the relationship between FET and image motive (defense and enhancement).

**Perceived Organizational Support**

Social exchange theorists suggest that the employment relationship is a trade of effort and loyalty for tangible benefits and social rewards (Bateman & Organ, 1983; Brief & Motowidlo, 1986; Eisenberger, Fasolo, & Davis-LaMastro, 1990). Blau (1964) suggests that social exchange entails unspecified obligations in which when one person performs a favor, there is an expectation of a future return. In other words, when an
individual treats another favorably, the reciprocity norm obliges the return of a favorable treatment (Gouldner, 1960; Rhoades & Eisenberger, 2002). Ultimately favorable treatment received by either party should be reciprocated, and lead to beneficial outcomes for both (Rhoades & Eisenberger, 2002). This psychological contract is significant for it represents individuals beliefs, expectations and perceptions about mutual obligations (implicit promises) between an employee and their organization (Birtch, Chiang, & Van Esch, 2015). This contract is strengthened when employees perceive their employer has satisfied their needs and expectations. Fulfilling this psychological contract influences behaviors and outcomes (Rousseau, 1995). Ultimately, if an individual believes the psychological contract is fulfilled, he or she will develop an implicit obligation to reciprocate back to the organization with strengthened affective and social-emotional bonds, which are likely to increase job satisfaction and organizational commitment. (Birch et al., 2015; Blau, 1964). Birch et al. (2015) found that when employees believe their organization has fulfilled its obligations, they are more likely to promote positive job outcomes, such a job satisfaction, and organizational commitment.

According to organizational support theory (Eisenberger et al., 1990; Rhoades & Eisenberger, 2002), employees develop beliefs concerning the extent to which their organization values their contributions. The social exchange view of commitment (Eisenberger, Huntington, Hutchison, & Sowa, 1986) suggests that employee perceptions regarding their organization’s commitment to the workers creates a feeling of obligation, which enhances work behavior. Eisenberger and his colleagues suggest that employees who perceive a high level of support are more likely to “repay” in terms of affective
commitment (Eisenberger et al., 1986) and work-related behavior (Blau, 1964; Eisenberger et al., 1986).

In a work setting, individuals typically take a longer-term perspective to the pattern of reciprocity in determining the balance of exchanges (Blau, 1964; Wayne, Shore, & Liden, 1997). This type of social exchange in the workplace is commonly referred to as an employee’s perceived level of organizational support (POS) (Eisenberger et al., 1986). Eisenberger et al. (1986) developed the concept of perceived organizational support to explain an employee’s perception regarding how their organization values them and cares about their well-being. These perceptions underlie employees’ interpretation concerning their organization’s commitment to them, which in turn contributes to the employee’s commitment to their organizations (Eisenberger et al., 1990; Wayne et al., 1997). Shore and Wayne (1993) found that an employee’s perception of support (POS) predicted organizational citizenship behaviors, suggesting that POS creates feelings of obligation. On the basis of organizational support theory, the underlying consequences of POS should promote a felt obligation to care about the organization’s welfare, fulfill socioemotional needs, leading employees to incorporate organizational membership into their social identity, and should strengthen an employee’s beliefs that their organization recognizes and rewards their performance (Rhoades & Eisenberger, 2002).

High levels of POS create a reciprocity obligation to engage in behaviors that support organizational goals (Wayne et al., 1997) and should therefore promote constructive work behaviors in responses to a constructive work environment. It is
perhaps likely then that the perceived quality of the feedback environment is related to an individual’s perception of their organization’s level of support and thus likely to enhance or detract from continuous learning (London & Smither, 1999). Sparr and Sonenntag (2008) found that employees in supportive contexts perceive greater control over information and decisions and lower feelings of helplessness at work. Noe and Wilk (1993) found that when individuals perceived good social support and low situational constraints, individuals participated in more developmental activities (Noe & Wilk, 1993). As such, if employees feel their organizations are committed to them by providing developmental opportunities for them to grow and develop, they may be more inclined to reciprocate by actively participating in organizational developmental initiatives, as opposed to employees with lower levels of perceived organizational support. See Figure 5 for hypothesis 7 model.

**Hypothesis 7:** POS will moderate the strength of the FET on FE. High POS will increase the relationship while low POS will decrease the relationship

H7a: POS will moderate the relationship between FET and Supervisor FE.

H7b: POS will moderate the relationship between FET and Co-Worker FE.

**Organizational Development**

The history of feedback interventions have mixed results and divergent findings (Cianci, Schaubroeck, & McGill, 2010; Kluger & DeNisi, 1996). Kluger and DeNisi (1996) found that while feedback interventions improved performance on average
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(d=.41), over one-third of feedback interventions decreased performance. Their meta-analysis defined feedback intervention as actions taken by an external agent to provide performance feedback to another individual. Another meta-analysis found that while the amount of feedback provided by an agent had a weak effect on performance \((r=.07)\), the climate had a strong effect on performance \((r=.36)\) (Harris & Rosenthal, 1985). Feedback interventions do not happen in a vacuum and are influenced by diverse personalities and organizational cultures (London & Smither, 2002; Steelman et al., 2004). Therefore it is proposed that changing the culture of feedback within organizations is not as simple as delivering training to supervisor personnel on how to give better feedback but instead should be viewed as a comprehensive organizational development intervention which addresses feedback from all perspectives (senders and receivers).

Within the field of organizational development, most researchers and practitioners would define the term “organizational intervention” as a planned change aimed to increase organizational effectiveness (Armenakis & Bedeian, 1999; Burke & Litwin, 1992; Worley & Lawler III, 2009). Planned changed is a conscious, deliberate, and intended decision to enhance individual development and to increase an organization’s effectiveness and capability (Porras & Robertson, 1992). Swanson (2001) defines an intervention “as a process that improves communication, problem-solving, decision making and leadership” (pp. 99). Worley and Cummings (2009) suggest there are four types of interventions: human process, techno structural, human resources management and strategic. Human process interventions primarily originate from the disciplines of psychology and social psychology. This type of intervention is directed at improving
interpersonal, intragroup, and intergroup relations. Techno structural focuses on organizations’ technology, structure, and work design. Human resource management interventions focus on integrated human resource practices including career planning, job assignment, retention, goal setting etc. (Worley & Cummings, 2009). Strategic interventions address the relationship between organizations and their environment (Heijden & Bono 2008). Since performance feedback communication could be considered an interpersonal and social dynamic (Ashford & Cummings, 1983; Ilgen et al., 1979), this research study will utilize a human process intervention.

Ultimately the goal of any organizational development intervention is to create a desirable change that is sustained. Institutionalization of planned change is when the change becomes the new normal and individuals do not revert back to their old ways (Worley & Cummings 2009). In other words, the new process is ingrained in how work is done. According to Kurtz (1999), “Institutionalization is a process of building the capacities of persons, institutions, communities, organizations and even nations to reflect a set of preferred visions, values, policies, principles, and practices” (pp. 211). The process of institutionalization includes a socialization process about ideas and belief systems, institutions, norms, and values in regards the intervention’s objectives (Edles & Appelrouth 2008). Institutionalization also involves a pervasive commitment to the initial intervention as well as recommitment over time within all levels of the organization (Swanson, 2001).

Having commitment at all levels is especially important for feedback behaviors since all employees have coworkers, at least one boss, and subordinates if they hold a
supervision type role. In other words, everybody has a chance to be a source and a recipient of feedback. Therefore, any training of this nature should include all individuals that have interactions with each other and not just individuals who are giving feedback, which is typical in today’s performance management trainings. Additionally, these new behaviors must be linked to a reward system (Worley & Cummings, 2009) to encourage sustainability of these new behaviors. Change can be difficult, especially if it challenges people’s core values and established ways of thinking (Draft, 2010). Miller (1998) suggested that changing a culture requires strong motivation and a careful strategy.

Organizational level changes have often been considered with a macro, system oriented focus (Judge, Thorresen, Puckik, & Welbourne, 1999). However a number of researchers have put more emphasis on the role of individuals in implementing change (Armenakis et al., 1993; George & Jones, 2001; Porras & Robertson, 1992). The concept here is that an individual member’s behavior change is at the core of organizational change (Porras & Robertson, 1992). According to these researchers, organizations will only change through their employees, and this change will persist over time only when individuals alter their on-the-job behaviors (George & Jones, 2001; Porras & Robertson, 1992).

Past research has shown that an individual’s attitudes toward change influences their behavior and support for it (Cunningham et al., 2002; Jones, Jimmieson, & Griffiths, 2005; Meyer, Srinivas, Lal, & Topolnytsky 2007). Individuals will evaluate the capacity for themselves and the organization to make change, the need for a change, and the benefits from the change (Armenakis et al., 1993; Eby et al., 2000). Jones et al. (2005)
showed that individuals with a higher level of readiness were more likely to change their behavior and support the change initiative. Similarly, Meyer, Srinivas, Lal, and Topolnytsky (2007) found that an individuals’ normative and affective commitment were positively related to supportive behaviors including cooperation and championing. Holt et al. (2007) identified this concept as a multifaceted construct with four distinct dimensions including: an individual’s belief in the change-specific efficacy, appropriateness of the change, management support, and personal benefit.

Individuals attitudes towards organizational change do have an impact on change implementation and are important for any change initiative to be successful (Choi & Ruona, 2010). Accordingly, as part of any change intervention strategy, three critical components should be included. First, the intervention should increase a participant’s belief they have the ability to change. Second the interventions should be perceived as beneficial for the employees involved. Finally, employees must believe their peers, subordinates, supervisors and their organizations will support and be committed to make this change. Individuals are generally concerned with an organization’s commitment to them and will reciprocate with behaviors valued by the organization. The extent to which both parties apply the reciprocity norm to their relationship, favorable behaviors by either party are likely to be reciprocated, and likely will lead to beneficial outcomes for both (Rhoades & Eisenberger, 2002). The critical component of this OD intervention is to deliver a training that will not only change individual feedback behaviors but also to develop a sustainable feedback culture that supports and nurtures such behaviors. Therefore, the major psychological components of change should be incorporated into
any training desired to create sustainable change. Research suggests that many change efforts do not result in their intended objectives and do not foster sustained change (Choi & Ruona, 2010). Therefore, when designing a training to accomplish an OD change intervention it is important to review previous failures to guide future design and implementation strategies. Burke and Biggart (1997) estimated that about two-thirds of change projects fail (Warner Burke, 1997). However, these failures are often considered as an implementation failure, rather than a failure of the change initiative itself (Klein & Sorra, 1996). These failures are often attributed to the lack of an organization’s ability to unfreeze a current process (Lewin, 1947). Unfreezing is the process by which an individual’s beliefs and attitudes are altered so that they perceive the change as both necessary and likely to be successful. Lewin argued that an individual’s equilibrium would need to be destabilized (unfrozen) before old behaviors could be discarded and new behavior adopted. This unfreezing step could include building momentum for the change, warm-up or defrosting activities, or gaining buy-in to the change effort (Armenakis, Harris, & Mossholde, 1993). Lewin (1947) also identified two more stages (moving and refreezing) following the unfreezing stage. The moving phase is when individuals learn the new behaviors associated with the change and the refreezing stage attempts to stabilize this new equilibrium to ensure these new behaviors stick and do not regress. These new behaviors must be congruent with the group because unless group behavior norms are transformed, changes to individual behavior will not be sustained (Burns, 2004).
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As with any intervention designed to create change, the change objectives need to be clear and valued by all participants (Choi & Ruona, 2010; Porras & Robertson, 1992). As discussed earlier, all individuals are likely to be not only a source, but also a recipient of feedback from multiple stakeholders within an organization. Therefore, skills of receiving and giving feedback should be the cornerstones of any intervention designed to increase the feedback environment within an organization. Interventions that address only one of these skills are using a one-way directional design to change a two-way behavioral skill and therefore will not likely see group norms sustained.

