

Examining the Effects of Horizontal Conflict in Regulatory Fit
Theory in the Context of Performance Feedback

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ABSTRACT

This study extends Regulatory Fit Theory (Higgins, 2000) to examine horizontal regulatory fit (Scholer & Higgins, 2010) in the context of performance feedback. Participants completed the Regulatory Focus Questionnaire (Higgins et al., 2001) to measure their chronic motivational orientation, then worked on an adapted version of an in-basket task (Holmes & Hauenstein, 2012) across two sessions. Hypotheses predicted that compared to instances of non-fit, conditions of regulatory fit between chronic and situational and motivational orientations (Promotion vs. Prevention) would have a significantly greater impact on the following three outcomes: 1) Variety and Frequency of Feedback Use, 2) Feedback Recall, and 3) Attitudes toward both Feedback and the In-basket Task. Overall results supported this assertion. Participants in condition of regulatory fit engaged in a significantly greater variety of behaviors and did so more frequently than those in non-fit conditions. Additionally, participants in regulatory fit conditions had stronger positive attitudes toward feedback than those in non-fit conditions. Counter to previous research, regulatory fit did not have significant impact on feedback recall in the current study, nor did regulatory fit have a significant impact on the attitudes toward in-basket task.

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Introduction

Locke and Latham (1990) argue that providing feedback on both task performance and goals are two of the most effective interventions to improving task performance and learning; however, a meta-analysis conducted by Kluger and DeNisi (1996) revealed that the effects of feedback on task performance is relatively variable. Of the 607 effect sizes in the Kluger and DeNisi meta-analysis, feedback intervention had an overall moderate positive effect ($d=0.41$) on performance, however, 38% of the studies found a negative effect size and roughly 14% found no significant effect (1996). This finding suggests moderators exist on the effect of a feedback intervention on task performance. Because of the variability in feedback effectiveness, traditional performance feedback should be reevaluated, and alternative methods need to be examined to allow for a better understanding of effective performance management. Pulakos and O'Leary (2011) recommend that feedback interventions not focus on reinventing formal feedback systems, but instead be based on informal feedback to improve the communication between manager and employee. However, they do not mention the dynamics of this effective communication. As Hauenstein (2011) points out, certain types of feedback may not always be the best solution when providing feedback and argues that an employee's regulatory focus should be considered when providing feedback or goals. Consider a manager communicating with an employee: positive feedback (versus negative) may provide for the most effective increase in performance if the feedback sign is idiosyncratic with the regulatory focus of that individual employee.

Regulatory focus theory is generally viewed as two distinct motivational orientations that originate from universal desire to approach pleasure or avoid pain (i.e., hedonism; Higgins, 1997). Further, approaching pleasure manifests as a promotion motivational orientation, where self-regulation is concerned with accomplishments, ideals, hopes, and aspirations (Higgins,

Idson, Freitas, Spiegel, & Molden, 2003), and avoiding pain manifests as prevention motivational orientation, where self-regulation is concerned with safety, oughts, duties, and obligations (Higgins et al., 2003). Additionally, Brockner and Higgins (2001) suggest that individuals in a state of promotion focus experience success as the presence of positive outcomes (gains) and failure as the absence of positive outcomes (non-gains). Similarly, individuals in a state of prevention focus experience success as the absence of negative outcomes (non-losses) and failure as the presence of negative outcomes (losses).

The examination of regulatory focus extends to an individual's chronic preference for promotion or prevention focus, such that regulatory focus is viewed as an individual difference. Individuals have a chronic preference of either promotion focus or prevention focus, especially when trying to reach a desired end-state or goal (Higgins, 1997). Based on chronic preference, individuals use either approach means or avoidance means to strive toward goals (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001). Although individuals have chronic tendencies for regulatory focus, chronic preference can be temporarily suppressed by contextual cues that prime the opposite motivational orientation (Higgins et al., 2001).

In fact, regulatory focus has largely been studied using experimental manipulations that induce a promotion or prevention motivational orientation (e.g. Fransen, Fennis, Pruyn, & Vohs, 2011). Situational cues that induce promotion focus include growth and developmental needs, strong ideals, framing outcomes as gains and non-gains; situational cues that induce prevention focus include security needs, strong obligations, framing outcomes as losses and non-losses (Forster, Higgins, & Idson, 1997; Higgins, 1998).

Expanding on the theory of regulatory focus, Higgins (2000, 2007) asserted that individuals adopt differing strategies of goal pursuit as a function of current motivational

orientation, or what Higgins labeled as regulatory fit. Regulatory fit/non-fit exists when motivational orientations and the strategies adopted match/mismatch; the result of a congruency is that the goal-related activity will “feel right” and increased levels of engagement will occur as compared to a result of incongruence (Higgins, 2000). Furthermore, promotion-focused goal pursuits are characterized as “eager” strategies, while prevention-focused goal pursuits are characterized as “vigilant” strategies (Crowe & Higgins, 1997). Eager goal pursuits are designed to gain accomplishments or positive outcomes and to avoid losses of positive outcomes, whereas vigilant goal pursuits are designed to avoid negative outcomes and avoid risks that may lead to negative outcomes. Regulatory fit occurs when motivational orientation and goal pursuit are aligned (i.e., promotion-eager—prevention-vigilant), and non-fit occurs when motivational orientation and goal pursuit are misaligned (i.e., prevention-eager—promotion-vigilant).

For example, Higgins et al., (2003) induced promotion focus by having subjects list their ideal selves by writing out attributes that define the type of person they hope, wish, or aspire to be (promotion regulatory focus). Subjects were then assigned the goal to avoid mistakes as much as possible when completing a task (vigilant goal pursuit). These individuals are experiencing regulatory non-fit. These individuals did not experience as much task engagement or a feeling of ‘right’ as if they had been in regulatory fit.

Sustaining regulatory fit is dependent on both horizontal and vertical fit (Scholer & Higgins, 2010). Horizontal non-fit exists when there is a conflict within a particular level of self-regulation; for example, when motivational orientation induced by context does not match an individual’s chronic motivational orientation, i.e., a chronic promotion-focus person is exposed to a prevention-focused context or a chronic prevention-focus person is exposed to a promotion-focused context. Vertical non-fit exists when there is a conflict between levels of the regulatory

focus hierarchy; more specifically, when there is a mismatch between motivational orientation and the goal-pursuit strategy employed, i.e., a promotion-focused person using vigilant goal pursuits or a prevention-focused person using eager goal pursuits. Horizontal regulatory fit is explained as the individual's distal, chronic regulatory focus matching with more proximal, contextual effects of regulatory focus, whereas vertical regulatory fit is explained as having either an individual's distal, chronic regulatory focus or the proximal, contextual effects of regulatory focus matching with a second proximal effect that is related to goals or outcomes.

Most research on regulatory fit examines vertical fit / non-fit of the regulatory focus hierarchy. In fact, regulatory fit is primarily explained in terms of vertical conflict, where a match / mismatch between regulatory focus and goal pursuit strategy are used as regulatory fit components.

The main goal of the current study is to empirically demonstrate the effects of horizontal fit using both an individual's chronic motivation orientation and a situationally-induced motivational orientation state. The secondary goal is to empirically demonstrate that the horizontal fit effects are relevant to the utilization of behavioral feedback. A laboratory experiment will be conducted where horizontal fit/nonfit is created in relation to performance on a managerial in-basket exercise. Veridical feedback will be provided to each subject with the basic argument being that, relative to participants in a state of non-fit, participants in a state of fit will utilize feedback more, remember feedback better, and have more positive attitudes about the feedback process.

Literature Review

Task Feedback & Feedback Utilization

Feedback intervention (FI) is the process of providing individuals with diagnostic information regarding task performance; FIs have been widely used across disciplines and in multiple contexts (e.g. student grades, teaching evaluations, performance appraisals; Kluger & DeNisi, 1998). Ilgen, Fisher, and Taylor (1979) proposed the effect of FIs on an individual's response is mediated by the initial reactions of the recipients of the feedback. If an individual reacts positively, he/she is more likely to change behavior in response to the feedback message. The authors suggest individual's responses are moderated by the characteristics of that recipient, and how this individual perceives and accepts feedback. Ilgen et al. also note, however, that individuals react to other dimensions aside from individual difference characteristics alone. They argue that message characteristics are also important influences of the recipient's response, in the form of timing of the message, frequency of feedback, and feedback sign.

This inclusion of message characteristics suggests that a piecemeal representation of feedback intervention may not characterize all of the necessary components to correctly identify how feedback can improve outcomes. Instead, Kluger and DeNisi (1996) propose a social-cognitive approach by detailing the Feedback Intervention Theory (FIT), which involves not only the characteristics of the individuals and feedback, but also incorporates task characteristics and other situational variables.

Kluger and DeNisi (1996) asserted that for feedback to be classified as a feedback intervention, feedback must include knowledge of results that provide information about task performance. The authors suggest that there are multiple sources of feedback transference, but in particular, a feedback intervention is provided by an external source and therefore does not

include any of the following: natural feedback processes, task-generated feedback, personal feedback, and self-initiated, feedback-seeking behaviors (Kluger & DeNisi, 1996). Therefore, feedback interventions can be provided to individuals in any context where these feedback recipients learn of their performance by an external cue, and in research has been demonstrated through a multitude of tasks, including physical tasks (Gravina, VanWagner, & Austin, 2008), work-simulation tasks (Anseel, Lievens, & Schollaert, 2009) and memory tasks (Tricomi, Fiez, 2012).

According to Kluger and DeNisi's (1998) feedback intervention theory: a) behavior is regulated by comparisons of feedback with goals or standards, b) attention is limited such that only those discrepancies that receive attention will affect behavior regulation, and c) feedback interventions change the locus of attention, affecting behaviors (that is, individuals will shift thoughts to something different from what they were thinking prior to receiving feedback). FIT is a meta-theory that is intended to facilitate the refinement of feedback theories and the identification of additional mediators of the feedback process

There are multiple antecedents of feedback interventions that affect the relationship with behavioral utilization after feedback. Task characteristics, such as novelty, complexity, and task duration, are situational antecedents that affect task feedback utilization; for example, low complexity tasks leads to greater feedback utilization than high complexity tasks (Kluger & DeNisi, 1996). Also, situational variables, such as externally provided goals and goal-setting interventions (Kluger & DeNisi, 1996), also augment the effect of feedback interventions on performance. Ilgen and Moore (1987) found that individuals who have the choice and opportunity to use provided feedback will have improved performance. Research by VandeWalle, Cron, and Slocum (2001) examined an individual's goal orientation (VandeWalle,

1997) on performance after receiving feedback on a task, and found that learning-goal oriented individuals maintained a positive relationship with performance, while proving-goal and avoidance-goal orientations had a non-significant and negative relationship with performance, respectively. Lastly, person sources of variability function as antecedents of task feedback, including personality and self-regulatory individual differences (goal orientation and commitment, Vancouver & Day, 2005).

Vancouver and Day (2005) suggest that self-regulation processes determine how individuals attain and maintain goal performance. Individuals form beliefs about their own capabilities, and anticipate likely consequences of their actions. These individuals then set goals for themselves, and plan courses of action that likely produce desired outcomes (Bandura, 1991). Locke and Latham (2002) posit that behavior is goal directed and individuals react to feedback that reveals progress in relation to their goals. The authors also argue individuals use feedback information to self-regulate performance so as to minimize feedback-goal discrepancies. As such, Locke and Latham (2002) address the means by which individuals evaluate feedback but make no attempt to explain why individuals utilize, refute, or fail to utilize provided feedback.

Higgins (2000) argues that regulatory fit, a theory of self-regulation, is a way to increase motivations through the explanatory mechanism of feeling right. Due to the dynamic nature of self-regulation and feedback processes, the theory of regulatory fit has clear implications for improving feedback effectiveness, and for explaining reasons of how individuals react to feedback interventions. Achievement of regulatory fit in the context of performance feedback is expected to increase an individual's work engagement as well as utilization of behaviors from a feedback intervention.

Regulatory Fit

Higgins (1999) asserts that individuals possess a chronic, but malleable, motivational orientation akin to the pleasure/pain principle. Higgins also states that individuals prefer differing strategies of attaining goals based on the motivational orientation they adopt (Crowe & Higgins, 1997). Higgins (2000) advocates that regulatory fit occurs when an individual's motivational orientation (i.e. promotion or prevention) match the individual's strategies of goal pursuit, but also asserts that regulatory fit is a general principle of motivation and that multiple motivational variables have the ability to create regulatory fit.

The classic example used to demonstrate regulatory fit, detailed by Higgins (2000), describes two students in the same course, both trying to attain an A. Their desires for achieving an A both ideally result in the same end-goal, but the students have differing motivations and means for achieving it. The first student's strategy may be to read material beyond what is assigned or to attend study groups with other individuals (i.e., doing more than simple requirements), while the second student may focus on reading every assignment and makes sure to not miss any classes (i.e., satisfying responsibilities). As well as having different strategies, they may also vary in motivational orientation. Consider then, that the first student aspires or hopes for an A, while the second student sees the goal as a duty or obligation. Because the first student adopted an eager strategy and the second student adopted a vigilant strategy, both cases demonstrate how the strategies of goal pursuit are congruent with the motivational orientations, such that regulatory fit is achieved. However, if these individuals adopted strategies of goal pursuits that were not congruent with their motivational orientation, then regulatory fit would not take place, making it less likely to achieve the goal of A. It is important to note in regulatory fit theory that promotion focus is not inherently better than prevention focus, i.e., both students in

the above example can achieve an A grade. Relative to non-fit, individuals in a state of fit will increase engagement in pursuing outcomes.

Regulatory fit does not guarantee individuals' performance-related outcomes will improve through increased motivation (Higgins, 2000). For example, Higgins et al. (2010) found that individuals in a state of regulatory fit had more interest in completing an activity, but there was no difference in performance on this activity as a function of being in a state of fit/non-fit. To understand the discrepancy between motivation and performance, Spiegel, Grant-Pillow, and Higgins (2004) sought to bridge the gap between intentions and actions and found that individuals in a state of fit had higher intentions to return a written report and were therefore more likely to take action. Also, Idson and Higgins (2000) studied performance based outcomes, and found that task performance increased as a function of feedback sign for individuals in fit conditions, but the task was simple (anagram-based), and the feedback provided was not tailored to actual performance. Regulatory fit strengthens engagement to tasks, and therefore has the potential to improve performance (Higgins, 2005), but few studies attempt at explaining outcomes beyond attitudes or behaviors.

