2013

Understanding Affect, Stress, and Well-being within a Self-regulation Framework

Michael D. Howe, *Michigan State University*
Chu-Hsiang (Daisy) Chang, *Michigan State University*
Russell E. Johnson, *Michigan State University*

Running Head: SELF-REGULATION AND AFFECT

Understanding Affect, Stress, and Well-Being within a Self-Regulation Framework

Michael Howe
Department of Management
Michigan State University
North Business College Complex
632 Bogue Street, Room N475
East Lansing, MI 48824
howe@bus.msu.edu

Chu-Hsiang (Daisy) Chang
Department of Psychology
Michigan State University
316 Physics Road, Room 346
East Lansing, MI 48824
cchang@msu.edu

Russell E. Johnson
Department of Management
Michigan State University
North Business College Complex
632 Bogue Street, Room N475
East Lansing, MI 48824
johnsonr@bus.msu.edu

This is a manuscript of an article from *Research in Occupational Stress and Well Being*, 11(2013); 1-34 doi: 10.1108/S1479-3555(2013)0000011005. Posted with permission.

ABSTRACT

Research on self-regulation has tended to focus on goal-related performance, with limited attention paid to individuals' affect and the role it plays during the goal-striving process. In this chapter we discuss three mechanisms to integrate affect within a control theory-based self-regulation framework, and how such integrations inform future research concerning employee stress and well-being. Specifically, affect can be viewed as a result of velocity made towards one's desired states at work. Fast progress results in positive affect, which enhances employee well-being and reduces the detrimental effects associated with exposure to occupational stressors. On the other hand, slow or no progress elicits negative affect, which induces employee distress. Second, affect can also be considered an input of self-regulation, such that employees are required to regulate their emotional displays at work. Employees who perform emotional labor compare their actual emotional display against the desired display prescribed by display rules. Third, affect can function as a situational disturbance, altering employees' perceptions or assessments of the input, comparator, and output for other self-regulatory processes.

Keywords: Self-Regulation; Affect; Emotions; Goals; Velocity; Discrepancy

Self-regulation, an ongoing process of setting goals and subsequently striving to achieve them (Carver & Scheier, 1998; Johnson, Chang, & Lord, 2006), is a widely studied phenomenon for organizational researchers. At the individual level, the principles of self-regulation are fundamental to understanding and predicting a wide range of individual behaviors and outcomes (Lord, Diefendorff, Schmidt, & Hall, 2010), including the stress process (Beehr & Newman, 1978; Edwards, 1992; French, Caplan, & Harrison, 1982). Moreover, effective management of this process plays an important role in determining organizational performance (Locke & Latham, 1990; Rodgers & Hunter, 1991; Tubbs, 1986).

A substantial amount of research demonstrating the importance of goals in a wide variety of settings has been conducted (Austin & Vancouver, 1996; Johnson et al., 2006; Locke & Latham, 2002). Indeed, goals are essential to self-regulation, directing attention, effort, and action when discrepancies exist between one's current state and a more desirable potential state. However, in order for goal-striving to occur, feedback pertaining to the current state must also be available (M. Erez, 1977; Neubert, 1998). Without information about the current level of performance, it becomes impossible to compare the current state to the goal state, and this inability to uncover discrepancies precludes any systematic behavioral or cognitive adjustments aimed at reducing the gap. Locke and Latham (2002, p.708) noted the importance of feedback: "For goals to be effective, people need summary feedback that reveals progress in relation to their goals. If they do not know how they are doing, it is difficult or impossible for them to adjust the level or direction of their effort or to adjust their performance strategies to match what the goal requires."