In summary, the feedback environment training is viewed as an organizational development training intervention. It should focus on improving interpersonal, intragroup, and intergroup performance feedback exchanges at the individual level, which is at the core of organizational change. Creating a set of preferred visions, values, policies, principles, and practices that involve pervasive commitment to the initial intervention, as well as recommitment over time within all participants (subordinates, co-workers, supervisors) will institutionalize change well into the future. OD development initiatives should focus on four multifaceted components for all individuals. First individuals need to have a belief they have the ability to change, second is they feel the change is appropriate, third, they see a perceived personal value of the change, and lastly their organization, supervisors, and co-workers will support these changes. Additionally, these changes will persist over time only when individuals alter their on-the-job behaviors. Since commitment can be conceptualized as a psychological state or mind-set (Meyer & Allen 1991) it is likely that individuals with a low commitment to change will see less
benefits from a training desired to produce change than individuals with a high commitment to change. See Figure 6 for hypothesis 8 model.

**Hypothesis 8**: CTC (time 2) will moderate the strength between FE (time 1) and FE time 3. High CTC will increase the relationship while low CTC will decrease the relationship

H8a: Affective Commitment will moderate the relationship between Supervisor FE time 1 and Supervisor FE time 3.

H8b: Affective Commitment will moderate the relationship between Coworker FE time 1 and Coworker FE time 3.

H8c: Normative Commitment will moderate the relationship between Supervisor FE time 1 and Supervisor FE time 3.

H8c: Normative Commitment will moderate the relationship between Coworker FE time 1 and Coworker FE time 3.

**Feedback Environment Training**

The goal of the feedback environment training is to increase the quality and frequency of feedback exchanges within multiple levels and throughout an organization, ultimately creating a better feedback environment, which helps individuals better perceive feedback as a valuable resource. This training approach will also focus on delivery feedback skills for all employees within identified workgroups. In essence, every individual, supervisor or not, could deliver feedback to their subordinates, peers and their supervisor. Therefore, this training curriculum will prepare each trainee to give feedback to multiple levels.
Training individuals on how to improve the feedback environment will follow the seven subscales identified within the feedback environment construct (Steelman et al., 2004). First, participants will learn how to develop behaviors that will increase others’ perceptions of their credibility, leader behaviors including building trusting relationships, modeling the way, setting good examples and recognizing individual accomplishments (Posner & Kouzes, 1988). Second, participants will learn how to give high-quality feedback that is specific, consistent, and provides information across time on behaviors and processes specific to performance outcomes. Feedback quality contains five components, which include relevancy, accuracy, timeliness, specificity, and understandable (Baker, 2010). Relevancy is the meaningfulness of the feedback to the recipient’s behavior and directly related to a performance goal. Accuracy is important because inaccurate information may become a distraction as the recipient tries to modify behavior based on an incorrect assessment. Timeliness is extremely important. Feedback should be given promptly so performance improvements can be realized quickly and consequences are minimized. Performance feedback should also be specific and not cluttered with vague, generalized statements. Lastly, feedback must be understood; both parties should understand the message and be clear on any action or future evaluation (Baker et al., 2013). Third, participants will learn how to deliver feedback in a considerate, tactful, and empathetic manner. Fourth, participants will have a better understanding of the pros and cons of both negative and positive feedback and understand the benefits of a balanced approach. Participants will also learn strategies to
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become more available to those inquiring feedback, and promote an environment in which employees feel comfortable asking for feedback.

Ultimately, this performance feedback intervention will address how to give feedback guided by sound organizational change principles to ensure changes are institutionalized and sustainable. In other words, giving regular performance feedback becomes part of the culture and endures long after the intervention is complete.

Methodology

Participants

Participants in this study were from 4 companies representing, healthcare, government, and not-for-profit industries. Participants were selected by their human resources department. Participants who were not selected were assigned as part of a control group and will receive the training after the study is completed. Ultimately 219 participants were included in the study, 116 received the treatment and 103 participated as the control group. The average age of the participants ranged from 18 to 66 years with an average of 48 years for the treatment group and 20 to 65 years with an average of 49 years for the control group. The average tenure was 5 years for both the treatment and control group. 70.3% were female and 29.7% were male. See Tables 1 and 2 for demographics and training breakdowns. The dependent variables in this study included: the feedback environment, feedback orientation, feedback seeking motives, and feedback seeking. Perception of organizational support, commitment to change and supervisor
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Baseline feedback orientation were also considered as moderator variables. The independent variable is the feedback environment training intervention.

Procedure

The feedback environment training focused on developing and improving the feedback environment along the seven feedback environment dimensions: delivery, quality, credibility, availability, negative/positive, and promotion of feedback seeking. Overall, the feedback environment training program included: a pre-training assessment, five hours of classroom training spread over two non-consecutive days, feedback exercises between training days and post-training assessments. A control-group design was used. The control group participated in the pre- and post-training surveys but did not receive training. This design is similar to the posttest control group experimental design, but instead of randomization, naturally occurring comparison groups were selected based on availability and schedules (Gribbons & Herman, 1997).

Participants who were selected for the training were categorized as the treatment group and those that did not receive the training as the control group. The treatment group received a pre-assessment, training treatment, and two post assessments, and the control group received the pre and two post assessments with no training treatment. The control group will receive the feedback environment training at a later time. The pre-assessment included the feedback environment scale (FE), feedback orientation (FO), feedback seeking (FS), feedback seeking motives (FSM), and perceived organizational support (POS) measures. Demographics were pre provided by each employer and included age, sex, and length of service. On the pre assessment thank you page,
participants were asked to consider key feedback problems/issues to address during their upcoming training. The first post assessment included FE, POS, and FSM and the second post assessment assessed FS, FO and FE. Employee Engagement (ENG) items were also added on the second post assessment as a benefit to the organization for participating in the study. See Figure 1 for a depiction of the methodology.

In the feedback environment training condition, employees and managers were included in the training groups. In order to address all learning objectives and completion of all in class exercises, each training group was restricted to 20 participants.

One week prior to the training, both the control group and the training groups received an electronic link to take the pre-assessment. Approximately one week following the pre-assessment, the treatment groups received their first 3-hour feedback environment training. The goal of this initial training was to develop feedback delivery skills necessary for promoting a favorable feedback environment.

A second debrief training session was conducted two weeks later. Between training sessions, training group participants were instructed to practice the skills learned during the first training. These exercises included giving feedback to at least two subordinates, two peers and one superior. Following each feedback exchange, both parties (sender and receiver) were asked to rate their experiences in an electronic survey. Periodic email prompts were sent to all participants reminding them to practice their feedback exchanges and complete their feedback surveys. The information gathered from this survey was used to enhance the debrief training. The purpose of this short survey was to encourage accountability of practice and provide some additional insight into
specific feedback challenges within the workgroup. The purpose of the debrief training was to review previous learning principles addressed in the first day of training and allow participants the opportunity to discuss and learn from their practice exercises that were conducted in the interim. Immediately following the training, participants were asked to complete questionnaires that assessed their learning (a manipulation check), individual commitment to change, and perception of the value of the training.

The first post assessment (FE, POS and FSM) was sent to the training and control groups two weeks following the completion of the debrief training. Two weeks following the first post assessment, each group received a second assessment (FO, FS and ENG). All trainings had a sign-in sheet to record attendance in the training. Any participants who did not complete the first pre assessment, training and first post assessment were removed from the study.

**Measures**

*Feedback Environment.* Participants were asked to respond to a 42 item Feedback Environment Scale (FES) developed by Steelman et al. (2004), using a 7-point Likert-type scale. This 42 item instrument assesses the both the supervisor and coworker feedback source across seven dimensions: source credibility, feedback quality, feedback delivery, favorable and unfavorable feedback, source availability, and promotes feedback seeking. High scores indicate a supportive feedback environment. Steelman et al. (2004) reported test-retest reliability from .61 to .77 for the Supervisor factor and .26 to .63 for the Coworker factor. Internal consistency reliability for the Supervisor factor was .96
and the coworker factor .95. Sample items include “In general, I respect my supervisor’s opinions about my job performance.” (supervisor); “My coworkers are fair when evaluating my job performance.” (coworker)

*Feedback Seeking.* Participants were asked to respond to a six-item feedback-seeking measure developed by Williams and Johnson (2000) designed to assess the frequency of feedback seeking. The instrument uses a 6-point scale ranging from 1 (never) to 6 (always). Sample items include: “How often do you ask your supervisor for information about what is required of you to function successfully on the job?” (supervisor); “How often do you ask your co-workers how well you are performing on the job?” (coworker)

*Feedback Seeking Motives.* Feedback seeking motives were measured using a 29-item scale developed by Dahling, O’Malley, and Chau (2011). Five to seven items comprise each of the five feedback motive subscales. Participants responded using a 5-point scale (1 = strongly disagree and 5 = strongly agree). Sample items include “I can learn more about the performance expectations that others set for me by asking for feedback” (instrumental); “I am reluctant to seek feedback because it might negatively influence the way I see myself” (ego defense); “I like seeking feedback because it improves the way I see myself” (ego enhancement); “I am careful about seeking feedback in public because I do not want to look bad” (image defense); “I can appear very competent if I ask for feedback from the right people” (image enhancement). Internal consistencies (α) were .86, .91, .93, .92, and .92, respectively.
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*Feedback Orientation.* Participants were asked to respond to a twelve item feedback orientation measure, which assesses an individual’s feedback orientation along the sub-dimensions of: utility, accountability, social awareness, and feedback self-efficacy (Linderbaum & Levy, 2010). The original measure included 20 items but due to the length of the study we reduced to 12 items, 3 items per sub dimension. The instrument was measured on a 7-point Likert-type scale from strongly disagree to strongly agree. A sample item reads, “I hold myself accountable to respond to feedback appropriately”.

*Perception of Organizational Support.* Participants were asked to respond to a shortened version of the Survey of Perceived Organizational Support (POS; Eisenherger et al., 1986, 1990). Nine items of the POS scale that loaded highest in Eisenberger et al.’s (1986) factor analysis were used. This shortened version of the POS has been used in previous research (Eisenberger et al., 1990). The instrument was measured on a 7-point Likert-type scale from strongly disagree to strongly agree. A sample item reads, “Management really cares about my well-being”.

*Training Treatment Evaluation.* Participants were asked to fill out an 11-item post evaluation for each training session. This evaluation was measured on a 7-point Likert-type scale from strongly disagree to strongly agree. A sample item reads, “The training objectives were met”.

*Individual Commitment to Change.* Participants were asked to respond to a commitment to change (CTC) scale developed by Herscovitch and Meyer (2002). This instrument was measured on a 7-point Likert-type scale from strongly disagree to strongly
Feedback Environment Intervention agree. The six items measuring affective commitment to change included questions such as, “I believe in the value of this change” ($\alpha = .92$). Six items measured normative commitment to change including, “I feel a sense of duty to work toward this change” ($\alpha = .78$). The six items measuring continuance commitment to change included questions such as, “I have too much at stake to resist this change”($\alpha = .71$).