The primary explanatory mechanisms of regulatory fit suggest that the goal-related activity "feels right" and that higher levels of engagement occur compared to when regulatory fit does not occur (Higgins, 2000), enabling individuals to have an increase in various areas of motivation, which lead to attitudinal and behavioral changes (Higgins, 2006). This has been demonstrated across multiple studies (Higgins, 2006; Higgins et al., 2003; Cesario, Grant, & Higgins, 2004) and multiple contexts (use of nonverbal cues, Cesario & Higgins, 2008; negotiator role, Appelt & Higgins, 2010) and suggests that individuals are processing on a deeper level in a new situation and as such are more capable of recalling pertinent information within a

task (Bianco, Higgins, Klem, 2003). In environments where new information is presented, this deep-level processing occurs as fit does, as feeling right about the message allows for individuals to concentrate and more fully process the novel message and therefore will adhere to message characteristics or commit more information to memory.

More specifically in relation to regulatory fit, researchers have demonstrated fit effects on attitudinal outcomes, including anticipated enjoyment (Freitas & Higgins, 2002), perceived persuasiveness (Cesario, Grant, & Higgins, 2004), anticipated performance (Appelt, Zou, & Higgins, 2010) and intentions to improve (Cesario & Higgins, 2008). Additionally, researchers have examined behavioral outcomes as well, including category learning (Grimm, Markman, Maddox, & Baldwin, 2008; McAuley, Henry, Wedd, Pleskac, & Cesario, 2012), physical activity participation (Latimer, Rivers, Rench, Katulak, Hicks, Hodorowski, Higgins, & Salovey, 2007; Jin, 2010) and participation on a driving skills test (Haddad & Delhomme, 2006). Regulatory fit may also lead to other behavioral outcomes, such as a decrease in counterproductive office behaviors (Boldero & Higgins, 2011), and an increase in the utilization of task feedback (Holmes & Hauenstein, 2012).

Although regulatory fit (Higgins, 2000) has clear implications for use beyond attitudinal change, little interest has been generated to further research in organizational science literature until recently. Keller and Bless (2006) measured individuals' predicted test performance on two separate intelligence measures, spatial ability and math scores, and found that individuals in a state of regulatory fit felt as if they had performed better than those in regulatory non-fit. Otto, Markman, Gureckis, and Love (2010) demonstrated the effect of fit on a dynamic decision-making environment, where individuals experiencing regulatory fit were more likely to exhibit exploratory choice and flexible use of strategies.

Hamstra, Yperen, Wisse, and Sassenberg (2011) examined turnover intentions in individuals under transformational and transactional leaders, where the style of leadership was paired with chronic regulatory focus creating a state of fit (e.g. low transformational leadership paired with high promotion-focused individuals demonstrated a non-fit condition). The authors found that those in a state of fit had the lowest intentions of leaving their jobs, across all four conditions.

Another recent study conducted by Dimotakis, Davison, and Hollinback (2011) demonstrated regulatory fit's effect on outcomes within teams. The authors manipulated team structure such that each team structure was either divisional or functional, and then also manipulated regulatory focus through instructions on a task. Results suggest that teams in fit conditions (i.e. functional teams with promotion-focused instructions) had better task performance, helping behaviors within the team, and task satisfaction than individuals in the non-fit conditions.

Chronic Regulatory Focus

Promotion and prevention appear to be person-based variables that influence self-regulation and behaviors at work (Lanaj, Chang, & Johnson, 2012). Scholer and Higgins (2010) suggest that regulatory foci represent proximal motivational constructs, and Higgins (1998) argues that regulatory foci represent strategic inclinations toward particular behavioral outcomes. As a proximal, person-variable, regulatory focus is able to produce similar effects as a situated, manipulated regulatory focus (Tam, Bagozzi, and Spanjol, 2010) in that regulatory focus is capable of affecting work related outcomes, such as attitudes, perceptions, and behaviors (Lanaj et al., 2012).

Lanaj et al. (2012) suggest that promotion focus and prevention focus are relatively orthogonal, such that an individual may be predisposed to high levels on both regulatory foci, just one focus, and neither. These foci reflect goal-striving strategies that operate through different motivational channels (approach and avoidance) and therefore will elicit different responses and have unique relationships with outcomes (Lanaj et al., 2012), specifically when paired with a situational regulatory focus, such that horizontal fit and non-fit exists.

One of the most often used measure for chronic regulatory focus is the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001). The RFQ operationalizes regulatory focus as the subjective history of promotion and prevention success and failure. This measure examines the history of success an individual has with promotion-related means and prevention-related means and suggests that when encountering a new task goal, the individuals will have predisposed strategic inclinations when attempting to fulfill the goal.

Empirical Evidence for Chronic and Situational Regulatory Focus

One of the few studies examining both chronic motivational orientation and situational motivational orientation in the context of feedback and regulatory fit was conducted by Van Dijk and Kluger (2004). They examined how feedback sign affected motivation by interacting with regulatory focus in two separate studies. In the first study, the authors manipulated regulatory focus by asking participants to imagine that they were working at a job that they have to keep because they are afraid of not having an income (inducing a prevention focus) or at a job that they had always desired to have and have the opportunity to advance (inducing a promotion focus). Feedback sign was then manipulated by having participants imagine that their boss had told them they had failed (negative feedback sign) or excelled (positive feedback sign) in their task performance. The motivations of participants were then examined, in the form of their intent

to exert effort relative to their effort thus far. The authors found that individuals who were in a prevention focus and given negative feedback and individuals in a promotion feedback that were given positive feedback had higher levels of intent to exert effort than individuals who were not in a matching condition, suggesting interaction effects between regulatory focus and feedback sign. The second study involved participants reporting regulatory focus as an individual difference. They used individuals' values, occupations, and the motives for having a job to represent the individuals' chronic regulatory focus. The results of the second study were very similar to the first in that those in a fit condition were more likely to show higher levels of motivation than those not in a fit condition. Although Van Dijk and Kluger examined both situational and chronic motivational orientations, they did not examine them simultaneously. They found that chronic regulatory focus and situational regulatory focus had the same effects in a regulatory fit context (see also: Higgins, 2000; Higgins, 2007).

An additional study that examined both the individual differences of regulatory focus and the situational regulatory focus was conducted by Tam, Bagozzi, and Spanjol (2010). The authors examined the behaviors of individuals through measuring snack consumption and tested whether matching implementation intentions to regulatory focus would affect these snacking habits or motivational intensity. In half of the individuals, regulatory focus was measured as a chronic variable by the Regulatory Focus Questionnaire (Higgins et al., 2001), while the other half were directed to reading a brief article that presented the benefits of healthy snacking (promotion-focused) or the harms of unhealthy snacking (prevention-focused). Participants were randomly assigned to implementation intentions to either eat more healthy snacks (an eager strategy) or avoid eating unhealthy snacks (a vigilant strategy). Snacking behavior was measured over the two following days, and the authors found that individuals who regularly eat unhealthily

will consume more healthy snacks when in a state of regulatory fit than those who are not. Additionally, these same individuals had higher motivational intensity to improve unhealthy snacking habits.

Although the authors did not measure individuals' chronic regulatory focus on the same sample that they manipulated regulatory focus, they demonstrated that vertical fit created using either chronic or situational regulatory foci affected attitudes and behavior equally. This suggests that when examining horizontal fit, both chronic motivational orientation and situational motivational orientation are salient enough to have an effect on attitudes and behaviors.

Strategies for goal pursuit are elicited through channels that operate on their respective motivational orientation (Higgins, 1998), such that regulatory focus would operate as regulatory fit by itself, and regulatory non-fit would exist when differing goals are presented in a way that does not match with an individual's motivational orientation (vertical conflict). Because regulatory focus naturally creates vertical fit, horizontal fit / non-fit are also expected to elicit responses in a manner that reflects the traditional view on regulatory fit / non-fit, where the interaction is no longer between regulatory focus and goal-pursuit strategy, but instead between the person-variable regulatory focus and the situated regulatory focus.

Task Feedback and Fit

To identify the sources of variability and improve the usefulness of feedback interventions, regulatory fit has been examined as a way of increasing feedback effectiveness. For example, Idson and Higgins (2000) found that performance on anagram tasks was better when feedback sign matched the participant's motivational orientation. In addition, regulatory fit conditions were induced to examine its effect on utilization of task feedback and task-relevant processing (Holmes & Hauenstein, 2012).

Recent research has shown that characteristics of individuals can change how these individuals view feedback received and how they subsequently utilize it (Whitaker & Levy, 2012). Accordingly, chronic motivational orientation would be one such characteristic that could determine feedback effectiveness as an individual difference. If individuals receive neutral feedback, the means by which these individuals pursue the feedback discrepancies could be a function of chronic motivational orientation. As such, the effects of vertical fit on various outcomes has been widely researched, however, the effects of horizontal fit have been relatively untested, despite additional potential benefits obtained by creating horizontal fit in the context of feedback effectiveness.

Holmes & Hauenstein (2012) examined regulatory fit in the context of task feedback and individuals' responses and attitudes. Participants worked on an in-basket task designed to assess managerial potential. Half-way through the in-basket task, participants were stopped and asked to record their hopes and aspirations (promotion-focused) or duties and obligations (prevention-focused). Participants were then provided with veridical feedback based on behaviors manifested in the first half of the in-basket task. This veridical feedback was framed as either an eager (i.e., make sure everything goes right) or a vigilant (i.e., avoid anything going wrong) goal pursuit, after which participants finished the in-basket task. Holmes and Hauenstein (2012) found that regulatory fit effects for behavioral utilization of feedback, and recall of feedback, but no fit effects were found for the attitudinal effects.

Holmes and Hauenstein (2012) used experimentally induced motivational orientation examining the vertical conflict of regulatory fit. In the current study, I will replicate Holmes and Hauenstein but instead examine horizontal conflict of regulatory fit by including chronic motivational orientation as an additional antecedent of feedback utilization. I expect regulatory

horizontal fit effects to be stronger in fit conditions where chronic motivational orientation matches situationally-induced motivational orientation, than those in a condition of horizontal conflict where individuals' chronic motivational orientation does not match the situationally-induced motivational orientation.

Overview

The current study tested the effects of regulatory horizontal fit / non-fit in the performance feedback context when crossing chronic motivational orientation with situationally-induced motivational orientation. Chronic motivational orientations of participants were identified through a regulatory focus measure administered online. Participants were selected for the laboratory portion of the study based on individual patterns of chronic motivational orientation. The experiment replicated Holmes and Hauenstein (2012), with the exception that goal pursuit strategy (i.e., eager versus vigilant) was not manipulated during the delivery of feedback.

Hypothesis 1: Individuals in a state of horizontal fit will utilize corrective feedback more than individuals in a state of horizontal non-fit, such that utilization of feedback will be greater when chronic and state regulatory focus are concordant (i.e., promotion-promotion and prevention-prevention) as opposed to discordant (i.e., promotion-prevention and prevention-promotion).

Hypothesis 2: Individuals in a state of horizontal fit will recall feedback items more than individuals in a state of horizontal non-fit, such that feedback recall will be greater when chronic and state regulatory focus are concordant (i.e., promotion-promotion and

prevention-prevention) as opposed to discordant (i.e., promotion-prevention and prevention-promotion).

Hypothesis 3: Individuals in a state of horizontal fit will express positive attitudes more than individuals in a state of horizontal non-fit, such that participants will express stronger positive attitudes when chronic and state regulatory focus are concordant (i.e., promotion-promotion and prevention-prevention) as opposed to discordant (i.e., promotion-prevention and prevention-promotion).

Method

Participants

For phase 1, the participants were 703 students recruited from undergraduate psychology courses at a large Mid-Atlantic university through the Psychology Department's online Experiment Management System (SONA). For phase 2, the participants were 80 students recruited through SONA. Participants were required to be 18 or older and proficient in English to qualify for participation. Participants were told the study examines managerial potential and task performance feedback. They were informed they earn two points of extra credit for an eligible psychology class they are enrolled in. Instructions for the study detail both parts, the first online portion taking approximately 30 minutes to complete, while the second lab study would take approximately 60 minutes to complete.

Design

The experimental design was a 2 (Chronic Motivational Orientation: Promotion vs. Prevention) x 2 (Situational Motivational Orientation: Promotion vs. Prevention) between-

subjects factorial design. Participants were selected on underlying chronic motivational-orientation, and then randomly assigned to one of the two remaining conditions.

A power analysis was examined to determine the sample size required for finding effects. Using a two-way balanced ANOVA, we are examining the two-way interaction. To achieve a power of 0.80, effect sizes are at roughly 0.44 for 20 people under each condition. These effect sizes are plausible in this study, and there should not be difficult in achieving the required power based off of previous research done by Holmes and Hauenstein (2012).

Procedure

Upon signing up for the study, participants were instructed to complete the first part of the study, an online questionnaire containing an informed consent form (APPENDIX A) and several sets of surveys (APPENDIX B), as well as instructions detailing the in-lab portion of the study and the selection process for the second half of the study. Upon completion of the survey, students were told they would be sent a link to sign up for the study if they qualify for the second portion of the study.

Once participants completed the online portion, they arrived individually to a lab for the in-basket task portion of the study. They were asked to provide photo identification and to turn off all electronic devices, to read and sign an informed consent form (APPENDIX C) and to complete a demographics questionnaire (APPENDIX D). Participants were told that they could ask questions at any time, in relation to the informed consent and subsequent parts of the study. Participants were then told that the study examines managerial potential and performance feedback, and they were given a brief description of work sample tests and in-basket tasks. Participants were informed that the in-basket task is split into two sections, the first being 15 minutes and the second being 20. They were also informed that there were a few additional

questionnaires and were then provided with the instructions for the in-basket task. After answering any questions regarding the task, the administrator detailed the remaining materials and provided the participants with the task, a black pen, a yellow highlighter, and a stack of blank paper.