Given the performance orientation of goal theory, a significant portion of self-regulation research is focused on how to best use goals to enhance task performance (Locke & Latham, 2002). Conspicuously missing from this literature is the systematic integration of affect, despite

the fact that experiencing affect is commonplace at work and such experiences play an important role in influencing employee cognitions, attitudes, and behaviors (Weiss & Cropanzano, 1996). While there has been some theoretical work aimed at linking the two concepts within a control theory framework (e.g., Carver & Scheier, 1990; Johnson et al., 2006), empirical work in this area has been sparse and additional conceptual work remains to be done. In fact, a more thorough integration of affect may deepen our understanding of both goal setting and goal striving processes relevant for employee well-being.

The purpose of this chapter is to explicate the role of affective experiences during self-regulation and its implications for stress. We begin by presenting a brief overview of a control theory based view of self-regulation, in which actual states are compared against desired states and, when discrepancies are detected, action is taken to redress them (Lord et al., 2010). We consider three ways that affect can impact self-regulation in this framework. We begin by considering affect as an outcome of the self-regulation process, considering how success (and failure) in self-regulation generates affective experiences. Second, we describe the role of affect as an input within the self-regulatory process. This differs from traditional self-regulation conceptualizations that focus on behavioral, task-based regulation. In contrast, people also regulate their emotional state around desired affective states (Diefendorff & Gosserand, 2003). Third, we consider how affect can have unintended consequences for the self-regulation process, serving as an external disturbance that influences how actual states and desired states are perceived, how discrepancies between the two states are monitored, and the actions that are taken to minimize discrepancies. Considering each of these ways that affect impacts the process of self-regulation is integral for understanding employee health and well-being.

A CONTROL THEORY VIEW OF SELF-REGULATION

Self-regulation refers to the motivational processes that promote goal-relevant behaviors (Carver & Scheier, 1998; Kanfer, 1991; Lord et al., 2010), and within this framework, there are two major sub-processes. One process – *goal setting* – is related to the establishment of goals, or mental representations of desired states (Austin & Vancouver, 1996). The second process – *goal striving* – focuses on the subsequent pursuit of these goals. Across a wide range of domains, research has consistently shown that commitment to difficult, specific goals leads to increased performance by increasing effort, persistence, and attention (Locke & Latham, 2002). Goal striving encompasses all of these mechanisms as well as others that direct individual behavior toward goal attainment (Austin & Vancouver, 1996). Given that both goal setting and goal striving are necessary for goal-directed behavior in organizations, theories of self-regulation must account for both of these processes.

One such theory that includes both processes is control theory (Carver & Scheier, 1981, 1998; Powers, 1973). While not without criticism (e.g. Bandura & Locke, 2003), control theory is a prevalent theory in the domain of self-regulation, having received support in a wide variety of contexts (Katzell, 1994; Vancouver, 2005). For example, the discrepancy between actual and desired states has been used to explain the job search behaviors of the unemployed (Wanberg, Zhu, & Van Hooft, 2010) as well as organizational commitment and job turnover (Hollenbeck, 1989). In addition, a lack of progress regarding goal attainment is responsible for negative affective outcomes (Chang, Johnson, & Lord, 2010).

In control theory, individuals have numerous goals, and these goals are arranged hierarchically (Powers, 1973). This structure informs goal setting because higher level goals constrain the lower level goal choices made, acting as the standards against which performance at the lower levels is judged (Lord & Levy, 1994). Once established, performance standards influence goal striving behavior via a series of negative feedback loops. Whenever the actual

state falls below the desired goal state, a negative discrepancy is created. This discrepancy draws attention to a particular goal and serves as a motivation for action aimed at eliminating the detected discrepancy (Carver & Scheier, 1998). This process is summarized in Figure 1.

INSERT FIGURE 1 ABOUT HERE

As is illustrated in Figure 1, feedback about one's actual state originates from the environment. This feedback is interpreted and serves as an input signal for a comparator mechanism. The comparator mechanism evaluates this actual state against the desired state (established during the goal setting process). Based on the relative magnitude of these two states, the comparator determines whether a meaningful discrepancy exists. Control theory predicts that the presence of a discrepancy is undesirable, and in an effort eliminate the detected difference, behavioral (or cognitive) action is taken whenever the comparator detects a discrepancy between the actual and desired states.