**Analysis**

The hypotheses suggested that the training intervention would impact the feedback environment and other outcomes, as compared to the no-training control group. Pre and post measures of each employee’s FE, FO, FS and FSM were obtained along with potential moderators including POS, CTC and baseline supervisor’s FO. The data in this study has multiple levels because multiple employees fall under the direction of the same supervisor, which means that the employee data is nested within supervisors or multilevel (Hox, Moerbeek, & van de Schoot, 2010; Snijders & Bosker, 1999). Because of this lack of independent observation a multilevel modeling approach is most appropriate (Raudenbush, 2004; Raudenbush & Bryk, 2002). However, the final sample size of subordinates nested within supervisor was 30, which is too small for adequate power in hierarchical linear modeling. Instead, ANCOVA and a mixed model ANCOVA were used to test most hypotheses. The initial (Time 1) level of feedback environment was used as the covariate and the independent, fixed, variable was training/no training.
Results

In preparing for the data analysis, the first step was a manual quality check to determine if there was any systematic pattern to missing data. None were found. Next we reviewed all assessments and removed any participant who did not complete at least the pre assessment and first post assessment. Individuals who missed the last post assessment remained in the study. Additionally, individuals who were assigned to the treatment group but did not participate in the trainings were removed from the study. See Tables 2-4 for treatment and control group participation. Next we reviewed the data for any duplicate assessments in which an individual took the same assessment twice; 3 were removed. Next, the internal consistency reliabilities of all scales were examined. Nunally (1978) suggests that $\alpha > .70$ is an acceptable level of internal consistency. All of the primary scales had acceptable alphas. See Table 5. All variables were explored for skewness and kurtosis. The Kolmogorov-Smirnov (K-S) is a test that takes into account both skewness and kurtosis simultaneously and was used to test for normal distribution. If the test is significant (less than .05) then the data is said to be non-normal. According to Bulmer (1979) skewness less than -1 or greater than 1 indicates high skewness, between -1 and -$\frac{1}{2}$ or 1 and $\frac{1}{2}$ indicates moderate skewness and between -$\frac{1}{2}$ and $\frac{1}{2}$ approximately systematic. Kurtosis is significantly non-normal if it falls outside of the range of 2 times the standard error, and in this study -4.46 to +4.46. Above this error range indicates leptokurtic and below indicates platykurtic. There were two variables of concern that had high skewness and were also leptokurtic. First, the supervisor feedback environment responses ranged from 2.29 to 6.71 ($M=5.45$, $SD=.87$) with a skewness of -
1.35 (SE.23). See Figure 7. Second, ego defense feedback seeking motive responses ranged from 1 to 6.17 (M=1.9, SD=.80) with a skewness of 1.54 (SE = 23). Logarithmic transformation was performed on these variables and they did not impact the interpretation of the following results. Descriptive statistics for both the training and control groups including skewness and kurtosis are shown in Tables 5 to 6.2. For scale intercorrelations see Tables 7 to 8.2.

Preliminary descriptive and multivariate analyses were conducted to ensure the assumptions were met to meet the requirements of an ANCOVA analysis. The first assumption is that there are no significant pre score differences between the treatment and control groups for all variables of interest, including FE, FO, POS, FS, FM and all subscales. An independent samples t test indicated that scores for FES at time 1 were not significantly higher for the training group (M = 5.22, SD = .71) compared to the control group (M = 5.26, SD = .66), t(217) = -.483, p > .05. The second ANCOVA assumptions is that the interaction between the training condition and the pre assessment should not be significant. This assumption was supported. We found no significant interaction between the training and control groups on FES at time 1 (F(1,152) = .146, p > .05).

Following the training, all participants were asked to fill out an assessment asking if they believe the objectives of the course were met and provide their overall evaluation of the course. Respondents overwhelmingly felt the course objectives were met (M = 6.54, SD = .47) and had a favorable evaluation of the course (M = 6.71, SD = .44).

All variables tested in the hypotheses are labeled as follows. FES = Feedback Environment Scale, FO = Feedback Orientation Scale, FS = Feedback Seeking, POS =
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Perception of Organizational Politics, FMI = Feedback Motive Instrumental, FMED = Feedback Motive Ego Defense, FMEE = Feedback Motive Ego Enhancement, FMID = Feedback Motive Image Defense, FMIE = Feedback Motive Image Enhancement. There were 4 time periods (T1=pre training, T2=immediately after training, T3=two weeks after training, T4=four weeks after training).

**Hypothesis Testing**

Hypothesis 1a suggested that individuals participating in the feedback training would report a more favorable supervisor feedback environment compared to those who did not receive the training. Hypothesis 1a was tested with an ANCOVA. Supervisor FES at time 1 was specified as the covariate and supervisor FES at time 3 as the dependent variable. Contrary to this prediction, we found no significant difference between the treatment and control group for supervisor FES at time 3, \( F(1,153) = .45, \ p > .05 \). Coworker FES at time 3 had similar non-significant results \( F(1,153) = .03, \ p > .05 \). Time 4 was also analyzed with similar non-significant results, Supervisor FES at time 4 \( F(1,130) = .09, \ p > .05 \) and Coworker FES at time 4 \( F(1,130) = .35, \ p > .05 \). Hypothesis 1a and 1b were not supported. See Table 19 for estimated marginal means.

Hypothesis 2a suggested that supervisor baseline FO at time 1 would moderate the relationship between training and post-training FES scores, such that training will improve supervisor FES at time 3 when supervisors have a higher feedback orientation. To test Hypothesis 2a, a mixed model ANCOVA using supervisor FES at time 1 as the covariate, supervisor FES at time 3 as the dependent variable and supervisor baseline FO levels at time 1 and training/no training as independent variables. Supervisor FO was
trichotomized for this analysis into low, moderate and high FO. The interaction between FO and training on supervisor FES scores at time 3 was not significant \( (F_{1,42} = .44, p > .05) \). As a result hypothesis 2a was not supported. The same analysis was performed for the coworker feedback environment with similar results. The interaction between baseline supervisor FO at time 1 and training on coworker FES at time 3 was not significant \( (F_{1,42} = .10, p > .05) \). As a result, hypothesis 2b was not supported. We performed the same analysis looking at time 4 for both supervisor FES and coworker FES with similar non-significant results.

Hypothesis 3 suggested that FES at time 3 would be positively related to individual’s FO at time 4. The correlation between the overall feedback environment at time 3 and FO at time 4 was \( (r = .38, p < .01) \) for the control group and \( (r = .44, p < .01) \) for the training group. To investigate the difference in the correlation between groups we used the Fisher’s exact test. We found there was no significant difference between the training and control groups \( (z = -.2, p > .05) \). Therefore, hypothesis 3 was not supported.

Hypothesis 4a and 4b suggested that overall FES at time 3 would be positively related to supervisor FS at time 4 and coworker FS at time 4. The correlation between overall FES at time 3 and overall FS at time 4 was \( (r = .24, p > .05) \) for the control group and \( (r = .26, p > .05) \) for the training group. A Fisher’s exact test suggested no significant difference between the training and control groups \( (z = .11, p > .05) \). Furthermore, for the supervisor factor, the relationship between supervisor FES at time 3 and supervisor FS at time 4 were not significantly different for the training \( (r = .21, p > .05) \) and control groups \( (r = .17, p > .05) \) \( (z = .22, p > .05) \). For the coworker factor, the relationship
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between coworker FES at time 3 and coworker FS at time 4 for the training group \( (r = .32, p < .01) \) was not significantly different from the control group \( (r = .22, p > .05) \) \( (z = -.56, p > .05) \). Therefore hypotheses 4b and 4a were not supported.

Hypothesis 5 suggested that individuals who received the feedback training would have increased instrumental feedback seeking motives and decreased feedback seeking motives based on ego and image as compared to those in the no training control group. We tested this hypothesis with an ANCOVA. The feedback seeking motive at time 1 was entered as a covariate. Hypothesis 5a tested whether the training intervention had a significant impact on the instrumental motive (FMI) at time 3 while controlling for the baseline FMI at time 1. However, contrary to this prediction, we found no significant difference between the treatment and control group for FMI at time 3 \( (F_{(1,153)} = .11, p > .05) \), and similar non-significant results for the rest of the feedback seeking motives; ego defense motive FMED at time 3 \( (F_{(1,152)} = .31, p > .05) \), ego enhancement motive (FMEE) at time 3 \( (F_{(1,151)} = 3.3, p > .05) \), image defense motive (FMID) at time 3 \( (F_{(1,152)} = .96, p > .05) \) and image enhancement motive (FMIE) at time 3 \( (F_{(1,153)} = 1.1, p > .05) \). Hypotheses 5a, 5b, 5c were not supported.

Hypothesis 6 suggested that an individual’s supervisor’s baseline level of feedback orientation would moderate the relationship between training and feedback seeking motives such that training would have a stronger impact on time 3 feedback seeking motives if the supervisor had higher levels of FO. To test Hypothesis 6, a mixed model ANCOVA using baseline feedback motives at time 1 as the covariates, feedback motives at time 3 as the dependent variables and supervisor baseline FO at time 1 and
training as independent variables. Supervisor FO was trichotomized for this analysis into low, moderate and high FO. The interaction between supervisor FO and training group was not significant (FMI at time 3 ($F_{(1,42)} = .14, \ p > .05$), FMED at time 3 ($F_{(1,42)} = .05, \ p > .05$), FMEE at time 3 ($F_{(1,42)} = .03, \ p > .05$), FMID at time 3 ($F_{(1,42)} = .01, \ p > .05$) and FMIE at time 3 ($F_{(1,42)} = .64, \ p > .05$)). Therefore, hypotheses 6a, 6b, and 6c were not supported.

Hypothesis 7 suggested that individual’s perception of organizational support would moderate the relationship between training and FES. The purpose of this analysis was to investigate the influence of a perceived supportive work environment, suggesting that individuals with a high POS would be more likely to transfer what they have learned from the feedback training back to their workplace environment, thus increasing their feedback environment. To test Hypothesis 7a and 7b respectively, a mixed model ANCOVA using FES scores at time 1 as the covariates, FES scores at time 3 as the dependent variables and POS at time 1 and training as independent variables. POS was trichotomized into thirds for this analysis – low, moderate, and high. Contrary to our prediction we did not find any support for an interaction between POS at time 1 and training group on supervisor FES time 3 ($F_{(1,150)} = 3.46, \ p > .05$) and no interaction between POS time 1 and training group on coworker FES at time 3 ($F_{(1,150)} = 3.11, \ p > .05$). Additionally, we looked at time 4 FES and again found similar non-significant interaction results. Hypotheses 7a and 7b were not supported.

Hypotheses 8a, 8b, 8c and 8d suggested that an individual’s commitment to change (affective, normative) would moderate the relationship between training condition
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and post training feedback environment. An ANCOVA using supervisor FES scores at time 1 as the covariate, supervisor FES scores at time 3 as the dependent variable and affective commitment (trichotomized into low, moderate and high) and training condition at time 2 as the independent variables. After adjusting for supervisor FES score at time 1, the interaction between affective commitment and training condition was not significant ($F_{(1,37)} = .08, p > .05$), and the interaction between training condition and normative commitment (trichotomized) was also not significant ($F_{(1,37)} = 3.26, p > .05$). The same analysis was performed for coworker FES at time 3. Again, affective ($F_{(1,37)} = .13, p > .05$) and normative commitment ($F_{(1,37)} = 1.66, p > .05$) did not moderate the relationship between training condition and FES at time 3.

**Exploratory Analysis**

**Within Subjects Analyses.**

Since some of our variables were collected over more than two time points we conducted a repeated measures ANOVA to examine whether or not the training intervention contributed to changes in FES over time. The three variables that were collected over three times included, overall, supervisor and coworker feedback environments. We first analyzed the entire sample for both training and control groups. For FE overall, there was a non-significant interaction between time and training, Wilks’ Lambda = .99, ($F_{(2,127)} = .51, p > .05$). Supervisor FE and coworker FE also had non-significant results; supervisor FE Wilks’ Lambda = .99, ($F_{(2,127)} = .37, p > .05$) and coworker FE Wilks’ Lambda = .99, ($F_{(2,127)} = .22, p > .05$).
We then analyzed the interaction between time and initial levels of supervisor FES at time 1 for those who participated in the training intervention. Initial supervisor FES scores were trichotomized for this analysis into low, moderate, and high FES based on a frequency distribution of scores. There was a significant interaction between initial supervisor FES scores and time on supervisor FES scores at time 3 (Wilks’ Lambda = .90, \( F(2, 87) = 4.74, p < .05 \), partial eta squared = .10). Results indicated that for individuals with an initial low supervisor FES, means significantly increased from Time 1 (\( M = 4.37 \)) to Time 3 (\( M = 4.60 \)). Individuals with a medium or high score on FES at Time 1 did not increase. See Figure 7. We also conducted the same analysis for coworker feedback environment with similar significant findings for individuals with an initial low coworker FES score, means increased from Time 1 (\( M = 4.16 \)) to Time 3 (\( M = 4.55 \)) (Wilks’ Lambda = .86, \( F(2, 91) = 7.24, p < .01 \), partial eta squared = .14). Individuals with a medium or high score did not increase. See Figure 8. Not surprisingly overall FES also increased for individuals with a low overall FES compared to those with a medium to high FES.