As the participant completed the items, they were instructed to place the item into out-basket #1. They then were told that the administrator would take out these items and code their performance based on a set of criteria, and that after the administrator codes the items, coded items would be placed in out-basket #2. Participants were told they may revisit any item in either out-baskets, but were asked that if they make any additional changes, the item be placed back in out-basket #1 to be coded again by the administrator. The administrator also detailed a separate basket, labeled the 'ignore basket,' and instructed the participants that it is for unimportant items, as the time to complete the in-basket task was limited. The participants were informed that they would have 15 minutes to work on the task and would be informed when there were two minutes remaining. They were then told that they would receive feedback tailored to their performance in the first section and were asked if they had any unanswered questions before beginning the in-basket task.

After the first session (15 minutes) of in-basket task, the administrator directed the participant to stop working and to place any remaining memos into their respective baskets. The administrator then collected all items and completed assessing any remaining items in out-basket #1, and used a yellow highlighter to star the upper-left corners of any memos placed in the ignore basket for the first session. Situational regulatory focus was then manipulated via prompt regarding the participants' future careers, asking for either ideals and aspirations (promotion) or duties and obligations (prevention).

The administrator then explained that the feedback checklist was used to code participants' behaviors on the in-basket task. The administrator then provided feedback recommendations from this checklist from the remaining behaviors that were not exhibited in the first session. The administrator offered a brief example of each feedback while maintaining a neutral stance towards delivering the feedback, so as to not invoke an eager or vigilant strategy of goal pursuit. After being able to look over the checklist briefly, the participants were able to ask questions, and then were asked to complete a brief attitudinal questionnaire and a memory recall task. Upon completing both the questionnaire and task, the in-basket materials were returned to the participants and the black pen and yellow highlighter were swapped out for a blue pen and orange highlighter, with the explanation that the administrator would need to be able to differentiate between the first and second sessions of the study. The participants were then be instructed to complete their work on the in-basket task with the remaining 20 minutes and that the administrator would provide a two-minute warning again, but would not be assessing their work and would instead be coding previous sessions in the back of the lab.

After the second session of 20 minutes was completed, the participants were asked to finish the item they were working on. Any items in the ignore basket were marked in the top right corner with a star using the orange highlighter, and the materials were collected. The participants were then provided with a blank sheet of paper and were asked to recall as many of the feedback recommendations as they could remember. After the participants could not recall anymore, the sheet was collected and the participants completed another questionnaire (Appendix E) and was then provided with a debriefing form, detailing the study, and then debriefed of the study. The participants were allowed to ask any remaining questions then were thanked for their participation and were told that their extra credit would be given online.

In-Basket Task

The in-basket task (APPENDIX E) was based on Jaffee (1968) and was a further adaptation of the in-basket task used by Holmes and Hauenstein (2012). The in-basket task was designed to present participants with a scenario in which they were a new manager in charge of a branch at a fictional company. The in-basket task contained thirty memos detailing different hypothetical scenarios and situations designed to allow for the participant multiple opportunities to exhibit behaviors detailed on the feedback checklist. Aside from the memos, the task also included instructions for the task, a calendar, and an organizational chart.

The in-basket task was adapted in two ways. First, the time limit on the task was reduced to 35 minutes from one hour. Second, the memos on the task were rearranged in order to help ensure that individuals were able to attempt a memo containing each of the feedback recommendations during the first session due to the veridical nature of the feedback. The first eight memos contained instances in which 24 of the 25 feedback recommendations could be used at least once, while the first nine memos contained instances in which each of the feedback recommendations could be used at least once. Participants were also encouraged to complete the memos in order. Pilot testing showed that nine of eleven individuals were able to attempt through the ninth memo in the reduced time limit for the first session. Additionally, participants' perceptions of the feedback were measured to ensure fairness. After providing feedback, participants were asked to select a response to the item "I had ample opportunity to demonstrate each of the feedback items provided to me in the first 15 minutes of the in-basket task." This item was rated on a 1 to 7 Likert scale, with 1 being "Strongly Disagree," 4 being "Neutral," and 7 being "Strongly Agree." The mean of this item was 5.82, with only one individual choosing a response of "disagree."

To verify that individuals had ample opportunity to complete enough memos, the first session completion rate was examined. 65 (81%) completed at least nine memos, while 72 (90%) completed at least eight memos.

Task feedback checklist. The feedback recommendations (APPENDIX F) were created based on guidelines provided by Jaffe (1968) and further adapted from Holmes and Hauenstein (2012). A feedback checklist was organized by six overarching goals for management: Actively Manage Information, Prioritize Issues, Resolution of Critical Issues, Resolve Conflicting Requests, Efficient Use of Meetings, and Effective Leadership. There were 25 feedback recommendations under these six managerial goals.

Independent Variables

Chronic Motivational Orientation. During phase 1, a measure of chronic motivational orientation (APPENDIX B; Higgins et al., 2001) was given to individuals prior to manipulation of conditions. Participants were classified as either chronic promotion-focused or chronic prevention-focused or chronic neutral. As regulatory focus is analyzed as a continuous variable with separate orthogonal scales for promotion and prevention, individuals who score high / low on both the promotion scale and prevention scale were not used for the study. Individuals scoring in the top 50% of the promotion scale and the bottom 50% of the prevention scale were classified as promotion-focused, while individuals scoring in the top 50% of the prevention scale and the bottom 50% of the promotion scale were classified as prevention-focused.

Items were rated on a 1 to 5 Likert scale, with 1 being “Strongly Disagree,” 3 being “Neutral,” and 5 being “Strongly Agree.” An example of a regulatory focus promotion question is “I often do well at different things I try.” An example of a regulatory focus prevention question is “Growing up, I have acted in ways that my parents thought were objectionable.” For

phase 2, 44 participants were classified as promotion-focused and 36 participants were classified as prevention-focused. Experimenters remained blind to chronic motivational orientation classifications throughout the experiment.

Situational Motivational Orientation. Situational motivational orientation was manipulated such that participants were primed to a specific orientation such that they write down hopes and aspirations that they have (promotion-focus), or duties and obligations that they have (prevention-focus) when thinking about their future career (APPENDIX G). This method was originally developed by Frietas and Higgins (2002) and has been previously used and proven effective in Holmes and Hauenstein (2012). The participants were first asked to write down all ideals or oughts as they can think of, and then were asked to stand at the front of the room and summarize their top three hopes and aspirations or duties and obligations on a dry erase board, in order to keep the manipulated regulatory focus salient while performance feedback is given. This orientation of motivation was a key element of horizontal fit and its umbrella topic of self-regulation. Forty-three participants were randomly assigned a promotion focus, and thirty-seven were randomly assigned a prevention focus.

Dependent Variables

Use of Feedback. The use of feedback in this study was designed to examine how effective participants were at performing self-regulatory behaviors. Use of feedback was operationalized in two separate ways, variety, which represents how many different numbers of feedback recommendations were used in the second half of the in-basket task, and the frequency, which measures how many times these feedback recommendations were used. These measures of behaviors represented how well participants used the feedback given to them, and were an effective measure of behavior utilization.

Feedback Recall. Participants were asked to recall as many of the feedback recommendations as possible at the conclusion of the study. This outcome measure was used as an operationalization of a self-regulatory behavior, as a person's ability to recall feedback recommendations is a process of self-regulation (selective attention; Bandura, 1991).

Attitudinal Questionnaires. The attitudes of the participants were measured in two ways. First, individuals' attitudes toward feedback was assessed following the delivery of the performance feedback recommendations (APPENDIX H). This scale intended to measure individuals' reception of the feedback and whether the provided feedback was accurate to determine if horizontal fit would affect individuals' ratings of feeling right. Items were rated on a 1 to 7 Likert scale, with 1 being "Strongly Disagree" and 7 being "Strongly Agree." An example question from the attitudinal scale is "The feedback I received was an accurate assessment of my performance." Second, individuals' attitudes toward the in-basket task was assessed following the completion of the in-basket task and intended to measure individuals' evaluation of the in-basket task and perceived performance (APPENDIX I). Items were rated on a 1 to 7 Likert scale, with 1 being "Strongly Disagree" and 7 being "Strongly Agree." An example question from the attitudinal scale is "I had an overall positive evaluation of the in-basket task."

Filler Task. The 'Filler Task' was used as a way to increase cognitive load on the participants' abilities. Because self-regulation resources can be depleted (Converse & DeShon, 2009), the filler task was used as an additional control to ensure that feedback was recalled due to the process of feeling right in fit conditions, rather than a byproduct of direct memorization, as the filler task was completed directly after receiving feedback. The task was a four-minute memory recall task, in which participants were shown a set of 30 words over two minutes, then

allowed two minutes to write down as many words as they could recall. This task was given to the participants immediately after receiving feedback recommendations.

Covariate. Feedback utilization and recall in the second session was partially dependent on the number of feedback statements given after the first session (labeled “time 1 behaviors”). Therefore, time 1 behaviors was used as a covariate where appropriate.

Analysis

A 2 x 2 balanced ANCOVA was run on the data to examine the horizontal fit relationship between chronic motivational orientation and situational motivational orientation with each of participants’ attitudes and the behavioral manifestations of performance feedback as the measured outcome. Participants’ performance on the first session was used as the covariate, as the number of feedback recommendations they completed was inversely related to the feedback recommendations they received to use throughout the second session.

The data used F-score statistical tests based off of data from the 2 x 2 balanced ANCOVA, as this was the most effective at testing for interaction effects when the independent variables of chronic and situational regulatory foci are nominal and the feedback recommendations given was used as a covariate. These statistical tests allowed for the hypotheses to be evaluated, as interaction effects would be tested for. If there was a match/mismatch effect between two of the independent variables, then it should show no difference in main effects, but significant difference in interaction effects.

Results

Frequency, variety, and recall were all assessed by having two research assistants code all three variables from the post-feedback session. Coders were not allowed to code data for any participant they supervised at time one. For disagreements between raters regarding recall,

frequency, or variety, I determined the final value, while blind to experimental conditions. Coders exhibited perfect agreement for recall for 63 participants. Of the 17 remaining disagreements, twelve were of a magnitude = 1, four were of a magnitude = 2, and one was of magnitude = 3. For frequency, coders exhibited perfect agreement for 39 participants. Of the 41 instances of disagreement, 37 disagreements were of a magnitude ≤ 2 (19 of which were of a magnitude = 1), while the remaining four disagreements were of a magnitude ≤ 4 (three of which were of a magnitude = 3). For variety, coders exhibited perfect agreement for all 53 participants. Of the 27 disagreements, 16 had a magnitude = 1, nine had a magnitude = 2, and two had a magnitude = 3.

Descriptive statistics appear in Table 1, and Table 2 displays the correlation matrix for all measured variables, collapsed over conditions. Tables 3-6 display the correlation matrix all measured variables within condition.

As a precaution, a 2 (Situational Regulatory Focus; SRF) X 2 (Chronic Regulatory Focus; CRF) ANOVA was conducted to determine whether differences existed in the number of feedback recommendations provided among the four possible conditions of the study. Results indicated an unexpected interaction between SRF and CRS ($p < 0.05$, $\eta^2 = 0.07$). Separate simple effects ANOVAs indicated regulatory fit conditions were significant within the chronic prevention condition; participants in the prevention condition manifested fewer time 1 behaviors ($M = 10.00$, $SD = 2.66$) than participants in the promotion condition ($M = 12.50$, $SD = 2.28$, $F(1,34) = 9.18$, $p < 0.01$, $\eta_p^2 = 0.09$). For individuals with chronic promotion focus, the regulatory focus manipulation was not significant (Promotion: $M = 10.56$, $SD = 3.18$; Promotion: $M = 11.16$, $SD = 3.03$, $F(1,42) = 0.40$, $p = 0.53$, $\eta_p^2 = 0.01$; Figure 1). Originally, time 1 behaviors were intended to be used as a covariate only for behavior utilization (i.e., frequency and variety)

and recall analyses. However, because of the significant regulatory focus manipulation for the chronic prevention participants, time 1 behaviors are used as a covariate for all dependent variables.

Behavioral Utilization

To test Hypotheses 1, two separate 2 (SRF) X 2 (CRF) ANCOVAs were conducted on variety and frequency with time 1 behaviors as the covariate (See Table 1). Prior to the running the ANCOVAs, regression analyses were run to test for factor by covariate interactions. For both variety and frequency, none of the factor by covariate interactions were significant and all factor by covariate interactions were pooled into the error term. Hypothesis 1 predicted subjects in fit conditions would exhibit higher frequency and variety than subjects in non-fit conditions.

For frequency, neither main effect was significant, and the SRF X CRF interaction approached significance ($F(1,75) = 2.88, p = 0.09, \eta_p^2 = 0.04$). For variety, the main effect of CRF approached significance ($F(1,75) = 3.81, p = 0.06, \eta_p^2 = 0.05$), as did the SRF X CRF interaction ($F(1,75) = 3.60, p = 0.06, \eta_p^2 = 0.05$). Figures 2 and 3 represent the interactions based on the raw frequency and variety scores. Using means adjusted for time 1 behaviors did not change the interaction pattern using raw scores for either frequency or variety. Strong support for regulatory fit requires four significant contrast effects: 1) For chronic prevention participants, behavioral utilization in the prevention condition will be greater than utilization in the promotion condition; 2) For chronic promotion, utilization in the promotion condition will be greater than utilization in the prevention condition; 3) Within the prevention condition, utilization by chronic prevention participants will be greater than utilization by chronic promotion participants; and 4) Within the promotion condition, utilization by chronic promotion participants will be greater than utilization by chronic prevention participants. Although the

interactions for frequency and variety did not reach significant at $p = .05$, the predicted a priori contrasts still warrant analysis.