To investigate this further, we conducted a repeated measures ANOVA on the entire sample including both training and control participants. Here we found a significant interaction between initial FES scores and time on FES scores at time 3 for both the training and control groups (Wilks’ Lambda = .87, \( F(1, 144) = 14.34, p < .05 \), partial eta squared = .17). We also found similar increases in means for the control group alone (\( M = 4.49 \)) to (\( M = 4.76 \)). The data suggests some significant results for the whole data set, rather than just those who went through training. This could indicate some spill
over such that even though an individual did not attend the training they could have
experienced better feedback exchanges from those who attended the training, thus
increasing that individual’s perception of their feedback environment. To investigate
this further we looked at individuals whose supervisor went through the training to see if
the impact of the training raised FES scores for supervisors who initially have low FES
scores, those we most want to impact. There was a significant interaction between initial
FES scores and time on FES scores at time 3 for individuals whose supervisor attended
the training. Mean FES scores increased from time 1 ($M = 4.37$) to Time 3 ($M = 4.62$)
(Wilks’ Lambda = .84, ($F_{(2, 44)} = 4.16, p < .05$, partial eta squared = .16).

**Results for Organization #1.**

One of the organizations that participated had a significantly higher percentage of
employees who attended the training than the other participating organizations. This
organization (Organization 1) had 41% of employees participate in the feedback training
compared to the other organizations at 13%, 12%, and 4% (Table 2). Since this
organization had a higher percentage of participation there could be a greater likelihood
of a climate/environment training intervention. Organizational climates are comprised of
the shared perceptions and meanings within an organization or work group (Ostroff,
Kinicki, Tamkins, 2003). Therefore, an intervention designed to impact climate may have
greater effectiveness when a larger percentage of work group members participate.

To investigate this, we performed a paired samples t-test for the entire
organization. The results indicated that scores were significantly higher for the feedback
environment post training, FE at time 3 ($M = 5.31, SD .66$), than prior to the training, FE
at time 1 ($M = 5.18, SD = .70$), $t(64) = -2.02, p < .05, d = .25$. We then ran a paired samples t-test and only included work groups that had 2 or more members who attended the training together, post training FE at time 3 significantly increased to ($M = 5.33, SD = .67$) over pre training scores at FE time 1 ($M = 5.17, SD = .72$), $t(59) = -2.35, p < .05, d = .30$. See Table 27-28. A repeated measures ANOVA was also conducted to examine the interaction between time and initial levels of FES for this organization. Again, individuals with initial lower FES scores had significantly higher mean scores post training. (FES Time 1 ($M=4.46$), FES Time 3 ($M=4.86$), Wilks’ Lambda = .83, $F_{(2,59)} = 5.85, p < .01$, partial eta squared = .17). Individuals with a medium or high initial score did not increase. See Figure 9.

The next set of analyses examined supervisor and coworker FES separately. Supervisor FES at Time 3 ($M = 5.44, SD = .80$) was not significantly different from Supervisor FES at Time 1 ($M = 5.32, SD = .85$), $t(63) = -1.70, p > .05$. Similarly, coworker FES at Time 3 ($M = 5.09, SD .91$) was not significantly different from coworker FES at Time 1 ($M = 5.05, SD = .75$), $t(63) = -.38, p > .05$.

A repeated measure ANOVA was again conducted to examine the interaction between time and initial levels of supervisor and coworker FES for this organization. Consistent with previous findings, results indicated that individuals with an initial low supervisor or coworker FES benefited most from the training (supervisor FES Time 1 ($M=4.33$), supervisor FES Time 3 ($M = 4.76$), Wilks’ Lambda = .82, $F_{(2,58)} = 6.56, p < .01$, partial eta squared = .19; coworker FES Time 1 ($M =4.25$), coworker FES Time 3 ($M=4.71$), Wilks’ Lambda = .86, $F_{(2,60)} = 4.95, p < .01$, partial eta squared = .14). We
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repeated this same analysis with individuals who attended the training with two or more group members. Not surprisingly, both supervisor and coworker FES increased at Time 3 for those with an initial low supervisor or coworker FES who attended with 2 or more coworkers (supervisor FES Time 1 ($M = 4.33$), supervisor FES Time 3 ($M = 4.76$), Wilks’ Lambda $= .81$, $F_{(2, 54)} = 6.2, p < .01$, partial eta squared $= .18$; coworker FES Time 1 ($M=4.21$), coworker FES Time 3 ($M=4.76$), Wilks’ Lambda $= .86$, $F_{(2, 58)} = 4.68, p < .01$, partial eta squared $= .14$).

Since this study had two post assessments we thought it would be beneficial to look to see if time 3 to time 4 had similar findings. A repeated measure ANOVA was again conducted to examine the interaction between time and initial levels of FES for this organization looking at Time 3 and 4. Here we found no significant interaction between initial supervisor FES scores or coworker FES scores at time 4 and means decreased slightly from Time 3 to Time 4 but were not significant (supervisor FES Time 3 ($M=4.69$), supervisor FES Time 4 ($M=4.58$), Wilks’ Lambda $= .95$, $F_{(2, 45)} = 1.17, p > .05$, partial eta squared $= .05$; coworker FES Time 3 ($M=4.73$), coworker FES Time 3 ($M=4.69$), Wilks’ Lambda $= .96$, $F_{(2, 46)} = .97, p > .05$, partial eta squared $= .04$).

To further investigate, we examined the differences between the training and control groups for Organization 1. There was a significant difference in supervisor FE at time 3 between the training and control groups. Scores were higher for the training group ($M = 5.50$, $SD = .71$) than for the control group ($M = 5.34$, $SD = .91$), $t(62) = .83, p < .05$, $d = .21$. Although both overall and coworker FE at time 3 mean scores for the training group (overall FE $M = 5.34$, $SD = .63$; coworker FE $M = 5.18$, $SD = .82$) were higher than the
control group Time 1 scores (overall FE $M = 5.27, SD = .69$; coworker FE $M = 4.97, SD = .103$), they were not significantly different (overall FE $t(62) = .50, p > .05$; coworker FE $t(62) = .89, p > .05$).

Since evidence supports that this particular organization’s feedback environment increased, our next step was to investigate the subscales of the feedback environment to see if any particular subscale had significant differences pre/post training. We again used a paired samples t-test to assess differences between time 1 and time 3 for all seven subscales (credibility, delivery, quality, favorable, unfavorable, available, promotion). Both sources (supervisor and coworker) had 1 significant subscale improvement from time 1 to time 3. Supervisor delivery mean scores increased to $(M = 5.8, SD = 1.14)$ from pre training scores of $(M = 5.61, SD = 1.10)$, $t(63) = -2.1, p < .05, d = .26$, and Coworker availability scores increased to $(M = 5.4, SD .94)$ over pre training scores of $(M = 5.16, SD = 1.03)$, $t(58) = -2.21, p < .05, d = .29$. These results align with many of the course topics within the feedback training itself. Feedback delivery, while it was only one component of the training, was discussed in various ways throughout. Additionally, this was one of the areas in which there was a high degree of in classroom practice. In regards to coworker availability, participants were encouraged to practice with their coworkers.

Another interesting finding for this particular organization was that while the feedback environment mean scores improved and were significant, overall feedback orientation score mean changes did not increase post training $(M = 5.58, SD = .68)$ from
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pre training \( (M = 5.64 \ SD = .67) \), \( t(49) = 1.59, p > .05 \). This suggests that the training intervention affected the feedback environment, as intended, but not feedback orientation.

**Discussion**

The goal of this research study was to examine the role of a training intervention in improving the favorability of the feedback environment. For years, empirical research has supported the claims that the feedback environment is related to numerous beneficial outcomes for employees and organizations (Levy & Thompson, 2010; Steelman et al., 2004). Given these positive results, it is important to examine antecedents to a favorable feedback environment. In this case, we examined the impact on training supervisors and employees. Improving the feedback environment is increasingly important given the organizational trend of eliminating performance appraisals and relying solely on on-going managerial feedback and coaching (Dahling & O’Malley, 2011). The ultimate goal of this research was to change the paradigm in how we address performance feedback in the workplace by transforming the environment within which feedback exists (Pulakos & O’Leary, 2011). While the primary hypotheses proposed involving a comparison between the feedback environment training group and a no-training control group were not supported, we did find supporting evidence that suggests we may be able to increase an organization’s feedback environment through this type of intervention. Additionally, some evidence provided insights that may guide future research questions and designs regarding this important theoretical and practical topic.
As the first hypothesis revealed, there was no evidence of training improvements or any differences between the training and control groups for the full sample. Subsequently, all remaining hypothesized relationships and interactions were also non-significant. While these non-significant findings were at first disappointing at first, after additional review, they provided greater insight into who FES training may benefit most.

Historically, organizations have been living in a vicious cycle of reinvention after reinvention of their performance management systems (Pulakos et al., 2015) and truly believing their discontent with performance management squarely resides with dysfunctional forms and process. This, coupled with the inherent gap between science and practice and a lack of understanding or awareness of the complexities of psychological and social dynamics of feedback, may lower the perceived importance of training compared to re-designing a new form or process. One could argue that due to this lack of understanding, the formal performance management process has become the scapegoat of a dysfunctional or ineffective culture of feedback since day 1. As Lawler (2014) acknowledged, condemnation of the performance review is not a recent phenomenon. A number of researchers have suggested that we have been looking in the wrong direction and need to focus on the environment within which feedback exists (Anseel, Lievens, & Levy, 2007; Levy & Williams, 2004; Murphy & Cleveland, 1995; Steelman et al., 2004).

According to the Society for Industrial and Organizational Psychologists, the number one workforce trend for 2017 is the changing nature of performance management. One of the recent trends has been with large organizations contemplating ending their
annual performance review and rating process. They suggest that it is time to think outside of the traditional performance review box. Dahling and O’Malley (2011) suggest that we need to research ways to improve the ongoing feedback process within organizations to improve performance management within the workplace. Since feedback is an important organizational resource that helps produce performance and motivational outcomes that are most valued by organizations (Ashford & Cummings, 1985), our goal for this study was to heighten the awareness of the benefits of ongoing performance feedback and provide a roadmap for both organizations and researchers for future feedback change interventions.

Of the 4 organizations that participated in the study, 3 out of 4 organizations had less than 13% of their employees participate in the training. This is the unfortunate nature of field data. Multiple organizations were used to try to increase the sample size overall. However, based on the results it appears that simply increasing the sample size may not have been the right goal. Instead, it appears that density of participation within an organization may be an important factor to consider when training to impact a climate/environmental construct.

While these organizations agreed to participate based on the perceived value of the training, it was free and they were dissatisfied with their current performance management system, their commitment to sending all of their employees to training, suggested otherwise. In fact, sending all or a majority of their employees was met with a bit of resistance. Additionally, initial discussions with these organizations focused on just working with supervisors only, reviewing their performance appraisal form and simply
incorporating this topic into one of their existing training programs. Since sending both employees and supervisors was one of the requirements of the research for getting the free training, they all obliged in the end. One of the initial organizations that was not selected to participate, required this training to be voluntary and employees had to come on their own time (Saturdays or evenings), and asked if we could review their current appraisal form prior to the training. Clearly, these three organizations and the one not selected, while maybe discontent with their current feedback culture, did not see the initial value of sending all of their employees through this training. Unfortunately, this is a common theme across organizations and why this research is critical to changing the paradigm. Future research may want to examine the impact of both training supervisors only on FE, as well as the impact of training all employees.

While we assessed employee commitment to change and perception of organizational support, our research did not measure an organization’s commitment to change. Change is a conscious, deliberate, and intended decision to enhance individual development and to increase an organization’s effectiveness and capability (Porras & Roberson, 1992). The low percentage of employee participation perhaps indicates their level of commitment was less than their level of dissatisfaction with their current performance feedback culture. Perhaps it is not surprising that this low level of participation and the nature of the training goal of increasing a feedback culture would not be successful. Since the feedback environment assesses an individual’s perceptions of the supervisor and coworker feedback processes, we should not expect to see feedback perceptions to change if only one person within a work group attends the training and has
limited interactions with others who may have attended the training outside of their workgroup. Changing the feedback environment may be viewed as a culture change intervention. Kotter (1999) suggests that a critical mass or powerful guiding coalition of employees is needed for a culture change intervention to be effective. Future research may examine relative proportion of participation in a training intervention, as well as the representation across organizational levels of participants that can effectively impact change.

Our repeated measures ANOVA revealed that individuals with an initially unfavorable feedback environment perception seemed to have the greatest benefit from participating in the training. If somebody already perceives a perfect feedback environment, training cannot increase that perception, since the score is already at the top of the scale. Smither et al. (1995) found that managers whose initial level of performance was medium to low improved after receiving upward feedback compared to managers with an initial high level of performance. Therefore, understanding initial organizational feedback environmental levels may be helpful in establishing objective training outcomes. For example, if an organization already has a high feedback environment, training may have less impact compared to an organization that is lower on the feedback environment scale. Indeed, initial theoretical development of the feedback environment construct endorsed pre-testing supervisors on feedback environment (actually their subordinate’s perceptions of their feedback environment) to understand which supervisors and which feedback environment dimensions would be most impacted by training (Steelman et al., 2004). While this is important for research, it also has practical implications.
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Organizations should have a clear understanding of the return on investment before any intervention is initiated.

As revealed in the results section, one company (Organization 1) had 41% of their participants attend the training. Another 5% attended the training but did not participate in any of the assessments. Therefore, close to half of this organization participated in the training intervention. Additionally, senior staff including the chief executive officer attended the training and followed up after the training with a letter of thanks and appreciation for the content and the facilitator’s time. The commitment of this organization was substantial and visible to all participants and consequently may be why it was the only organization with significant changes with their feedback environment.

Post training scores for the overall feedback environment for this organization increased following the training and the training effect improved when two or more coworkers attended together. This finding supports the notion that leadership commitment is critical and group participation is better than individual participation with this type of training intervention (Gabris & Ihrke 2007).

As the results revealed for organization 1, both the training and control groups FES scores increase from time 1 to time 3. Since this organization’s workflow designs are interdisciplinary in nature, we could not isolate the treatment group from the control group, and this could explain why there were limited differences between them. Like other organizations, teams have become entrenched within our organizational structures (Dominick, Reilly, & Mcgourty, 1997). Individuals who attended the training and learned successful feedback behaviors perhaps shared with their team members or other
employees who did not attend the training. While the other 3 organizations could have had similar cross over, the fact that they had a low percentage of people participating reduces the likelihood that individuals would experience feedback exchange spillover.

Ultimately the goal of this study was to create a sustainable organizational change with regards to performance feedback within the workplace. While we had an impact after the training, we wanted to see if these changes were sustainable. As the results indicated there was a slight decrease from time 3 to time 4 in overall FE, supervisor FE, and coworker FE. While these decreases were not significant, they are concerning to the initial goal of this study of creating a desirable change that is sustained. Planned change is when the change becomes the new normal and individuals do not revert back to their old ways (Worley & Cummings 2009). Since time 4 was only two weeks after time 3, sustainable results may be harder to identify. Perhaps having a longer window in the future would give better insights into feedback improvement sustainability.

While the original hypotheses as presented did not support a training effect between the training and control group for the entire sample, we did find that for organization 1, supervisor FE for the training group for both time 3 and time 4 was higher than for control group, but no difference in coworker FE. Since employees typically receive feedback from their direct supervisors it is not surprising that there was a significant difference here but not with coworker FE. It is more common to receive feedback from your direct supervisor than fellow coworkers (Dominick et al., 1997), therefore the likelihood of feedback exchanges are higher for the supervisor - employee relationship than for coworker exchanges with each other. In addition, since there was a
short timeframe between the training and the first and second post assessment, coworkers may have not had a chance to use or be exposed to new feedback exchanges.

Another interesting finding was the non-significant result found for feedback orientation within the entire sample from time 1 to time 4. For some this may be surprising and for others it may confirm their assumptions. For years researchers have been debating, much like the old “Chicken or the Egg” analogy, does the environment shape the person or does the person shape the environment? While an individual’s feedback orientation is generally viewed as stable, it can be influenced (to some extent) by individual or environmental change efforts over time (Linderbaum & Levy, 2010). London and Smither (2002) contend “as a positive feedback culture becomes stronger, individuals seek and receive feedback more often, deal with it mindfully, and use it to calibrate and adjust their behavior to improve performance” (p. 86). Therefore, they contend that a strong feedback culture may enhance an individual’s receptivity to feedback. The current body of research supports the assumption that contextual features of the environment are critical for successful feedback transmissions (Linderbaum & Levy, 2010). The non-significant results within this study could be explained by the timing of the post assessment. The post assessment was delivered approximately 4 weeks after training, therefore it could be hypothesized that since an individual’s feedback orientation is generally viewed as stable (Linderbaum & Levy, 2010; London & Smither, 2002), more time would be needed for an individual to change their personal perspective on feedback. However, this research does support the notion that you we can change an
organization’s feedback environment without necessarily changing an individual’s perspective on feedback first.

This study has shed some light in a new direction and offered some initial data that suggests that we can change a feedback environment without necessarily changing an individual’s feedback orientation. Further research is needed to assess the longer-term implications of changing an organization’s feedback environment on an individual’s feedback orientation. Research should focus on intervention designs to increase an organization’s feedback environment for the entire organization with emphasis being placed on senior managers and executives participating. Additionally, by changing our research methodologies to focus on how to change an organization’s feedback environment, we can impact in a meaningful way both the scientific and practical world, ultimately driving the mission of Industrial and Organizational Psychologists to make the workplace better.

**Research Limitations and Implications.**

The purpose of this study was to examine the role of a training intervention on the feedback environment. Organizational work settings can be dynamic and different which inherently increases internal validity concerns and renders casual claims about outcomes difficult to make.

Four organizations participated in the study and there were 4 time periods across all organizations. Training participants were selected by either Human Resources or their direct supervisor. There was no random assignment. Without random assignment it may be difficult to make casual claims regarding the impact of your intervention since pre-
existing unknown factors and variables could influence the results. For example, when examining the impact of training, there may be other factors such as self-efficacy, emotional intelligence, self-esteem, education, personal issues and team restructuring that may be playing a role in the outcome. If these other variables are not controlled, it may be difficult for a researcher to attest that the treatment was the sole factor causing the outcome (Henrichsen, Smith, & Baker, 1997). The other concern is regression to the mean. This phenomenon occurs when unusually large or small measurement values are followed by measurements that are closer to the population mean. This is due to random measurement error (Barnett, van der Pols & Dobson, 2005). Within this study, regression to the mean could have contributed to the observed effects for those with initially high or low feedback perceptions. This means that those participants in the least favorable feedback environments at Time 1 could have improved their perceptions of FE at Time 2 due to a statistical artifact rather than the training. Similarly, the favorable FE perceptions at Time 1 could have declined at Time 2 due to artifact alone. Future research should continue to improve FE training interventions and examine their impact on FE over time.

The other major limitation to this study and researching organizations in general is ensuring the control group is not exposed to the training group. While this study attempted to isolate the control groups, due to scheduling, work demands, and organizational challenges, some training and control group members likely interacted. In today’s workplace, ensuring that workers assigned to the control group are not exposed to the training group is difficult at best. Even considering geographic differences, feedback can be exchanged through traditional sources such as phone and email, as well as new
technology that allows for two-way live video interactions. This study presented some evidence to this cross exposure to learning objectives between the training and control group for one organization. This is not necessarily a bad thing, since one could argue that there is even greater return on training investment if there is spillover between those who participated in training and those who did not participate in training.

Another limitation was the percentage of employees, and specifically management, who did not participate in the training. Our goal was to change the environment of an organization. Changing an environment factor is not a one-person initiative (Kotter, 1999). Within this research study all but one organization had less than 15% of their workforce participate in the training. Since this intervention was at no cost to the employer, other than labor time for those employees participating, it was disappointing that more individuals did not participate. Evidence from this study suggests that organizations that are considering an intervention to change an organizational climate factor should pay attention to the percentage of individuals who participate in the intervention, since the only organization within this study to increase their feedback environment had 41% attendance rate. Going forward, feedback researchers should focus on ways to increase participation rates with their sample organizations. First, perhaps designing these interventions to be a bit more flexible in regards to disrupting daily operations. For example, maybe a series of short workshops spread over a few months instead of an entire morning or afternoon or partnering with organizations to identify organizational and individual incentives would help increase participation rates. We did offer a free engagement report for organizations that
participated, but perhaps there was something else that would have been a better incentive. Ultimately, to drive momentum and participation, feedback researchers need to provide empirical evidence of intervention success and subsequent performance outcomes. This study attempted to do just that.

This study also attempted a macro design in which our goal was to increase the $n$ size of our sample by training everybody in the organization. The results of this study, indicated that perhaps a better approach would be to identify employees and or supervisors who could benefit from the training the most, i.e. focus the training intervention on those with low FE. The initial pre assessment could be used as a possible selection tool and therefore provide insights to possible training modifications. For example, on the pre assessment, if the quality of feedback is rated low for the coworker source, the training could spend more time in that area compared to another area.

**Conclusion**

It’s time to put out the fire that has been fueling the debate to eliminate the performance management process in organizations. It is time to reconnect performance management to effectiveness (Pulakos & O’Leary, 2011) and stop the vicious cycle of process and system reinvention after reinvention (Pulakos et al., 2015). We hope this research will create a new momentum of its own by refocusing research on feedback interventions that create environments in which individuals are consistently and proactively learning from others, sharing performance feedback, and proactively seeking information to increase their individual performance. It is time to create a new paradigm
shift in which organizations view performance feedback as critical for growth and development and not with disdain and suspicion.
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Appendix A: Figures

Figure 1. Feedback Environment Training Model

Figure 2. Relationship Between the Training and FE and FO

FE = Feedback Environment
FO = Feedback Orientation
FS = Feedback Seeking Frequency
FSM = Feedback Seeking Motives
POS = Perception of Organizational Support
ECT = Commitment to Change
ENG = Employee Engagement
Figure 3. Relationships Between FE and FS

Figure 4. Relationships Between the Training and FS Motives and FO
Figure 5. Relationships Between Training and FE with POS Moderating Effects
Figure 6. Relationships Between Pre and Post Training FE with Affective and Normative Commitment Moderating Effects
Figure 7: Interaction Between Initial Supervisor FE and Time on Time 3 FE

Figure 8: Interaction Between Initial Coworker FE and Time on Time 3 FE
Figure 9: Interaction Between Initial Overall FE and Time on Time 3 FE
Appendix B: Items

Feedback Environment Scale Short Form


Supervisor Feedback

Source Credibility (SC)
My supervisor is generally familiar with my performance on the job.
In general, I respect my supervisor’s opinions about my job performance.
My supervisor is fair when evaluating my job performance.