Contrasts were tested using Hochberg's (1988) sequential step-down method setting .05 as the family-wide Type I error rate. Hochberg's test uses "protected t-values", where the denominator of the t-test is based on the estimate of error variance from the omnibus ANCOVA. The Hochberg test is sequential in that significance tests are conducted one at a time (as opposed to simultaneously) working from the contrast with the largest p -value to the contrast with the smallest p -value. The contrast with the largest p -value is tested at the established family-wide error rate (FWE; i.e., $p = .05$ in the current study). If non-significant, the contrast with the second largest p -value is tested using the FWE *divided* by two (i.e., .025 in the current study). The contrast with the third largest p -value is tested using the FWE *divided* by three (.0168) and the contrast with the smallest p -value is tested using the FWE *divided* by four (.0125). Technically, significance testing stops after the first significant contrast is found, and all other contrasts are considered statistically significant. For completeness, I report all significant effects. Finally, behavioral utilization scores were adjusted for Time 1 behaviors, and given the predicted contrasts were directional, one-tailed significance tests were warranted (Cohen, 2013).

For chronic prevention individuals, the state manipulation was significant for both frequency (State Promotion: $M = 9.86$, $SD = 1.27$; State Prevention: $M = 11.15$, $SD = 1.39$; $t(76) = -2.42$, $p < 0.0125$) and variety (State Promotion: $M = 5.69$, $SD = 0.77$; State Prevention: $M = 6.49$, $SD = 0.84$; $t(76) = -2.53$, $p < 0.0125$). The state manipulation contrasts were not significant for chronic promotion individuals.

Within situational promotion-focused condition, chronic promotion-focused individuals utilized more feedback than prevention-focused individuals for both frequency (Chronic

Promotion: $M = 10.92$, $SD = 1.86$; Chronic Prevention: $M = 9.86$, $SD = 1.27$; $t(76) = 2.13$, $p < 0.0168$) and variety (Chronic Promotion: $M = 6.34$, $SD = 1.06$; Chronic Prevention: $M = 5.69$, $SD = 0.77$; $t(76) = 2.21$, $p < 0.0168$). The effect of chronic regulatory focus was not significant within the prevention-focused condition.

To summarize the behavioral utilization results, the patterns of means for both frequency and variety followed the expected regulatory fit pattern. However, it is interesting to note that significant effects supporting regulatory fit were found for chronic prevention individuals and when individuals were in a promotion-focused state, but regulatory fit effects were not significant for chronic promotion individuals or when individuals were in a prevention-focused state.

Recall of performance feedback recommendations.

The prediction that fit effects would be seen in recall of feedback behaviors (i.e., Hypothesis 2) was tested using recall as the dependent variable in a 2 (SRF) X 2 (CRF) ANCOVA with time 1 behaviors as a covariate. None of the factor by covariate interactions were significant, and there were no significant recall effects (See Table 8). Similarly none of the predicted contrasts representing the fit interaction were significant using the Hochberg's step-down test. As such, Hypothesis 2 was not supported.

Attitudes towards feedback and the in-basket task

Hypothesis 3 predicted a significant interaction effect such that of regulatory fit would produce significantly more positive responses on participants' attitudes toward the feedback and attitudes toward the in-basket task than participants in a non-fit condition. Separate 2 (SRF) X 2 (CRF) ANCOVAs were conducted on the two attitudinal variables using time 1 behaviors as a covariate. None of the factor by covariate interactions were significant. Results from the

ANCOVA yielded a fit interaction for attitudes toward feedback, $F(1, 75) = 6.31, p < 0.05, \eta^2 = .08$ (See Table 9). Figure 4 plots the interaction using the raw attitude mean; adjusting means using time 1 behaviors did not change this interaction pattern. Again, the pattern of means is consistent with the predicted regulatory fit interaction.

Contrasts were conducted in the same manner above, except the raw scores for attitude toward feedback were not adjusted given time 1 behaviors did not predict attitudes toward feedback. For chronic promotion-focused individuals, the state manipulation approached significance (State Promotion: $M = 5.97, SD = 0.57$; State Prevention: $M = 5.53, SD = 0.75$; $t(71) = 1.98, p = 0.0255$). For this contrast, $p = 0.0168$ was the Type I cut-off for statistical significance. For chronic prevention individuals, the state manipulation also approached significance (State Promotion: $M = 5.77, SD = 0.90$; State Prevention: $M = 6.15, SD = 0.62$; $t(71) = -1.57, p = 0.06$). For this contrast, $p = 0.025$ was the Type I cut-off for statistical significance. For those individuals in the situational prevention-focused condition, chronic prevention – focused individuals had more positive attitudes toward feedback than chronic promotion-focused individuals (Chronic Promotion: $M = 5.53, SD = 0.75$; Chronic Prevention: $M = 6.15, SD = 0.62$; $t(71) = -2.63, p < 0.0125$). Significant effects were not found for chronic regulatory focus within the promotion-focused condition.

To summarize, fit effects were seen for attitude toward feedback, but not attitudes toward the in-basket task, partially supporting Hypothesis 3. Regarding attitudes toward feedback, the pattern of means were consistent with regulatory fit. A significant fit effect was observed for chronic regulatory focus in the prevention-focused condition, and the fit effect for the state manipulation approached significance for both types of chronic regulatory focus.

Discussion

Overall, findings generally supported the importance of horizontal regulatory fit in the context of performance feedback. Horizontal fit effects were found for both behavioral utilization of feedback and attitudes toward feedback. However, the individuals in fit conditions did not express more positive attitudes towards the task at hand nor did they recall more feedback as expected.

Previous research reports individuals feeling right when in a state of fit (Cesario & Higgins, 2008; Higgins, 2000; Higgins et al., 2003) due to regulatory enhanced attitudes. The attitudes toward the feedback measure was more oriented toward individuals feeling right about the feedback, while the attitude towards the in-basket task assessed whether/how much they enjoyed the in-basket task and found it to be effective. This finding that fit did affect feeling right is in line with the current research on persuasive messages.

Regulatory Fit

Regulatory fit is a general theory of self-regulation, and researchers have demonstrated fit's versatility using many strategies for both manipulating motivational orientation and vertical fit (e.g. Cesario et al, 2008; Hamstra et al., 2011, Tam et al, 2010). It is clear from the research on vertical fit, external sources can easily disrupt fit (Higgins, 2000; Leikas, Lindeman, Roininen & Lahteenmaki, 2009). The findings of the current study suggest that horizontal fit is also easily disrupted by external forces, which in turn affects behaviors and attitudes. More specifically, it is more difficult to sustain fit when an external source primes regulatory focus counter to the individual's chronic focus preference. In addition, the attitudinal measures demonstrate regulatory fit's relatively fleeting effects. The attitudes towards in-basket measure was provided after completing the in-basket task, rather than immediately after manipulating regulatory focus.

Feedback Theory Implications

The findings from the current study have important implications for feedback theories. The results from the current study and the previous study done by Holmes and Hauenstein (2012) suggest that regulatory fit processes will increase the likelihood that people will use task feedback. This may help elucidate the variability of feedback effects on task performance as explained by Kluger and DeNisi (1996). Horizontal fit may also help further explain how characteristics of the recipient influence how individuals perceive and accept feedback after feedback interventions (Ilgen et al., 1979). Inclusion of regulatory fit further suggests that person-oriented or task-oriented feedback characteristics are not detailed enough in explaining the dynamic nature of feedback processing and utilization.

Recommendations Recalled

The results concerning recall suggests that regulatory fit does not improve the accessibility of feedback information in recipients. A few notable issues arise with the results of this analysis. First, recommendations recalled and variety are not only functions of the recommendations that are provided to the individual, but are equal in regards to what they represent. Variety represents the behavioral manifestation of each individual feedback item, while recall represents the cognitive process of remembering these individual feedback items. It would be expected that individuals would first cognitively remember these behaviors before utilizing them throughout the task, as their behaviors are a result of recognizing the need to change and adapt to the feedback given. The current study only examines recall after first completing the in-basket task's second session. On average, individuals recalled approximately 4 recommendations (29% of average recommendations given), while performing approximately 6 recommendations on average (44% of average recommendations given). This suggests one of three possibly reasons: 1) individuals are more likely to forget the

feedback provided regardless of regulatory fit conditions, perhaps due to completion of the task 2) when individuals are taken out of the task they are more likely to forget the processes they used throughout the task to remember/perform the behaviors, or 3) individuals may think back to individual task memos to recall their behaviors that reflect the feedback provided, rather than thinking to the feedback itself.

Second, further examination of this relationship shows that the correlation between variety and recall is highly significant at 0.45, reinforcing the fact that they are comprised of the same recommendations. However, when examining the within cell correlations of conditions, the only instance in which this relationship is not significant is for prevention focused individuals in the situationally-induced prevention condition. The other unusual pattern to note is that individuals in this condition had both the highest recorded variety (7.33) as well as the highest recorded recall (4.39). Individuals in this condition also had the most positive attitudes toward both feedback and in-basket task (6.15, 5.94, respectively) such that their engagement was due to both regulatory fit and the prevention-oriented self. It may be beneficial to further examine this relationship to determine how individuals in a prevention focus utilize and recall behaviors.

Practical Implications

The results in the current study suggest that providing feedback to individuals in a state of horizontal fit will provide noticeable benefits. This would mean that not only do the individuals who provide feedback need knowledge of the individual's natural inclination for motivational orientation, but also that these providers need be aware of the dynamics of regulatory fit as well as factors that may prime motivational orientations. Understanding regulatory fit would allow for these individuals to better organize or manipulate characteristics of the feedback such that recipients would adhere to the feedback more and increase their likelihood of enhancing future performance through better

attitudes and utilization of feedback. After obtaining the recipients' chronic motivational orientation, it is only a matter of being aware of situational primes that may create horizontal fit.

These results could have important consequences in the workplace, where considerable efforts are introduced to providing organizational members with feedback regarding their performance or behaviors. Understanding an individual's natural tendencies for motivation and creating means by which this individual can work within horizontal regulatory fit has great potential in allowing the organizational member to adhere to feedback and increase the likelihood that he / she will improve performance. Further research is needed to understand how to sustain fit over time and across tasks.

Future Research

The results of the current study suggest multiple areas for future research to address. Future research with regulatory fit and performance feedback needs to be conducted in situations where individuals are invested in the outcome of utilizing provided feedback, such as in workplace settings or other real world situations. The current study introduced a novel, complex task to imitate real world environments, but fails to provide outcomes individuals are invested in. More research should be conducted involving applied populations where consequences are related to real world outcomes (e.g. performance appraisals, promotions, reprimands) before regulatory fit can be utilized in organizational settings to improve the effectiveness of performance feedback.

Research needs to be done to determine the temporal stability of the effect of both vertical and horizontal regulatory fit. Individuals can stay in a state of regulatory fit after two weeks when provided with the same situation (Latime, Rivers, Rench, Katulak, Hicks, Hodorowski, Higgins, & Salovey, 2008), but remains relatively untested on feedback

recommendations. From an organizational standing, having individuals maintain a state of regulatory fit after receiving feedback recommendations could substantially influence behaviors over a prolonged period of time. Additional research is necessary to test the stability of regulatory fit effects within feedback interventions.

Further research needs to be done to examine how vertical and horizontal fit can be manipulated to determine the effects of a three way interaction between chronic and situational motivational orientations as well as goal pursuit strategies. Although situational motivational orientations can temporarily override the chronic preference (Higgins, 2000), measuring chronic motivational orientation and creating fit could potentially create three-way interactive effects that are stronger than the two-way interaction effects. One potential possibility of performing this research is to determine if regulatory fit created without accounting for chronic preference has shorter lasting effects than manipulating contextual effects.

Conclusion

The current study attempted to assess the extent to which horizontal regulatory fit could be applied to the context of task feedback. Regulatory fit theory and regulatory focus theory mechanics were generally supported by the results of the study. The complete benefits of utilizing regulatory fit within individuals, especially those in the workplace, is still largely unknown, but the current study details possible scenarios in which individuals benefit from being in a state of fit while receiving feedback. Though these individuals lacked significant outcomes, such as in real world situations, individuals did indicate that they were engaged in the task and desired to be successful at it. Regulatory fit theory contributes to both the performance feedback and performance management literature by detailing when individuals are more likely to alter their behaviors and attitudes in regards to feedback provided.

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APPENDIX A
Informed Consent: Management: Motivations and Performance Feedback

ONLINE PHASE

Welcome to the “Effective Management: Motivations and Performance Feedback” study. Before taking part in this study, please read the consent form below and click on the "I Agree" button at the bottom of the page if you understand the statements and freely consent to participate in the study:

Procedure

Today you will be asked to provide answers to a questionnaire. Participation in the study typically take around 25 minutes and your results will be kept confidential.

Risks

There are no more than minimal risks involved in participation in this study.

Compensation

Undergraduate students will be compensated for participating in this phase of the study by receiving 1 point of extra credit towards their Introduction to Psychology or other class (insert other classes here) final grade.

Anonymity of Subjects

Your anonymity will be kept strictly confidential. Other than the principal investigators, your information will not be accessible to anyone, including the research assistants conducting the research. All data reported will be group together to keep your identity anonymous.

Freedom to Withdraw

You are free to withdraw your consent and terminate your participation at any time. Withdrawing from the study will not cause you any penalty or trouble. You are also free to decline to answer any specific items on the Questionnaire.

Questions Concerning Research

Should you have any questions about this research or its conduction, you may contact:

Investigator: Andrew Miller, (757) 660-6222/ amiller6@vt.edu
Investigator: Dr. Neil M. Hauenstein, (540) 231-5716/ nhauen@vt.edu
Chair, HSC: Dr. David W. Harrison, (540) 231-4422/ harriso@vt.edu
Chair, IRB: Dr. David M. Moore, (540) 231-4991/ moored@vt.edu

Approval of Research [upon IRB completion]

This research has been approved, as required, by the Human Subjects Committee of the Psychology Department and by the Institutional Review Board for Research Involving Human Subjects at Virginia Tech.

If you are 18 years of age or older, understand the statements above, and freely consent to participate in the study, click on the "I Agree" button to begin the experiment.

APPENDIX B

Online Questionnaire Items

Manipulation Check

Have you had any experience as a manager of a company or organization?