Feedback Quality (FQ)
My supervisor gives me useful feedback about my job performance.
The feedback I receive from my supervisor helps me do my job.
The performance information I receive from my supervisor is generally not very meaningful. (R)

Feedback Delivery (FD)
When my supervisor gives me performance feedback, he or she is considerate of my feelings.
My supervisor generally provides feedback in a thoughtless manner. (R)
My supervisor is tactful when giving me performance feedback.

Favorable Feedback (FF)
I seldom receive praise from my supervisor. (R)
My supervisor generally lets me know when I do a good job at work.
I frequently receive positive feedback from my supervisor.

Unfavorable Feedback (UFF)
On those occasions when my job performance falls below what is expected, my supervisor lets me know.
On those occasions when I make a mistake at work, my supervisor tells me.
I frequently receive negative feedback from my supervisor.

Feedback Availability (FA)
My supervisor is usually available when I want performance information.
My supervisor is too busy to give me feedback. (R)
The only time I receive performance feedback from my supervisor is during my performance review. (R)
Promotes Feedback Seeking (PFS)
My supervisor is often annoyed when I directly ask for performance feedback. (R)
I feel comfortable asking my supervisor for feedback about my work performance.
My supervisor encourages me to ask for feedback whenever I am uncertain about my job performance.

Co-Worker Feedback

Source Credibility
My co-workers are generally familiar with my performance on the job.
In general, I respect my co-workers' opinions about my job performance.
My co-workers are fair when evaluating my job performance.

Feedback Quality
My co-workers give me useful feedback about my job performance
The feedback I receive from my co-workers helps me do my job.
The performance information I receive from my co-workers is generally not very meaningful.

Feedback Delivery
When my co-workers give me performance feedback, they are usually considerate of my feelings.
My co-workers generally provide feedback in a thoughtless manner.
In general, my co-workers are tactful when giving me performance feedback.

Favorable Feedback
I seldom receive praise from my co-workers.
My co-workers generally let me know when I do a good job at work.
I frequently receive positive feedback from my co-workers.

Unfavorable Feedback
On those occasions when my job performance falls below what is expected, my co-workers let me know.
On those occasions when I make a mistake at work, my co-workers tell me.
My co-workers tell me when my work performance does not meet organizational standards.

Source Availability
My co-workers are usually available when I want performance information.
My co-workers are too busy to give me feedback.
I interact with my co-workers on a daily basis.
Promotion of Feedback Seeking
My co-workers are often annoyed when I directly ask them for performance feedback. I feel comfortable asking my co-workers for feedback about my work performance. My co-workers encourage me to ask for feedback whenever I am uncertain about my job performance.
Feedback Orientation Scale


**Utility**
- Feedback contributes to my success at work.
- To develop my skills at work, I rely on feedback.
- Feedback is critical for improving performance.
- Feedback from supervisors can help me advance in a company.
- I find that feedback is critical for reaching my goals.

**Accountability**
- It is my responsibility to apply feedback to improve my performance.
- I hold myself accountable to respond to feedback appropriately.
- I don’t feel a sense of closure until I respond to feedback.
- If my supervisor gives me feedback, it is my responsibility to respond to it.
- I feel obligated to make changes based on feedback.

**Social Awareness**
- I try to be aware of what other people think of me.
- Using feedback, I am more aware of what people think of me.
- Feedback helps me manage the impression I make on others.
- Feedback lets me know how I am perceived by others.
- I rely on feedback to help me make a good impression.

**Feedback Self-Efficacy**
- I feel self-assured when dealing with feedback.
- Compared to others, I am more competent at handling feedback.
- I believe that I have the ability to deal with feedback effectively.
- I feel confident when responding to both positive and negative feedback.
- I know that I can handle feedback that I receive.
Feedback Seeking Scale


How often do you ask your supervisor for information about what is required of you to function successfully on the job?

How often do you ask your co-workers for information about what is required of you to function successfully on the job?

How often do you ask your supervisor how well you are performing on the job?

How often do you ask your co-workers how well you are performing on the job?

How often do you ask your supervisor for information about how well you are getting along with or fitting in with other workers?

How often do you ask your co-workers for information about how well you are getting along with or fitting in with other workers?

How often do you compare your co-workers’ performance to your own?

How often do you pay attention to how your supervisor acts towards you in order to understand how he/she perceives and evaluates your job performance?

How often do you observe the characteristics of co-workers who are rewarded by your supervisor and use this information?

How often do you pay attention to informal, unsolicited feedback from others?

How often do you pay attention to casual remarks made by others regarding your job performance?
Feedback Seeking Motives


**Instrumental Motive**
I can learn more about the performance expectations that others set for me by asking for feedback.
My job-related skills can be improved if I ask for feedback.
I ask for feedback to help me “learn the ropes” when new performance goals and expectations are set for me.
I seek feedback when I am uncertain about my role in the organization.
When I ask for feedback, I do so because I want information related to my duties in the organization.

**Ego-Defense**
I tend to not ask for feedback because it might be negative and make me feel bad about myself.
The amount of feedback that I ask for depends on whether or not I think it will hurt my feelings.
I am reluctant to seek feedback because it might negatively influence the way I see myself.
Asking for feedback is threatening to my ego.
Being judged could change the way I see myself, so I tend to avoid feedback.

**Ego-Enhance**
I sometimes ask for feedback because I know the reply will help me feel better about myself.
I like seeking feedback because it improves the way I see myself.
I sometimes ask for feedback when I know the reply will be positive because it makes me feel good.
I ask for feedback that I know will be positive when I need an ego boost.
Feedback can really improve the way that I feel about myself, so I try to seek it out.
I ask for feedback when I anticipate that it will be positive because it lets me give myself a “pat on the back.”
I look for opportunities to seek feedback that I know will be positive because it improves my self-image.

**Image-Defense**
I dislike asking for feedback because it can make me look incompetent to others.
I am careful about seeking feedback in public because I do not want to look bad.
I want to control the way that others see me, so I am reluctant to seek feedback that could damage my image.
I avoid asking for feedback at work because I don’t want people to think poorly of me. Asking for feedback at work is a risk to my public image that I don’t like to take. Others might think less of me if they know that I am not an expert and that I need feedback.

**Image-Enhance**
I like to ask for feedback because it gives me a good opportunity to remind others of my accomplishments. Asking for feedback is a good way to emphasize my good qualities to others. I ask for feedback at work because I know it will enhance the way that others see me. Requesting feedback can communicate to others that I am a good, responsible worker. I can make a good impression on others by asking for feedback on tasks that I know I have performed well on. I can appear very competent if I ask for feedback from the right people.
Perceived Organizational Support Scale


(Name of company) management shows very little concern for me.

(Name of company) management cares about my general satisfaction at work.

(Name of company) management really cares about my well-being.

(Name of company) management strongly considers my goals and values.

(Name of company) management cares about my opinions

Even if I did the best job possible, (name of company) management would fail to notice.

(Name of company) management takes pride in my accomplishments at work.

(Name of company) management is willing to extend itself in order to help me perform my job to the best of my ability.

Help is available from ([name of company) management when I have a problem.
Commitment to Change


**Affective commitment items**
I believe in the value of this change.
This change is a good strategy for this organization.
I think that management is making a mistake by introducing this change. (R)
This change serves an important purpose.
Things would be better without this change. (R)
This change is not necessary. (R)

**Continuance commitment items**
I have no choice but to go along with this change.
I feel pressure to go along with this change.
I have too much at stake to resist this change.
It would be too costly for me to resist this change.
It would be risky to speak out against this change.
Resisting this change is not a viable option for me.

**Normative commitment items**
I feel a sense of duty to work toward this change.
I do not think it would be right of me to oppose this change.
I would not feel badly about opposing this change. (R)
It would be irresponsible of me to resist this change.
I would feel guilty about opposing this change.
I do not feel any obligation to support this change. (R)
### Appendix C: Tables

**Table 1**

**Demographics**

<table>
<thead>
<tr>
<th>Demographic</th>
<th>All Participants</th>
<th>Training</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 25</td>
<td>6 (3%)</td>
<td>3 (3%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>26 to 35</td>
<td>36 (16%)</td>
<td>20 (17%)</td>
<td>16 (16%)</td>
</tr>
<tr>
<td>36 to 45</td>
<td>65 (30%)</td>
<td>29 (25%)</td>
<td>36 (35%)</td>
</tr>
<tr>
<td>46 to 55</td>
<td>55 (25%)</td>
<td>25 (22%)</td>
<td>30 (29%)</td>
</tr>
<tr>
<td>56 to 65</td>
<td>42 (19%)</td>
<td>28 (24%)</td>
<td>14 (14%)</td>
</tr>
<tr>
<td>66+</td>
<td>15 (7%)</td>
<td>11 (10%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td><strong>Length of Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to year</td>
<td>26 (11.9%)</td>
<td>14 (12.1%)</td>
<td>12 (11.7%)</td>
</tr>
<tr>
<td>2 to 5 years</td>
<td>68 (31.1%)</td>
<td>36 (31.0%)</td>
<td>32 (31.1%)</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>66 (30.1%)</td>
<td>38 (32.8%)</td>
<td>28 (27.2%)</td>
</tr>
<tr>
<td>11 to 15 years</td>
<td>37 (16.9%)</td>
<td>17 (14.7%)</td>
<td>20 (19.4%)</td>
</tr>
<tr>
<td>16+</td>
<td>22 (10.0%)</td>
<td>11 (9.5%)</td>
<td>11 (10.7%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>154 (70.3%)</td>
<td>85 (73.3%)</td>
<td>69 (67.0%)</td>
</tr>
<tr>
<td>Male</td>
<td>65 (29.7%)</td>
<td>31 (26.7%)</td>
<td>34 (33.0%)</td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>116 (53.0%)</td>
<td>116 (53.0%)</td>
<td>103 (47%)</td>
</tr>
<tr>
<td>Control Group</td>
<td>103 (47.0%)</td>
<td>103 (47%)</td>
<td></td>
</tr>
<tr>
<td><strong>Supervisor Trained</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained</td>
<td>47 (21.5%)</td>
<td>31 (26.7%)</td>
<td>16 (15.5%)</td>
</tr>
<tr>
<td>Not Trained</td>
<td>172 (78.5%)</td>
<td>85 (73.3%)</td>
<td>87 (84.5%)</td>
</tr>
<tr>
<td><strong>Baseline Sup FO</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FO</td>
<td>56 (25.6%)</td>
<td>39 (33.6%)</td>
<td>17 (16.5%)</td>
</tr>
<tr>
<td>No FO</td>
<td>163 (74.4%)</td>
<td>77 (66.4%)</td>
<td>86 (83.5%)</td>
</tr>
<tr>
<td><strong>Feedback Practice</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivered</td>
<td>17 (8%)</td>
<td>15 (13%)</td>
<td>2 (1.9)</td>
</tr>
</tbody>
</table>
Table 2

Organization Participation and FE means

<table>
<thead>
<tr>
<th>Organization</th>
<th>Training</th>
<th>Control</th>
<th>% Trained</th>
<th>% Trained (d)</th>
<th>FE mean Time 1</th>
<th>FE mean Time 2</th>
<th>FE mean Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization 1</td>
<td>37</td>
<td>30</td>
<td>41%</td>
<td>46%</td>
<td>5.1</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Organization 2</td>
<td>26</td>
<td>24</td>
<td>13%</td>
<td>23%</td>
<td>5.3</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Organization 3</td>
<td>33</td>
<td>39</td>
<td>12%</td>
<td>18%</td>
<td>5.3</td>
<td>5.2</td>
<td>5.3</td>
</tr>
<tr>
<td>Organization 4</td>
<td>20</td>
<td>10</td>
<td>4%</td>
<td>5%</td>
<td>4.9</td>
<td>4.9</td>
<td>5.0</td>
</tr>
</tbody>
</table>

(d) = trained but did not complete assessments, % based on all employees at that workforce location.