Have you ever been responsible for other employees of a company or organization?

Regulatory Focus Questionnaire

On a scale of 1 to 5, rate how often you do the following behaviors:
1: Never or seldom, 3: Sometimes, 5: Very often

1. Compared to most people, are you typically unable to get what you want out of life?
2. Growing up, would you ever “cross the line” by doing things that your parents would not tolerate?
3. How often have you accomplished things that got you psyched to work even harder?
4. Did you get on your parents’ nerves often when you were growing up?
5. How often did you obey rules and regulations that were established by your parents?
6. Growing up, did you ever act in ways that your parents thought were objectionable?
7. Do you often do well at different things you try?
8. Not being careful enough has gotten me into trouble at times.

On a scale of 1 to 5, rate how you feel about the following statements:
1: Never true, 3: Sometimes true, 5: Very often true

9. When it comes to achieving things that are important to me, I find that I don’t perform as well as I ideally would like to do.

On a scale of 1 to 5, rate how you feel about the following statements:
1: Certainly false, 3: Neutral, 5: Certainly true

10. I feel like I have made progress toward being successful in my life.

11. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

APPENDIX C

Informed Consent Form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent Form for Participants of Investigative Projects

Title of Project: “Effective Management: Motivations and Performance Feedback”

Investigators: Dr. Neil M. Hauenstein, Andrew Miller

I. Purpose of this Research/Project

The purpose of this study is to examine several business management simulations. The results of this study will have practical importance for organizations understanding the relationship between task performance and performance feedback, and will be made available to those interested in this topic upon request.

II. Procedures

You will be introduced to a business management simulation task. You will then be asked to complete this simulation task (55 minutes), along with a very brief memory recall test (5 minutes). In all, the total time required to complete this experiment will be approximately 60 minutes.

III. Risks

There are no more than minimal risks involved in participation in this study.

IV. Benefits of this Project

The information obtained by this research may be used for scientific and/or educational purposes. The information relating to responses of all participants may be presented at scientific meetings and/or published in professional journals or books. This information may be used for any other purpose, which Virginia Tech’s Department of Psychology considers proper in the interest of education, knowledge, or research. If you are interested in obtaining results of this study they will be made available to you upon request. No guarantee of benefits has been made to induce you participate.

V. Extent of Anonymity and Confidentiality

The results of this study will remain strictly anonymous. At no time will the researcher release the results of this study to anyone, other than those individuals involved with the research project. You will not be required to identify yourself in any manner on the survey instrument, nor will you be required to divulge any of your answers to anyone.

VI. Compensation

Undergraduate students will be compensated for participating in the present study by receiving 1 point of extra credit in their Introduction to Psychology or other class (that accepts SONA credits) towards the final grade. If you choose not to participate in this study, you have the option of writing essays for extra

credit. If you are enrolled in Introduction to Psychology, please see the Introductory Psychology Office (Williams 307) for details. All others should see their instructor for other extra credit options.

VII. Freedom to Withdraw

You may withdraw from participation in this study at any time without penalty. If you choose to withdraw from this experiment you will not be penalized in extra credit points or grade in a course. You are free not to answer any questions without penalty.

VIII. Approval of Research

This research has been approved, as required, by the Human Subjects Committee of the Psychology Department and by the Institutional Review Board for Research Involving Human Subjects at Virginia Tech.

IX. Subject's Responsibility

I voluntarily agree to participate in this study.

X. Subject's Permission

I have read and understand the Informed Consent and the conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent. If I participate, I may withdraw at any time without penalty.

NAME (PLEASE PRINT): _____ **DATE:** _____

SIGNATURE: _____

Should I have any pertinent questions about this research or its conduct I may contact:

Investigator: Andrew Miller, (757) 660-6222/ amiller6@vt.edu

Investigator: Dr. Neil M. Hauenstein, 231-5716/ nhauen@vt.edu

Chair, HSC: Dr. David W. Harrison, 231-4422/ harriso@vt.edu

Chair, IRB: Dr. David M. Moore, 231-4991/ moored@vt.edu

APPENDIX D

Demographics Questionnaire

Please indicate your:

Sex

_____ Male

_____ Female

Ethnicity

_____ Caucasian

_____ African American

_____ Hispanic/Latino

_____ Asian

_____ Other _____

Academic Standing

_____ Freshman

_____ Sophomore

_____ Junior

_____ Senior

APPENDIX E

In-basket Task

Instructions

For the purposes of this exercise, you are to assume the role of Will Judd, plant supervisor of the Southern Division at the Geometric Manufacturing and Development Company. The Geometric Company has just promoted you to the role plant supervisor. Your company does research and developmental work in the area of atomic-powered engines and also produces a number of different engines for commercial use. Although you have worked in this new position for some time, you have had a number of other responsibilities that have kept you away from your office for a good deal of the time.

Today is Sunday, July 11th. The situation is obviously hypothetical, but you are to work just as you would if you should find yourself in a similar situation in the future. Although the situation is artificial, with some unrealistic restrictions on the time allowed you and the methods and activities you can employ in communicating with others, the problems are real, obtained from actual situations supervisors have encountered on their jobs.

You have to leave your “office” promptly in one hour to catch a plane for an important meeting which you had committed yourself to attend before you learned of your appointment to your present position. You will be very busy during the meeting and *will not be able to take along anything to work on*. This meeting will keep you away both Monday and Tuesday. You are working on Sunday afternoon because you want to take care of anything that might need your attention before Wednesday. You do not have access to any computer or phone, and your cell-phone does not have service in the building.

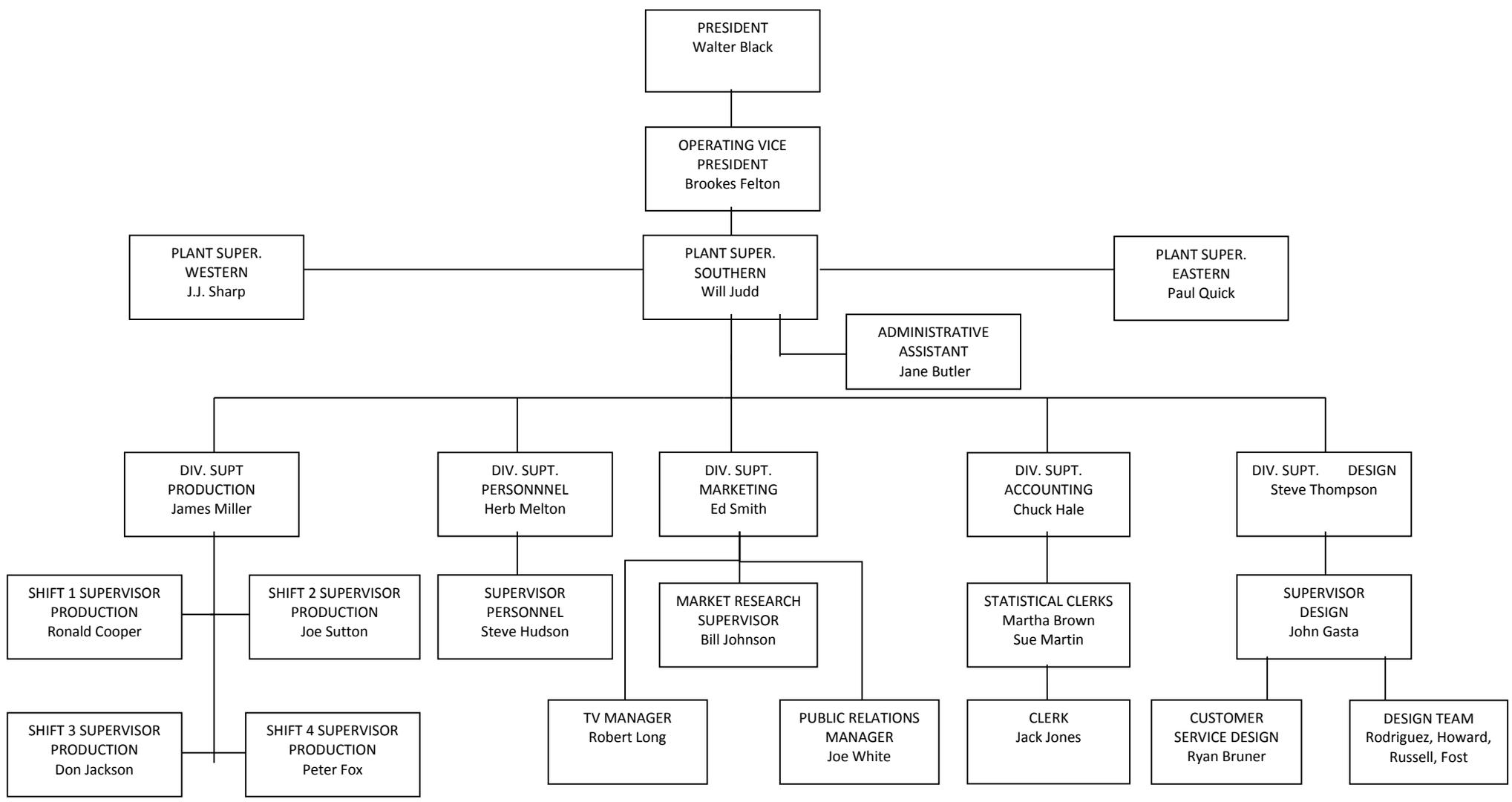
Now that you have a brief background for your new position, you are ready to go on with the exercise. Remember, the day is Sunday, July 11. You are Mr. Judd. You cannot reach anyone for help. All of the files and the computer terminal are locked and you do not have access. You must work with the materials at hand. You have one hour. You will be gone Monday and Tuesday. You cannot take any of these materials with you on your trip.

Your working equipment consists of an organizational chart, a calendar, and an in-basket containing the materials that your secretary, Jane Butler, has left on your desk for your attention. These materials include letters, reports, memos, etc. You have an hour to do as much as you can toward taking care of the problems with the materials present. Please indicate on each item why you are taking the steps you have chosen and what you hope to accomplish.

You are requested to write down everything you decide or do. The bottom of each memo is left blank to provide you with enough room to record this information. Make memos to yourself about things you want to do when you get back. Draft letters or emails, if appropriate, for your secretary to prepare. Record (in the form of notes) what you will say on the phone, and say directly to your secretary and others, and what your intentions are as well as your actions. Note agenda for meetings you may want to call. Sign papers if appropriate. **Everything you decide or do should be in writing.** Many of things normally would be handled more informally, but it is Sunday, you are new in your job, and you will be out of town for the next two days.

July						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

ORGANIZATION CHART
THE GEOMETIC COMPANY



July 2, 2013

To: Will Judd

From: John Pushing

Dear Mr. Judd,

I'm going to be visiting clients in your area on July 16th to discuss our newest line of production machinery and I would love to have the opportunity to stop by and talk with you about the advantages that our newest products have to offer.

Would you be available to meet with me on the morning of the 16th from 9:45 a.m. to 11:00 a.m.? Please let me know at your earliest convenience.

Sincerely,

John Pushing

Regional Sales Manager

Acme Manufacturing Equipment Company

The Geometric Company

INTER-OFFICE MEMORANDUM

July 8, 2013

To: Will Judd
From: Chuck Hale
Subject: Employee of the Month

Will,

Just wanted to let you know that our very own Sue Martin was named employee of the month, not just for the Southern plant, but for the entire company! Sue has done a fantastic job here at Geometric Company for over 10 years and consistently earns 'excellent' performance ratings. Just thought you might like to know.

Sincerely,

Chuck Hale

The Geometric Company

INTER-OFFICE MEMORANDUM

July 8th, 2013

To: All Southern Plant Employees

From: Herb Melton

Just wanted to let everyone know that we will be celebrating August birthdays on August 30th at 12:00 p.m. in the plant break room. We will be having cake and ice cream to celebrate, so be sure to come and join us!

Thanks,

Herb Melton

The Geometric Company

INTER-OFFICE MEMORANDUM

MONTH OF JUNE

PROFICENCY RATING OF NON-MANAGEMENT PERSONNEL

<u>Name</u>	<u>Rating</u>
Cooper	Poor
White	Excellent
Sutton	Poor
Long	Good
Jackson	Poor
Martin	Excellent
Gasta	Good
Fox	Poor
Bruner	Poor
Melton	Good
Johnson	Good
Hale	Good
Smith	Excellent
Hudson	Poor
Jones	Good
Thompson	Good
Brown	Good
Miller	Excellent
Rodriguez	Good
Howard	Good
Fost	Good
Russell	Good

The Geometric Company

125 Anderson Street
Allandale, New York

July 10, 2013

To: Will Judd
From: Herb Melton
Subject: Personnel

Please let me have this form back at your earliest convenience. I've been having a look over your people and I want to promote Joe Sutton to that foreman's opening and I need your signature.

Herb Melton

I recommend the promotion of Joe Sutton to Foreman.

Plant Supervisor

The Geometric Company

INTER-OFFICE MEMORANDUM

To: J.J. Sharp, Paul Quick, Will Judd

From: Michael Thompson

Simplex will be testing the fire alarm systems in the following plants during the month of July 2013: Southern, Eastern, Western
The fire alarm horns/speakers will be sounding and the strobe lights will be flashing at times during this testing.

July 6th—Southern

July 14th – Eastern

July 16th—Western

Please notify your people accordingly.

Michael Thompson

Geometric Company

Facilities Services/Building Systems Coordinator

To: Will Judd

From: John Simmons

Dear Mr. Judd:

I'm writing to you in regards to Ryan Bruner. Though the quality of the work that your design team has produced for us in the past has always been of the highest quality, my interactions with Mr. Bruner over the past several months have been highly contentious. He has been very curt in his communications with us and becomes very defensive whenever we present him with requests for changes in the design plan. In several cases he even suggested that we don't know what we're talking about and has refused to make the changes we have requested of him.

Our firm has been doing business with The Geometric Company for over 7 years. On the whole we have enjoyed our relationship with your company. However, if this matter is not resolved ASAP I am afraid we will have to consider taking our business elsewhere.