Table 3

Survey Participation by Organization

<table>
<thead>
<tr>
<th>Organization</th>
<th>Pre Assessments</th>
<th>% (T)</th>
<th>Post 1 Assessments</th>
<th>% (P)</th>
<th>Post 2 Assessments</th>
<th>% (P1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization 1</td>
<td>91</td>
<td>.89</td>
<td>69</td>
<td>.75</td>
<td>57</td>
<td>.63</td>
</tr>
<tr>
<td>Organization 2</td>
<td>54</td>
<td>.27</td>
<td>41</td>
<td>.76</td>
<td>32</td>
<td>.59</td>
</tr>
<tr>
<td>Organization 3</td>
<td>76</td>
<td>.29</td>
<td>52</td>
<td>.68</td>
<td>31</td>
<td>.41</td>
</tr>
<tr>
<td>Organization 4</td>
<td>31</td>
<td>.06</td>
<td>17</td>
<td>.55</td>
<td>16</td>
<td>.52</td>
</tr>
<tr>
<td>Total</td>
<td>252</td>
<td>.24</td>
<td>179</td>
<td>.71</td>
<td>136</td>
<td>.54</td>
</tr>
</tbody>
</table>

(T) = % based on pre assessments to organization N size; (P) = percent based on post assessment 1 numbers to pre assessment numbers; (P1) percent based on post assessment 2 numbers to pre assessment numbers.
Table 4

*Initial Overall Feedback Environment Scores (pre training)*

<table>
<thead>
<tr>
<th>Level</th>
<th>Overall FE</th>
<th>%</th>
<th>Mean</th>
<th>Supervisor FE</th>
<th>%</th>
<th>Mean</th>
<th>Coworker FE</th>
<th>%</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>71</td>
<td>.32</td>
<td>4.4</td>
<td>69</td>
<td>.33</td>
<td>4.46</td>
<td>72</td>
<td>.32</td>
<td>4.22</td>
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<tr>
<td>Medium</td>
<td>74</td>
<td>.34</td>
<td>5.3</td>
<td>72</td>
<td>.35</td>
<td>5.58</td>
<td>75</td>
<td>.34</td>
<td>5.07</td>
</tr>
<tr>
<td>High</td>
<td>74</td>
<td>.34</td>
<td>6.1</td>
<td>67</td>
<td>.32</td>
<td>6.24</td>
<td>65</td>
<td>.34</td>
<td>5.89</td>
</tr>
</tbody>
</table>
Table 5

Scale Reliabilities

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>Pre Assessment</th>
<th>Post 1 Assessment</th>
<th>Post 2 Assessment</th>
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</thead>
<tbody>
<tr>
<td>Feedback Environment Coworker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credibility</td>
<td>0.80</td>
<td>0.72</td>
<td>0.77</td>
</tr>
<tr>
<td>Quality</td>
<td>0.92</td>
<td>0.86</td>
<td>0.84</td>
</tr>
<tr>
<td>Delivery</td>
<td>0.48</td>
<td>0.74</td>
<td>0.72</td>
</tr>
<tr>
<td>Favorable Feedback</td>
<td>0.83</td>
<td>0.86</td>
<td>0.91</td>
</tr>
<tr>
<td>Unfavorable Feedback</td>
<td>0.84</td>
<td>0.86</td>
<td>0.81</td>
</tr>
<tr>
<td>Available Feedback</td>
<td>0.73</td>
<td>0.72</td>
<td>0.70</td>
</tr>
<tr>
<td>Promotion Feedback</td>
<td>0.69</td>
<td>0.72</td>
<td>0.74</td>
</tr>
<tr>
<td>Feedback Environment Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credibility</td>
<td>0.87</td>
<td>0.89</td>
<td>0.92</td>
</tr>
<tr>
<td>Quality</td>
<td>0.81</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>Delivery</td>
<td>0.61</td>
<td>0.59</td>
<td>0.70</td>
</tr>
<tr>
<td>Favorable Feedback</td>
<td>0.89</td>
<td>0.92</td>
<td>0.91</td>
</tr>
<tr>
<td>Unfavorable Feedback</td>
<td>0.56</td>
<td>0.55</td>
<td>0.58</td>
</tr>
<tr>
<td>Available Feedback</td>
<td>0.82</td>
<td>0.79</td>
<td>0.80</td>
</tr>
<tr>
<td>Promotion Feedback</td>
<td>0.75</td>
<td>0.74</td>
<td>0.77</td>
</tr>
<tr>
<td>Feedback Orientation</td>
<td>0.92</td>
<td></td>
<td>0.92</td>
</tr>
<tr>
<td>Feedback Seeking from Supervisor</td>
<td>0.75</td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>Feedback Seeking from Coworker</td>
<td>0.79</td>
<td></td>
<td>0.84</td>
</tr>
<tr>
<td>Perception of Organizational Support</td>
<td>0.87</td>
<td></td>
<td>.96</td>
</tr>
<tr>
<td>Feedback Seeking Motives</td>
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<td></td>
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<tr>
<td>Instrumental</td>
<td>0.81</td>
<td>0.85</td>
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<tr>
<td>Ego Defense</td>
<td>0.95</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>Ego Enhance</td>
<td>0.94</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>Image Defense</td>
<td>0.92</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>Image Enhance</td>
<td>0.92</td>
<td>0.94</td>
<td></td>
</tr>
</tbody>
</table>

Pre Assessment = Prior to training, Post 1 Assessment = 2 weeks after training, Post 2 Assessment = 4 weeks after training
### Table 6

**Descriptives Time 1 (training group)**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Feedback Environment</td>
<td>116</td>
<td>2.50</td>
<td>6.71</td>
<td>5.22</td>
<td>0.71</td>
<td>-0.90</td>
<td>0.23</td>
<td>2.21</td>
<td>0.45</td>
</tr>
<tr>
<td>Supervisor FE</td>
<td>116</td>
<td>2.29</td>
<td>6.71</td>
<td>5.45</td>
<td>0.87</td>
<td>-1.34</td>
<td>0.23</td>
<td>2.04</td>
<td>0.45</td>
</tr>
<tr>
<td>Coworker FE</td>
<td>116</td>
<td>1.76</td>
<td>6.71</td>
<td>4.99</td>
<td>0.82</td>
<td>-0.65</td>
<td>0.23</td>
<td>1.63</td>
<td>0.45</td>
</tr>
<tr>
<td>Overall Feedback Orientation</td>
<td>116</td>
<td>3.20</td>
<td>7</td>
<td>5.74</td>
<td>0.65</td>
<td>-0.60</td>
<td>0.23</td>
<td>1.33</td>
<td>0.45</td>
</tr>
<tr>
<td>Overall Feedback Seeking</td>
<td>116</td>
<td>1.09</td>
<td>4.55</td>
<td>2.34</td>
<td>0.66</td>
<td>0.73</td>
<td>0.23</td>
<td>0.66</td>
<td>0.45</td>
</tr>
<tr>
<td>Supervisor Feedback Seeking</td>
<td>116</td>
<td>1.00</td>
<td>5</td>
<td>2.36</td>
<td>0.78</td>
<td>0.80</td>
<td>0.23</td>
<td>0.66</td>
<td>0.45</td>
</tr>
<tr>
<td>Coworker Feedback Seeking</td>
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<td>1.00</td>
<td>4.67</td>
<td>2.33</td>
<td>0.71</td>
<td>0.47</td>
<td>0.23</td>
<td>0.05</td>
<td>0.45</td>
</tr>
<tr>
<td>Perception of Support</td>
<td>116</td>
<td>1.11</td>
<td>7</td>
<td>5.41</td>
<td>1.27</td>
<td>-0.91</td>
<td>0.23</td>
<td>0.42</td>
<td>0.45</td>
</tr>
<tr>
<td>Feedback Instrumental Motive</td>
<td>116</td>
<td>3.00</td>
<td>7</td>
<td>5.65</td>
<td>0.89</td>
<td>-0.68</td>
<td>0.23</td>
<td>0.44</td>
<td>0.45</td>
</tr>
<tr>
<td>Feedback Ego Defense Motive</td>
<td>116</td>
<td>1.00</td>
<td>5.2</td>
<td>1.92</td>
<td>0.80</td>
<td>1.54</td>
<td>0.23</td>
<td>4.05</td>
<td>0.45</td>
</tr>
<tr>
<td>Feedback Ego Enhance Motive</td>
<td>116</td>
<td>1.00</td>
<td>6.17</td>
<td>3.01</td>
<td>1.27</td>
<td>0.43</td>
<td>0.23</td>
<td>-0.55</td>
<td>0.45</td>
</tr>
<tr>
<td>Feedback Image Defense Motive</td>
<td>116</td>
<td>1.00</td>
<td>4.33</td>
<td>2.05</td>
<td>0.78</td>
<td>0.88</td>
<td>0.23</td>
<td>0.80</td>
<td>0.45</td>
</tr>
<tr>
<td>Feedback Image Enhance Motive</td>
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<td>1.00</td>
<td>6</td>
<td>2.70</td>
<td>1.27</td>
<td>0.55</td>
<td>0.23</td>
<td>-0.41</td>
<td>0.45</td>
</tr>
</tbody>
</table>
Table 6.1

*Descriptives Time 2 (training group)*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>41</td>
<td>4.00</td>
<td>7.00</td>
<td>6.28</td>
<td>0.73</td>
<td>-1.31</td>
<td>0.37</td>
<td>1.43</td>
<td>0.72</td>
</tr>
<tr>
<td>Continuance Commitment</td>
<td>41</td>
<td>1.00</td>
<td>5.17</td>
<td>2.59</td>
<td>1.17</td>
<td>0.37</td>
<td>0.37</td>
<td>-0.81</td>
<td>0.72</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>41</td>
<td>5.29</td>
<td>7.00</td>
<td>6.54</td>
<td>0.47</td>
<td>-0.78</td>
<td>0.37</td>
<td>-0.45</td>
<td>0.72</td>
</tr>
<tr>
<td>Training Evaluation</td>
<td>41</td>
<td>5.75</td>
<td>7.00</td>
<td>6.70</td>
<td>0.45</td>
<td>-1.12</td>
<td>0.37</td>
<td>-0.52</td>
<td>0.72</td>
</tr>
</tbody>
</table>
Table 6.2

*Descriptives Time 3 (training group)*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness Statistic</th>
<th>Skewness Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Kurtosis Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Feedback Environment</td>
<td>96</td>
<td>3.40</td>
<td>6.86</td>
<td>5.21</td>
<td>0.68</td>
<td>-0.17</td>
<td>0.25</td>
<td>0.28</td>
<td>0.49</td>
</tr>
<tr>
<td>Supervisor FE</td>
<td>96</td>
<td>1.67</td>
<td>7.00</td>
<td>5.43</td>
<td>0.93</td>
<td>-1.52</td>
<td>0.25</td>
<td>2.82</td>
<td>0.49</td>
</tr>
<tr>
<td>Coworker FE</td>
<td>96</td>
<td>2.95</td>
<td>7.00</td>
<td>4.99</td>
<td>0.84</td>
<td>0.15</td>
<td>0.25</td>
<td>-0.50</td>
<td>0.49</td>
</tr>
<tr>
<td>Perception of Org Support</td>
<td>96</td>
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Table 8.1

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Note. * indicates p<.05; ** indicates p<.01.
Table 8.2

_Correlations Among Variables Time 4 (training group)_

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Note. * indicates p<.05;** indicates p<.01.
Table 9.0

**Correlations Among Variables Time 1 (control group)**

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Note. * indicates p<.05; ** indicates p<.01.
Table 9.1

Correlations Among Variables Time 3 (control group)

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Note. * indicates p<.05; ** indicates p<.01.
Table 9.2

*Correlations Among Variables Time 4 (control group)*

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Note. * indicates p<.05; ** indicates p<.01.
Table 10

**Hypothesis 1a: Estimated Marginal Means for Supervisor FE**

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<th>Training/No Training</th>
<th>Mean</th>
<th>Std. Error</th>
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<th>Upper Bound</th>
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Dependent Variable: Supervisor FE Time 3

a. Covariates appearing in the model are evaluated at the following values: Supervisor FE
   Time 1 = 5.4022.

**Hypothesis 1a at Time 4: Estimated Marginal Means for Supervisor FE**

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<th>Upper Bound</th>
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Dependent Variable: Supervisor Feedback Environment Time 4

a. Covariates appearing in the model are evaluated at the following values: Supervisor FE
   Time 1 = 5.4154.
### Hypothesis 1b: Estimated Marginal Means for Coworker FE

<table>
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Dependent Variable: Coworker FE Time 3

a. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 5.0404.

### Hypothesis 1b at time 4: Estimated Marginal Means for Coworker FE

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Dependent Variable: Coworker Feedback Environment Time 4

a. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 5.0324.
Table 11

_Hypothesis 2a: Estimated Marginal Means for Supervisor FE_

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b. Covariates appearing in the model are evaluated at the following values: Supervisor FE Time 1 = 5.3634, Feedback Orientation Level = 1.9787.

_Hypothesis 2a at time 4: Estimated Marginal Means for Supervisor FE_

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b. Covariates appearing in the model are evaluated at the following values: Supervisor FE Time 3 = 5.3912, Feedback Orientation Level = 2.0541.
**Hypothesis 2b: Estimated Marginal Means for Coworker FE**

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a. Dependent Variable: Coworker FE Time 3.
b. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 4.9564, Feedback Orientation Level = 1.9787.

**Hypothesis 2b at time 4: Estimated Marginal Means for Coworker FE**

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b. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 3 = 5.0425, Feedback Orientation Level = 2.0541.
### Table 12

#### Hypothesis 5a: Estimated Marginal Means for Instrumental Motive

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Dependent Variable: Feedback Instrumental Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values: Feedback Instrumental Motive Time 1 = 5.6090.

#### Hypothesis 5b: Estimated Marginal Means for Ego Defense Motive

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Dependent Variable: Feedback Ego Defense Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values: Feedback Ego Defense Motive Time 1 = 2.0256.
### Hypothesis 5b: Estimated Marginal Means for Ego Enhancement Motive

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<tr>
<td>Control Group</td>
<td>3.245a</td>
<td>.112</td>
<td>3.025</td>
<td>3.466</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>2.998a</td>
<td>.088</td>
<td>2.824</td>
<td>3.172</td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Feedback Ego Enhance Motive Time 3

a. Covariates appearing in the model are evaluated at the following values: Feedback Ego Enhance Motive Time 1 = 3.1656.

### Hypothesis 5c: Estimated Marginal Means for Image Defense Motive

<table>
<thead>
<tr>
<th>Training/No Training</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>2.343b</td>
<td>.106</td>
<td>2.133</td>
<td>2.553</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>2.234b</td>
<td>.083</td>
<td>2.069</td>
<td>2.398</td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Feedback Ego Enhance Motive Time 3

b. Covariates appearing in the model are evaluated at the following values: Feedback Image Defense Motive Time 1 = 2.2297.
**Hypothesis 5c: Estimated Marginal Means for Image Enhancement Motive**

<table>
<thead>
<tr>
<th>Training/No Training</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>2.998&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.129</td>
<td>2.743 - 3.252</td>
</tr>
<tr>
<td>Training</td>
<td>2.831&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.102</td>
<td>2.630 - 3.032</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Image Enhance Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values: Feedback Image Enhance Motive Time 1 = 2.8333.

Table 13

**Hypothesis 6a: Estimated Marginal Means for Instrumental Motive**

<table>
<thead>
<tr>
<th>FO Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>5.638&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.250</td>
<td>5.133 - 6.143</td>
</tr>
<tr>
<td>2.00</td>
<td>5.467&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.251</td>
<td>4.960 - 5.974</td>
</tr>
<tr>
<td>3.00</td>
<td>5.567&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.206</td>
<td>5.152 - 5.983</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Instrumental Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values: Feedback Instrumental Motive Time 1 = 5.5798.
Hypothesis 6b: *Estimated Marginal Means for Ego Defense Motive*

<table>
<thead>
<tr>
<th>FO Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1.898b</td>
<td>.168</td>
<td>1.558</td>
<td>2.237</td>
</tr>
<tr>
<td>2.00</td>
<td>1.949b</td>
<td>.168</td>
<td>1.610</td>
<td>2.288</td>
</tr>
<tr>
<td>3.00</td>
<td>1.930b</td>
<td>.138</td>
<td>1.651</td>
<td>2.210</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Ego Defense Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values:  
Feedback Ego Defense Motive Time 1 = 2.0255.

Hypothesis 6b: *Estimated Marginal Means for Ego Enhancement Motive*

<table>
<thead>
<tr>
<th>FO Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>3.058b</td>
<td>.305</td>
<td>2.441</td>
<td>3.675</td>
</tr>
<tr>
<td>2.00</td>
<td>3.112b</td>
<td>.300</td>
<td>2.506</td>
<td>3.718</td>
</tr>
<tr>
<td>3.00</td>
<td>3.590b</td>
<td>.248</td>
<td>3.089</td>
<td>4.090</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Ego Enhance Motive Time 3  
b. Covariates appearing in the model are evaluated at the following values:  
Feedback Ego Enhance Motive Time 1 = 3.1348.
### Hypothesis 6c: Estimated Marginal Means for Image Defense Motive

<table>
<thead>
<tr>
<th>FO Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>2.150$^b$</td>
<td>.204</td>
<td>1.737</td>
<td>2.563</td>
</tr>
<tr>
<td>2.00</td>
<td>2.367$^b$</td>
<td>.209</td>
<td>1.944</td>
<td>2.790</td>
</tr>
<tr>
<td>3.00</td>
<td>2.131$^b$</td>
<td>.167</td>
<td>1.794</td>
<td>2.469</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Image Defense Motive Time 3
b. Covariates appearing in the model are evaluated at the following values:


### Hypothesis 6c: Estimated Marginal Means for Image Enhancement Motive

<table>
<thead>
<tr>
<th>FO Levels</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>3.101$^b$</td>
<td>.336</td>
<td>2.422</td>
<td>3.779</td>
</tr>
<tr>
<td>2.00</td>
<td>3.054$^b$</td>
<td>.341</td>
<td>2.364</td>
<td>3.743</td>
</tr>
<tr>
<td>3.00</td>
<td>3.254$^b$</td>
<td>.276</td>
<td>2.695</td>
<td>3.812</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Feedback Image Enhance Motive Time 3
b. Covariates appearing in the model are evaluated at the following values:

Feedback Image Enhance Motive Time 1 = 2.8766.
Table 14

**Hypothesis 7a: Estimated Marginal Means for Supervisor FE**

<table>
<thead>
<tr>
<th>Training/No Training</th>
<th>Mean</th>
<th>Std. Error</th>
<th>df</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>5.450b</td>
<td>.065</td>
<td>100.207</td>
<td>5.321</td>
<td>5.579</td>
</tr>
<tr>
<td>Training</td>
<td>5.394b</td>
<td>.051</td>
<td>83.415</td>
<td>5.292</td>
<td>5.496</td>
</tr>
</tbody>
</table>

b. Covariates appearing in the model are evaluated at the following values: Supervisor FE Time 1 = 5.4022, POS Level = 1.9744.

**Hypothesis 7b: Estimated Marginal Means for Coworker FE**

<table>
<thead>
<tr>
<th>Training/No Training</th>
<th>Mean</th>
<th>Std. Error</th>
<th>df</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>5.019b</td>
<td>.096</td>
<td>151.000</td>
<td>4.830</td>
<td>5.208</td>
</tr>
<tr>
<td>Training</td>
<td>5.014b</td>
<td>.075</td>
<td>151.000</td>
<td>4.865</td>
<td>5.163</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Coworker FE Time 3.
b. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 5.0404, POS Level = 1.9744.
Table 15

**Hypothesis 8a: Estimated Marginal Means Supervisor FE**

<table>
<thead>
<tr>
<th>Aff Comm Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>5.403b</td>
<td>.166</td>
<td></td>
<td>5.067</td>
<td>5.740</td>
</tr>
<tr>
<td>2.00</td>
<td>5.085b</td>
<td>.156</td>
<td></td>
<td>4.768</td>
<td>5.401</td>
</tr>
<tr>
<td>3.00</td>
<td>5.397b</td>
<td>.161</td>
<td></td>
<td>5.070</td>
<td>5.725</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Supervisor FE Time 3  
b. Covariates appearing in the model are evaluated at the following values:  
   Supervisor FE Time 1 = 5.4123.

**Hypothesis 8b: Estimated Marginal Means Supervisor FE**

<table>
<thead>
<tr>
<th>Norm Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>5.537b</td>
<td>.156</td>
<td></td>
<td>5.221</td>
<td>5.853</td>
</tr>
<tr>
<td>2.00</td>
<td>5.289b</td>
<td>.154</td>
<td></td>
<td>4.975</td>
<td>5.602</td>
</tr>
<tr>
<td>3.00</td>
<td>5.035b</td>
<td>.157</td>
<td></td>
<td>4.717</td>
<td>5.353</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Supervisor FE Time 3  
b. Covariates appearing in the model are evaluated at the following values:  
   Supervisor FE Time 1 = 5.4123.
### Hypothesis 8c: Estimated Marginal Means for Coworker FE

<table>
<thead>
<tr>
<th>Aff Levels</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>4.905a</td>
<td>.201</td>
<td>4.497</td>
<td>5.313</td>
</tr>
<tr>
<td>2.00</td>
<td>4.819a</td>
<td>.186</td>
<td>4.441</td>
<td>5.196</td>
</tr>
<tr>
<td>3.00</td>
<td>5.191a</td>
<td>.190</td>
<td>4.805</td>
<td>5.577</td>
</tr>
</tbody>
</table>

Dependent Variable: Coworker FE Time 3

a. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 4.8999.

### Hypothesis 8d: Estimated Marginal Means for Coworker FE

<table>
<thead>
<tr>
<th>Norm Level</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>5.199a</td>
<td>.187</td>
<td>4.820</td>
<td>5.578</td>
</tr>
<tr>
<td>2.00</td>
<td>4.692a</td>
<td>.186</td>
<td>4.315</td>
<td>5.070</td>
</tr>
<tr>
<td>3.00</td>
<td>5.017a</td>
<td>.187</td>
<td>4.638</td>
<td>5.396</td>
</tr>
</tbody>
</table>

Dependent Variable: Coworker FE Time 3

a. Covariates appearing in the model are evaluated at the following values: Coworker FE Time 1 = 4.8999.
Exploratory Table 16

*Overall FE from Time 1 to Time 3*

<table>
<thead>
<tr>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>95% CI for Mean Difference</th>
<th>r</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall FE</td>
<td>5.18</td>
<td>.70</td>
<td>5.31</td>
<td>.08</td>
<td>64</td>
<td>-.2590, -.0012</td>
<td>.71*</td>
<td>-2.02</td>
</tr>
</tbody>
</table>

* *p < .05

*Overall FE from Time 1 to Time 3 (with two or more members per group)*

<table>
<thead>
<tr>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>95% CI for Mean Difference</th>
<th>r</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall FE</td>
<td>5.17</td>
<td>.72</td>
<td>5.33</td>
<td>.67</td>
<td>60</td>
<td>-.2872, -.0230</td>
<td>.73*</td>
<td>-2.35</td>
</tr>
</tbody>
</table>

* *p < .05

*Supervisor FE from Time 1 to Time 3 (with two or more members per group)*

<table>
<thead>
<tr>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>95% CI for Mean Difference</th>
<th>r</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor FE</td>
<td>5.17</td>
<td>.72</td>
<td>5.33</td>
<td>.67</td>
<td>60</td>
<td>-.2872, -.0230</td>
<td>.73*</td>
<td>-2.35</td>
</tr>
</tbody>
</table>

* *p < .05