John Simmons

John Simmons, President

BARTELSON COMPANY

The Geometric Company

125 Anderson Street

July 9th, 2013

Will,

Let me be the first to congratulate on your new promotion. Leadership thinks you have a lot of potential and couldn't agree more.

I think it's imperative that we meet to discuss your new position as soon as possible. I want to give you an overview of what we expect from you and answer any questions you might have regarding your new responsibilities. This is a very important position and there is a lot of work that needs to be done.

I'm very busy this month and the only time I'm available is on July 16th. I'd like to meet with you from 9:00 a.m. to 11:00 a.m., so please be sure to stop by my office then.

Brookes Felton

July 2, 2013

Mr. Will Judd,

We think Mr. Miller is incapable of handling this issue, so we are bypassing him and coming directly to you. We the undersigned are strongly against the policy of giving merit bonuses. We think it is political, and an unfair way to bribe workers. We plan to take this up with the union unless it is stopped.

Sutton

Jackson

Fox

Cooper

The Geometric Company
INTER-OFFICE MEMORANDUM

July 2, 2013

To: Will Judd
From: Joe White
Subject: Community Relations

Dear Will,

It has come to my attention that some of your people have been seen in some questionable areas of town. You know how important community relations are for us.

I wish you would talk to some of them and straighten this out. Their names are:

Cooper

Sutton

Long

Jackson

Fox

The Geometric Company
INTER-OFFICE MEMORANDUM
ABSENCES DURING THE MONTH OF JUNE

<u>Name</u>	<u>Days</u>	<u>Name</u>	<u>Days</u>
Miller	0	Martin	1
Gasta	2	Jackson	6
Russell	3	Melton	0
Fox	1	Bruner	3
Hale	1	Johnson	2
Rodriguez	2	Smith	0
Hudson	1	Sutton	8
Jones	0	Brown	1
Thompson	1	Cooper	0
White	1	Howard	1
Fost	0	Long	2

The Geometric Company

Will,

Make sure you get your design team on this project right away. This needs to be taken care of immediately.

Brookes Felton

FWD:

WILKERSON COMPANY
WILCOX, VIRGINIA

July 7, 2013

Plant Superintendent, Geometric Company

Dear Mr. Judd:

Your handling of the design plans for my job has been very poor in my estimation. Your use of manpower has been especially faulty, and I am of the opinion that you don't use your people very effectively. Unless there is a substantial improvement, we may very well terminate your services and go to another company.

I am sending to you (on Monday) the specifications for the new designs which must be completed and received by Wednesday, 5 p.m.

Ed Lasting

Ed Lasting, President
WILKERSON COMPANY

The Geometric Company

INTER-OFFICE MEMORANDUM

July 7, 2013

To: Will Judd
From: Brookes Felton

Will,

Just wanted to let you know that I met with Walter Black the other day and he mentioned how impressed he is with the performance of your plant, especially in regards to marketing. He has heard nothing but positive comments from members of the community in Wilcox regarding the new plant there. People seem to be genuinely excited and I'm sure our marketing team down there has a lot to do with that. Just thought you should know.

Keep up the good work!

Brookes Felton

The Geometric Company

EASTERN DIVISION

INTER-PLANT MEMORANDUM

July 8, 2013

Mr. Will Judd:

Will, I'll need all of your design people from Monday until Thursday for a special work-up on the motor for the drainage system for the township of Allandale.

Thank you,

Paul Quick

The Geometric Company

INTER-OFFICE MEMORANDUM

July 8, 2013

To: Will Judd

From: J.J. Sharp

Will, I'll need those two design men on Monday and Tuesday to get the X-5507 engine job completed on time. I appreciate in advance your willingness to help.

J.J. Sharp

City of Wilcox, Virginia

July 8, 2013

Plant Manager

Southern Area

The Geometric Company, Wilcox, Virginia

Dear Sir:

It is with great eagerness that we have looked forward to the completion of your plant. It will be a significant factor in the growth of the area. I would like to take this opportunity to welcome you and invite you to a meeting of the local business committee. Traditionally, we discuss topics of mutual interest, affecting local and national business, and use this as an opportunity to socialize—which, in your case, would afford an opportunity for you to meet with us. Looking forward to seeing you on Wednesday, the 14th, 7 p.m. at the Elks Club.

Cordially,

W.W. Weston

Mayor
Wilcox, Virginia

The Geometric Company

INTER-OFFICE MEMORANDUM

Mr. Will Judd:

Below is the requisition form for that special drawing layout. It's expensive, but it's really a beauty.

Steve Thompson

I approve the special drawing layout.

Allied Sheet Metal

1204 EASTERN LAKE ROAD
BEAUMONT, KANSAS

July 9, 2013

Plant Superintendent
Geometric Company
Wilcox, Virginia

Dear Sir:

The supplies promised for July 12 cannot be delivered. I sincerely regret the delay but a power breakdown has about paralyzed my operation. I will get the material to you just as soon as possible. Please bear with me.

Sincerely,

Ed Hunter

President, Allied Sheet Metal

P.S. If you could contact me on Monday I could let you know about some material being stored by the AAMCO Co. in Sanford, Virginia. If you need it very badly they might be able to loan you some, as the union strike has temporarily shut down their operation.

July 2, 2013

Mr. Judd,

My wife and I have a garden at home and we seem to have more squash and zucchini than we know what to do with. I've left a grocery bag full of the extra squash and zucchini on the table in the break room. Could you please let the rest of the employees know that they are free to help themselves?

Thanks,
Simpson

July 1, 2013

To: Mr. Will Judd
From: Ronald Cooper, Don Jackson, Peter Fox
Subject: Promotions

It seems as if those employees past 50 years of age are being bypassed for promotion in favor of so-called “potential management” but yet untried college people of about 30. Doesn’t experience and years of faithful service deserve some consideration? We plan to take this up with the union unless we hear from you shortly about this policy.

The Geometric Company

TELEPHONE MEMO

July 8, 2013

Mr. Judd, call Dr. Franz regarding a 'vacuum tube'.

Jane Butler
Administrative Assistant

WILCOX, VIRGINIA

Wilcox Times

July 5, 2013

Mr. Judd

Geometric Company

Wilcox, Virginia

Dear Mr. Judd:

As Chairman of the highway beautification committee, I wish to thank you for making Don Jackson available to work on the committee. He has been an important factor in the success of the drives so far by his untiring and enthusiastic efforts.

The committee was especially pleased last week when Mr. Jackson assured us that the Geometric Company would make a \$1,500 contribution to this worthy project. It is nice to know that your company recognizes the value of community projects.

We plan to print an article in the Times on July 19th, announcing the corporate gifts to date.

Thank you again for your community spirit.

Sincerely,

E.E. West
Editor, Wilcox Times

July 8th, 2013

To: Will Judd

From: Peter Fox

I want to lodge a formal complaint regarding the vacation policy of this company. As a loyal employee of 15 years plus, I deserve more than two weeks of paid vacation, especially when you consider the fact that other employees with less than ten years of experience at Geometric are given just as much vacation time as I am! This is unfair and I plan to take the matter up with union if it's not addressed soon.

Peter Fox

The Geometric Company

INTER-OFFICE MEMORANDUM

July 6, 2013

To: Will Judd
From: Walter Black

Congratulations on your promotion. You are in an important job position and we have great faith in your ability to handle it. If there is anything I can do to be of assistance to you while you're getting settled please don't hesitate to ask. Oh, by the way, my wife and I would like you to join us for dinner on Wednesday, July 14, at our home. We'll expect you around 7 p.m. at the house, 419 West Haven drive.

Walter Black

The Geometric Company

INTER-OFFICE MEMORANDUM

Mr. Will Judd:

I need your signature for our new T.V. ad campaign. Please provide your approval as soon as possible so that we can start up our need marketing push.

Bill Johnson

I approve the new T.V. ad campaign.

Southern Plant Supervisor

The Geometric Company

INTER-OFFICE MEMORANDUM

July 2, 2013

Mr. Will Judd,

We have gotten air time on Channel 5 for a five minute interview with a supervisor of assembly line workers. I must have the name of the man in my office by July 15th. Let's have a pleasant looking, personable, and above all, upstanding individual. Somebody suggested Joe Sutton and unless I hear otherwise, I'll use him.

Robert Long

T.V. Manager

The Geometric Company

INTER-OFFICE MEMORANDUM

July 7th, 2013

The vacation of Jane Butler will commence July 13th through the 29th.

Approved by: _____
Plant Supervisor

The Geometric Company

INTER-OFFICE MEMORANDUM

July 1, 2013

To: Will Judd
From: Chuck Hale
Subject: Accounting Program

Will,

It seems that one of our systems of accounting is antiquated. I met with Kyle Roberts over from the Eastern Plant who told me about a new system they recently implemented that would more effectively manage the way our transactions are handled and how the sources of shortages are pinpointed, and I believe it would really benefit us in the long run. I need your approval for purchasing the software, I can forward the information to you if you are interested.

Thank you,

Chuck Hale

I approve the decision to purchase Corlex Accounting Pro.

Southern Plant Supervisor

The Geometric Company

June 29, 2013

To: All Supervisors

From: Brookes Felton

Subject: Production

I'm very proud of the job that has been done by all of the plants so far. As we know the economic decline has created a tremendous need for even greater productivity. I hate to ask, knowing what an excellent job we are already doing, but, if possible, let's see what we can do to make our excellent record even a little bit better and bail the company out of a tight spot. Let's each hit 50,000 units for July.

Felton

Western Branch:

Produced Units	Product Sales (\$)	Labor (\$)	Percent (%)
48,873	732,606*	\$156,045	21.3%

Southern Branch:

Produced Units	Product Sales (\$)	Labor (\$)	Percent (%)
45,692	683,923	\$159,291	23.3%

Eastern Branch:

Produced Units	Product Sales (\$)	Labor (\$)	Percent (%)
47,935	718,545*	\$142,272	19.8%*

****Meets or exceeds company goals.***

The Geometric Company

INTER-OFFICE MEMORANDUM

June 27, 2013

To: Will Judd
From: Steve Hudson

Hey Will,

I have an employee who likes to clock out early and doesn't seem to realize the cost it has on our production. I have talked with her on numerous occasions but I feel she may be ignoring me. She has been reprimanded for it and has one step left, but she is really an exemplar worker, and I was hoping you could meet with her on this problem. I would greatly appreciate it as she respects higher level managers more.

Thanks greatly,

Steve Hudson

APPENDIX F

Performance Feedback Checklist

Actively Manage Information-Adopt tactics that allow you to distill and organize the large amount of information presented. Tactics that will help you avoid anything that could go wrong when managing information include:

- Highlighting important dates and information on the provided documents
- Documenting meeting dates and times on the calendar

Prioritize issues- Recognize that not all issues are of equal importance. To avoid anything that could go wrong when prioritizing information include:

- Prioritizing legitimate customer requests
- Prioritizing requests from superiors
- Ignore issues that are non-time sensitive

Resolution of critical issues- To avoid anything that could go wrong in resolving critical issues, do the following:

- Describe specific steps to solve critical problems
- Designate who is responsible for success of the solution
- Specify date(s) that you will personally revisit this issue with those involved
- If issue involves a customer, specify what will be done to ensure customer satisfaction
- Request further information if you cannot make an informed decision

Resolve conflicting requests- There will be instances in which one or more requests conflict with another request. You need to be sensitive to these instances and avoid anything that could go wrong in dealing with conflicting requests by:

- Communicating to affected parties that there is a conflict
- Providing a rationale regarding how the conflict will be resolved

Efficient use of meetings- Meetings are time consuming, but can be one of the most effective ways to solve problems. Tactics for ensuring that nothing goes wrong in using meetings effectively include:

- Specifying all employees who will attend each meeting
- Disseminating a meeting agenda to all attendees
- Meeting with supervisors to discuss issues that exist at the divisional level
- Using one-on-one meetings to address an individual employee issue
- If meeting with a problem employee, be sure the employee's supervisor attends the meeting

Effective Leadership- A supervisor must be an effective leader. To avoid anything that could go wrong in relation to leadership, make sure you:

- Inform subordinates that they should follow the chain of command
- Solicit strategic advice from your boss
- Solicit operational advice from other plant managers
- Personally praise an employee who does something positive
- Publicly recognize an employee or a team who does something outstanding
- Hold employees accountable for poor performance
- Are willing to say "no" if a request does not provide a tangible benefit
- Delegate non-critical issues to a subordinate

APPENDIX G

Regulatory Focus Manipulation

Prevention Focus

Please think about some things you think you ought to do in regards to your professional career. In other words, please think about the professional duties or obligations you feel you have in relation to your future career. Please list as many of these duties or obligations as you can think of below.

Promotion Focus

Please think about some things you would ideally like to do in regards to your professional career. In other words, please think about the professional hopes or aspirations you have in relation to your future career. Please list as many of these hopes or aspirations as you can think of below.

APPENDIX H

Attitudes Following Feedback Delivery Questionnaire

Please answer the following regarding the performance feedback recommendations:

1. The recommendations I received for completing the in-basket task will help me during the next 20 minutes.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

1. The feedback I received was an accurate assessment of my performance.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

2. I felt right about the feedback I received.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

3. I have an overall positive evaluation of the feedback I received.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

4. The feedback I received will influence my effort in future trials.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

5. I feel wrong about the feedback I received.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

6. My appraisal of the in-basket task is different after receiving feedback than what it was in the first 15 minutes of the task.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

7. I think differently about the in-basket task items after receiving feedback.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

APPENDIX I

Attitudes Following In-Basket Task Questionnaire

Please answer the following items regarding the in-basket task:

1. I enjoyed working on the in-basket task.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

2. I had an overall positive evaluation of the in-basket task.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

3. I was engaged on the in-basket task throughout the last 20 minutes.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

4. I believe the in-basket task is effective at examining aspects of a management position.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

5. I found the in-basket task interesting.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

6. Overall, I believe my performance on the in-basket task was effective.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

7. I believe I successfully handled situations on the in-basket task.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

8. I exerted a lot of effort on the in-basket task during the last 20 minutes.

Strongly Disagree

Strongly Agree

1 2 3 4 5 6 7

APPENDIX J

Debriefing Form
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Debriefing for study entitled: “Effective Management: Motivations and Performance Feedback”.

The study that you have just participated in is meant to examine how performance feedback information and recommendations for improving performance on relevant tasks in the future can most effectively be presented to individuals.

The data from this study do not contain any individuating information and your right to privacy is guaranteed if the results of this study become public. If you are confused about any aspect of this study, or would like to see the results of this study once completed, please feel free to contact either of the investigators listed below.

Thank you again for your participation. You may withdraw your data if you desire.

We ask that you do not share the details of this study with anyone, as this might affect our data.

Contact Information

Investigator: Andrew Miller, (757)-660-6222/ amiller6@vt.edu

Investigator: Dr. Neil M. Hauenstein, 231-5716/ nhauen@vt.edu

Chair, HSC: Dr. David W. Harrison, 231-4422/ harriso@vt.edu

Chair, IRB: Dr. David M. Moore, 231-4991/ moored@vt.edu

APPENDIX K

Guide for Regulatory Fit Administrators

- 1 SET UP ROOM
- 2 GREET PARTICIPANT
- 3 INFORMED CONSENT AND DEMOGRAPHICS
 - 4 OVERVIEW OF STUDY
 - 5 EXPLANATION OF IN-BASKET TASK
- 6 INSTRUCTIONS
 - 7 PART 1 IN-BASKET
- 8 REGULATORY FOCUS PROMPT
 - 9 WHITE BOARD
- 10 GIVE FEEDBACK
- 11 ATTITUDES TOWARD FEEDBACK QUESTIONNAIRE
 - 12 WORD RECALL TASK
 - 13 PART 2 IN-BASKET
- 14 RECOMMENDATIONS RECALLED
- 15 ATTITUDES TOWARD IN-BASKET QUESTIONNAIRE

1-3

Hi, are you here for the Effective Management study? I'm _____, nice to meet you. Go ahead and have a seat at the table, there is an informed consent form and a demographics questionnaire to fill out, I just ask that you read over it and fill it out, you can let me know if you have any questions.

4

So today we'll be doing an in-basket task for 35 minutes in two sessions, a word recall task, and a few short questionnaires. Overall the study will take about an hour and you will receive one credit on SONA.

5-6

In-basket tasks are primarily used by companies when hiring or assessing managers. For this in-basket task, go ahead and read these instructions (**Hand them instructions**).

Do you have any questions?

So the first few paragraphs are essentially setting up the lab environment. The biggest takeaway from the instructions is to write down everything you want to do or want to have done on the bottom of the memos.

[Get up and go to in-basket and pull out calendar and org. chart]

As you have read, you have a calendar and an organizational chart. The chart details the personnel layout of the Geometric Company. You are William Judd in the center, with your superiors above you and your subordinates below you, divided into divisions. The plant supervisors for the Eastern and Western branch are besides you. In addition, you have scrap paper if you would like to make any extra notes to yourself.

[Return to your seat]

Each time you finish a memo, you'll put it in out-basket 1 **[Point]**. I will be scoring the memos based on your performance, and then I will put them in out-basket 2. If you want, you can take memos out from either out-basket, I just ask that if you make any changes, put it in out-basket 1 again just so I can score it again.

In addition, there is an ignore basket for memos that you believe are not important.

Do you have any questions?

The first session we'll be working on the task for 15 minutes, then do some questionnaires, and then we will return to the in-basket task for 20 minutes. I will give you a 2 minute warning after 13 minutes.

I'd like to remind you that you can write on anything you want, and you can ask questions throughout. Whenever you're ready, you can begin.

8

Okay, so the next thing I'll have you do is a prompt. **[Hand them the prompt, read it with them. Interject with "Be sure to write about yourself, rather than William Judd"]**.

9

Now if I could have you join me at the front of the room. If you could just summarize your top 3 **[HOPES/DUTIES]** on the board.

10

If you didn't notice, I was using this Performance Feedback Checklist to score your performance based on the behaviors you were exhibiting in the first half. The ones I marked with X were the ones you have been performing, and I will read the rest to you as feedback for you to utilize throughout the second session of the in-basket task.

[Read their feedback to them]. [Try to give them a short example after any unclear feedback]

e.g. **Highlighting:** Read, then say "you can highlight or circle to make sure that information sticks out."

e.g. **Revisit issues:** Read, then say "This is where you follow-up with issues that you're trying to resolve."

[AFTER READING]

Do you have any questions? I'll give you a second to look over the feedback and then you can return to your seat.

11-15

[Replace Pen + Highlighter]

[Attitude Questionnaire]

[Word Recall]

[In-Basket Task]

[Recommendations recalled]

[Attitudinal Questionnaire]

[Debriefing]

APPENDIX L

WHAT TO WRITE/HOW TO SCORE

FOR YOUR FIRST HALF: On the back of the feedback sheet:

NAME
DATE SCORED
___A___ ___B___ ___C___ ___D___

- A: Number of Recommendations given
- B: Time finished early in 1st half
- C: Time finished early in 2nd half
- D: Last memo completed in 2nd half, if not finished with in-basket task

FOR GRADING SOMEONE ELSE'S SECOND HALF: On the back of the sheet you score:

NAME
DATE SCORED
___Z___ ___Y___ ___X___ ___W___
___V___ ___U___ ___T___

Z: Variety- # categories of feedback items completed—For feedback NOT given in first 30

Y: Frequency- # times feedback was marked—For feedback NOT given in first 30

W: Recommendations Remembered/Recalled **Correctly**

V: Number of items tended to (written on) in 2nd half

U: Number of items ignored/not tended to in 2nd half

T: Number of items "Highlighted" (highlighting information, not necessarily with highlighter)

Table 1.

Descriptive Statistics for Dependent Variables for each Condition

Variable	<u>Chronic Promotion RF</u>				<u>Chronic Prevention RF</u>			
	<u>Situational Promotion RF</u>		<u>Situational Prevention RF</u>		<u>Situational Promotion RF</u>		<u>Situational Prevention RF</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Time 1 Behaviors	10.56	3.18	11.16	3.03	12.50	2.28	10.00	2.66
Behavioral Utilization								
Frequency	10.96	5.30	9.63	6.01	8.89	4.28	13.11	5.56
Variety	6.32	2.02	5.37	1.61	5.72	1.96	7.33	2.38
Total Frequency	19.28	7.46	17.33	4.20	17.89	7.73	21.28	5.04
Total Variety	12.12	2.89	12.17	1.76	11.26	2.71	12.94	1.73
Recall	3.80	1.47	3.53	1.17	4.11	1.88	4.39	1.79
Attitudinal Scales								
Toward Feedback	5.97	0.57	5.53	0.75	5.77	0.90	6.15	0.62
Toward Task	5.73	0.75	5.55	0.73	5.89	0.64	5.94	0.48

Note. $n = 25$ for Chronic Promotion RF – Situational Promotion RF; $n = 18$ for Chronic Promotion RF – Situational Prevention RF; n

$= 18$ for Chronic Prevention RF – Situational Promotion RF; $n = 19$ for Chronic Prevention RF – Situational Prevention RF.

Table 2.

Intercorrelations, Overall Means, and Standard Deviations for Time 1 Behaviors Covariate and Dependent Variables collapsed over Experimental Conditions

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Time 1 behaviors	11.01	2.93	-						
2. Recall	3.94	1.59	0.00	-					
3. Frequency	10.66	5.45	-0.30**	0.28*	-				
4. Variety	6.19	2.09	-0.46**	0.43**	0.74**	-			
5. Total frequency	18.96	6.47	0.06	0.22*	0.83**	0.53**	-		
6. Total variety	12.11	2.42	0.23*	0.39**	0.52**	0.55**	0.75**	-	
5. Attitudes toward feedback	5.87	0.73	-0.01	0.16	0.23*	0.26*	0.18	0.15	-
6. Attitudes toward task	5.77	0.67	0.24*	0.11	-0.01	0.09	-0.01	0.20	0.18

Note. $N = 80$.

* $p < 0.05$

** $p < 0.01$

Table 3.

Intercorrelations for Time 1 Behaviors Covariate and Dependent Variables for Situational Promotion Focus and Chronic Promotion Focus

Variable	1	2	3	4	5	6	7	8
1. Time 1 behaviors	-							
2. Recall	0.01	-						
3. Frequency	-0.12	0.42*	-					
4. Variety	-0.50*	0.42*	0.72**	-				
5. Total frequency	0.26	0.32	0.82**	0.45*	-			
6. Total variety	0.34	0.45*	0.50*	0.48*	0.75**	-		
7. Attitudes toward feedback	-0.02	-0.10	0.11	0.05	0.03	0.08	-	
8. Attitudes toward task	0.17	0.04	-0.03	0.10	-0.14	0.11	0.49*	-

Note. $N = 25$.

* $p < 0.05$

** $p < 0.01$

Table 4.

Intercorrelations for Time 1 Behaviors Covariate and Dependent Variables for Situational Prevention Focus and Chronic Prevention Focus

Variable	1	2	3	4	5	6	7	8
1. Time 1 behaviors	-							
2. Recall	-0.11	-						
3. Frequency	-0.59*	-0.06	-					
4. Variety	-0.79**	0.20	0.76**	-				
5. Total frequency	-0.26	-0.09	0.82**	0.59*	-			
6. Total variety	-0.26	0.16	0.70**	0.58*	0.83**	-		
7. Attitudes toward feedback	0.10	-0.23	-0.05	-0.22	0.11	0.00	-	
8. Attitudes toward task	0.44	0.16	-0.11	-0.30	0.34	0.23	0.48*	-

Note. $N = 18$.

* $p < 0.05$

** $p < 0.01$

Table 5.

Intercorrelations for Time 1 Behaviors Covariate and Dependent Variables for Situational Promotion Focus and Chronic Prevention Focus

Variable	1	2	3	4	5	6	7	8
1. Time 1 behaviors	-							
2. Recall	0.14	-						
3. Frequency	-0.25	0.46	-					
4. Variety	-0.20	0.62**	0.76**	-				
5. Total frequency	-0.09	0.35	0.77**	0.57*	-			
6. Total variety	0.18	0.58*	0.51*	0.68**	0.71**	-		
7. Attitudes toward feedback	-0.14	0.38	0.28	0.56*	0.09	0.02	-	
8. Attitudes toward task	0.51	0.26	0.17	0.22	0.11	0.40	-0.19	-

Note. $N = 18$.

* $p < 0.05$

** $p < 0.01$

Table 6.

Intercorrelations for Time 1 Behaviors Covariate and Dependent Variables for Situational Prevention Focus and Chronic Promotion Focus

Variable	1	2	3	4	5	6	7	8
1. Time 1 behaviors	-							
2. Recall	-0.01	-						
3. Frequency	-0.13	0.33	-					
4. Variety	-0.13	0.48*	0.68**	-				
5. Total frequency	0.25	0.25	0.87**	0.50*	-			
6. Total variety	0.51*	0.30	0.41	0.55*	0.73**	-		
7. Attitudes toward feedback	0.25	0.32	0.31	0.28	0.28	0.19	-	
8. Attitudes toward task	0.14	0.10	-0.14	0.04	-0.11	0.08	-0.08	-

Note. $N = 19$.

* $p < 0.05$

** $p < 0.01$

Table 7.

Situational Regulatory Focus X Chronic Regulatory Focus ANCOVAs for Variety and Frequency while Controlling Time 1 Behaviors

Effects	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
Variety					
Time 1 Behaviors	57.50	1	57.50	17.39*	0.19
Situational RF (SRF)	0.03	1	0.03	0.01	0.00
Chronic RF (CRF)	12.60	1	12.60	3.81^	0.05
SRF X CRF	11.90	1	11.90	3.60^	0.05
Error	247.97	75	3.31		
Frequency					
Time 1 Behaviors	127.75	1	127.75	4.71*	0.06
Situational RF (SRF)	19.60	1	19.60	0.72	0.01
Chronic RF (CRF)	15.21	1	15.21	0.56	0.01
SRF X CRF	78.10	1	78.10	2.88^	0.04
Error	2035.19	75	27.14		

Note. $N = 80$.

^ $p < 0.10$

* $p < 0.05$

Table 8.

Situational Motivational Orientation X Chronic Motivational Orientation ANCOVAs for

Recommendations recalled while Controlling Time 1 Behaviors

Effects	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
Recommendations Recalled					
Time 1 Behaviors	0.00	1	0.00	0.00	0.00
Situational RF (SRF)	0.00	1	0.00	0.00	0.00
Chronic RF (CRF)	6.71	1	6.71	2.64	0.03
SRF X CRF	1.42	1	1.42	0.56	0.01
Error	190.79	75	2.54		

Note. N = 80.

Table 9.

Situational Motivational Orientation X Chronic Motivational Orientation ANCOVAs for Attitudes towards Feedback and In-Basket Task while Controlling Time 1 Behaviors

Effects	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Partial η²</i>
Attitudes towards Feedback					
Time 1 Behaviors	0.10	1	0.10	0.19	0.00
Situational RF (SRF)	0.01	1	0.01	0.01	0.00
Chronic RF (CRF)	0.76	1	0.76	1.52	0.02
SRF X CRF	3.16	1	3.16	6.31*	0.08
Error	35.12	70	0.50		
Attitudes towards In-Basket Task					
Time 1 Behaviors	2.09	1	2.09	4.93*	0.07
Situational RF (SRF)	0.01	1	0.01	0.01	0.00
Chronic RF (CRF)	1.19	1	1.19	2.80^	0.04
SRF X CRF	0.73	1	0.73	1.72	0.02
Error	29.28	69	0.42		

Note. $N = 80$.

^ $p < 0.10$

* $p < 0.05$

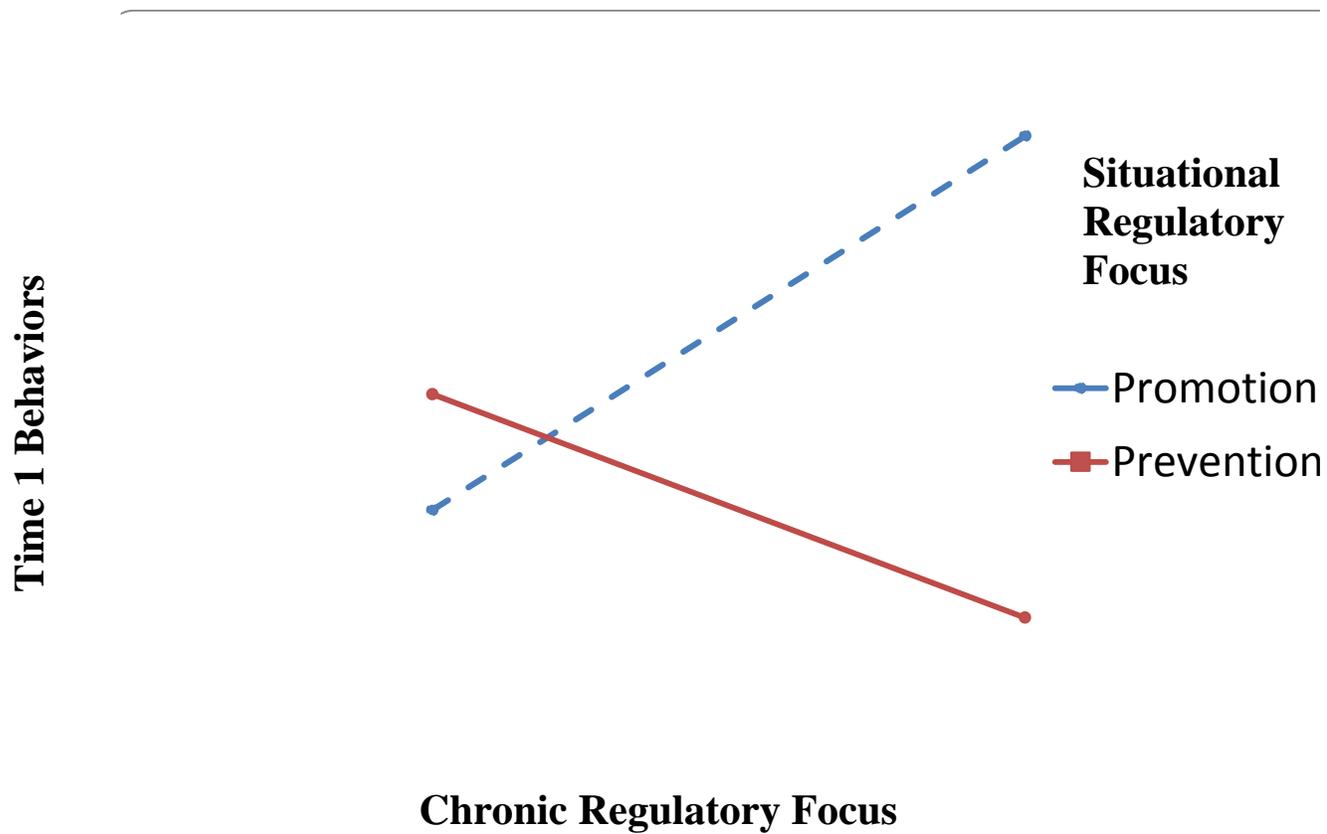


Figure 1. Time 1 Behaviors as a Function of Chronic and Situational Regulatory Foci.

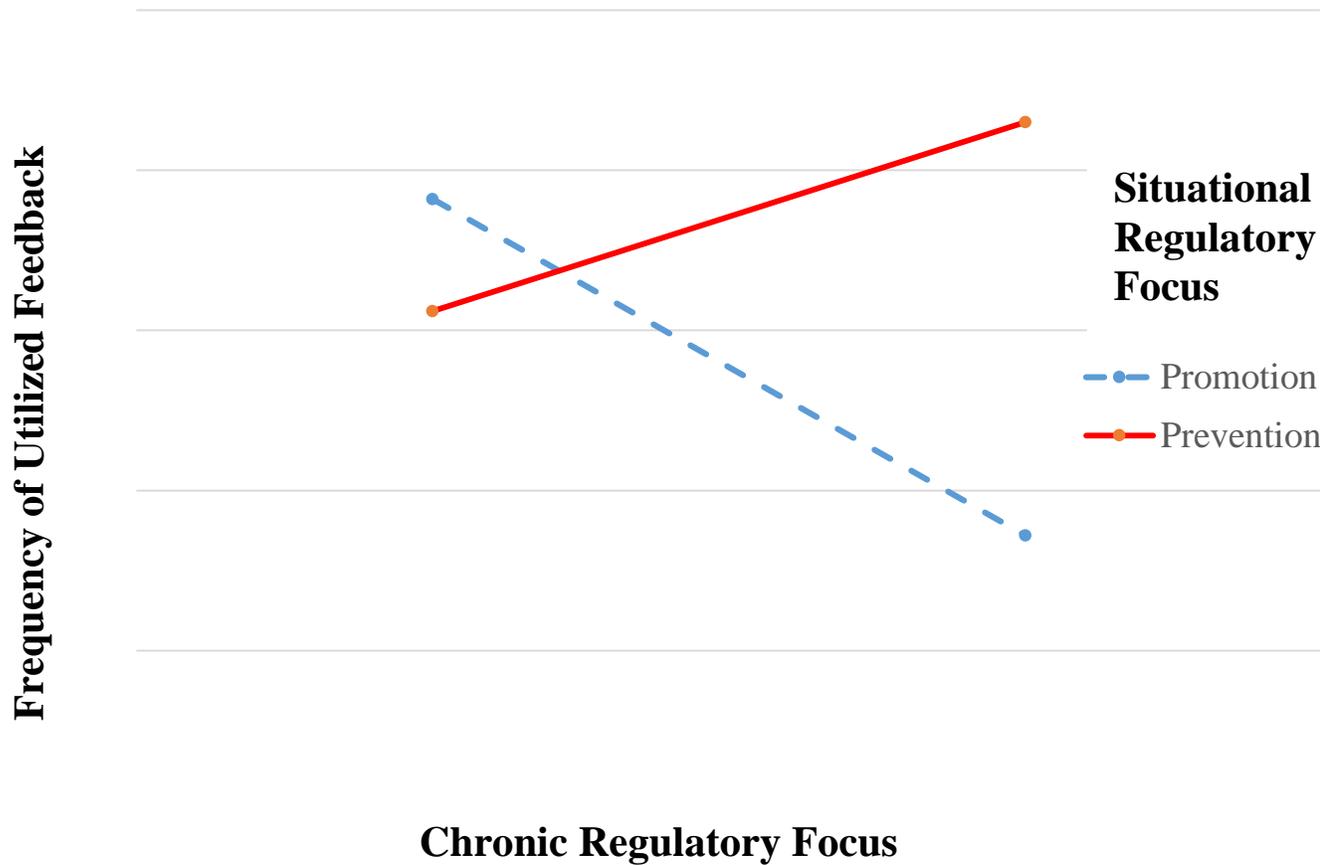


Figure 2. Frequency of Feedback Utilized as a Function of Chronic and Situational Regulatory Foci.

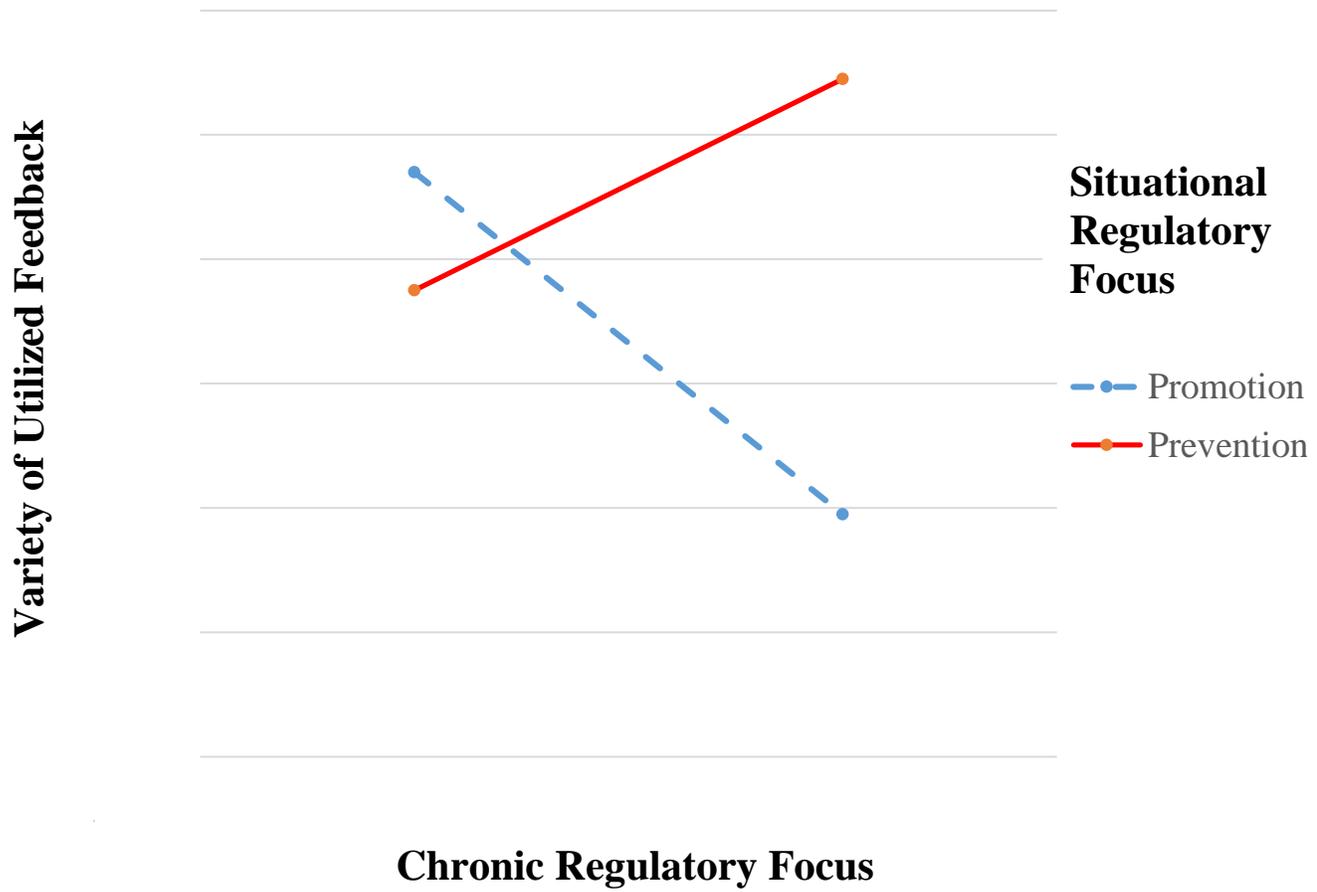


Figure 3. Variety of Feedback Utilized as a Function of Chronic and Situational Regulatory Foci.

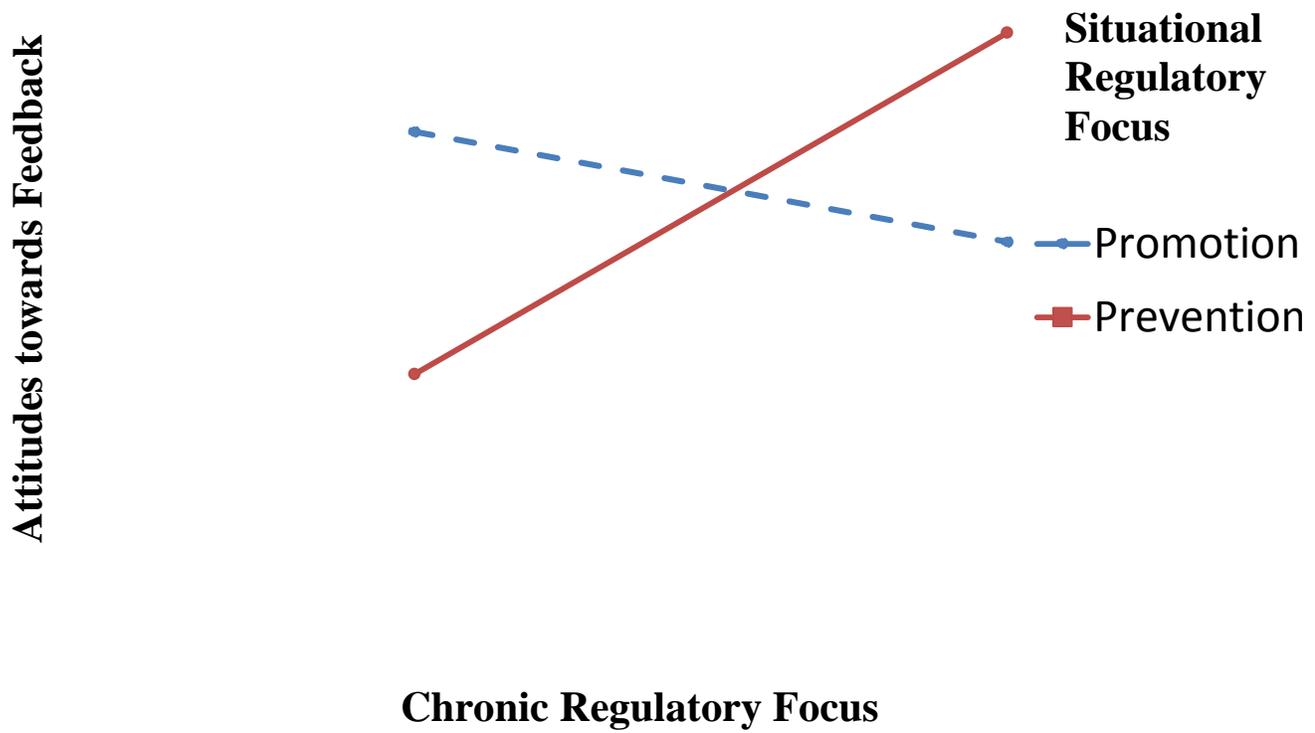


Figure 4. Attitudes towards Feedback as a Function of Chronic and Situational Regulatory Foci.