If the comparator detects a discrepancy, a decision must be made on how to resolve it. This decision point is depicted by the decision mechanism in Figure 1. There are two general avenues available to alleviate the discrepancy: changing behavior or changing cognition. The behavioral route encompasses attempts to alter the current state by targeting the environment. This could be done by increasing effort (e.g., working harder) or adopting a new approach to increase efficiency (e.g., working smarter). The cognitive route involves targeting desired state rather than the actual state. For example, a discrepancy can be reduced by adopting a desired state that is more closely aligned with the actual state. However, task goals or emotional display rules cannot be revised downward arbitrarily because doing so is likely to have adverse effects on higher-level desired states within the goal hierarchy. Accordingly, behavioral change is generally the primary response to a noticed discrepancy while longer duration, stable

discrepancies are more likely to elicit cognitive changes (Campion & Lord, 1982; Donovan & Williams, 2003).

While each method of discrepancy reduction focuses on modifying a different signal supplied to the comparator, information about the success of the chosen course of action is determined by the difference between the two signals when the comparator subsequently re-evaluates them. Reduced or eliminated discrepancies indicate that the chosen course of action is working and no further actions are likely to be induced. In contrast, relatively stable discrepancies may signal the need for further attention and action (Carver & Scheier, 1998). It is also important to note that individual action is not the only source of discrepancy modification. A discrepancy may be influenced by disturbances from environment acting on the focal task or action as well. For more in-depth coverage of the process illustrated in Figure 1, readers are directed to Carver and Scheier (1998), and Lord, Diefendorff, Schmidt, and Hall (2010).

The Nature of Feedback

Because feedback is critical for self-regulation, it is worth discussing the different types of feedback that exist within negative feedback loops. Feedback is defined as the communication of goal relevant information from a source in the environment to a recipient, who must perceive and subsequently interpret the information (Ilgen, Fisher, & Taylor, 1979). It can originate from any number of sources and take on many forms. Sometimes, the task itself provides feedback while in other instances, feedback is provided by other individuals (e.g., annual performance reviews, customer satisfaction ratings).

Regardless of where it originates, feedback speaks to the size of desired–actual discrepancies or the rate at which desired–actual discrepancies are changing over time (Carver & Scheier, 1998; Chang et al., 2010). Discrepancy feedback deals with discrepancy magnitude, or the distance from goal attainment, and velocity feedback is concerned with speed, or how

quickly that distance is being covered (Johnson, Howe, & Chang, 2013). In other words, velocity is the first derivative of discrepancy with respect to time (Carver & Scheier, 1998). Distinguishing between discrepancy and velocity feedback is important because they play a unique role within the self-regulation process. For example, velocity feedback is believed to be the primary determinant of affective reactions regarding goal striving (Carver & Scheier, 1990, 1998; Johnson et al., 2006). In order to more fully explore the nature of the relationship between velocity and affect, a discussion of goal hierarchies is necessary.

The Hierarchical Nature of Goals

Self-regulation theories posit that goals are arranged hierarchically (e.g., Lord & Levy, 1994; Powers, 1973). As noted by Carver and Scheier (1998), goals at the top of the hierarchy are generally broad, self-relevant “be” goals, while mid-level, “do” goals relate to the execution of programs or routines intended to achieve higher-level "be" goals. In order to accomplish mid-level "do" goals, discrete tasks or activities at lower levels in the goal hierarchy must be successfully executed. This type of hierarchy implies that the output of a control loop at a given level serves as the goal for the control loop at the next lower level.

More recent theorizing emphasizes that in order maintain an effective goal hierarchy, the nature of the interaction between levels must be more bidirectional, with lower level goal progress serving as a means of evaluating higher level goal accomplishment (Johnson et al., 2006). This function is complicated by the different cycle times of feedback loops at different levels within a goal hierarchy. While months or years are typical for goals at the highest levels, cycle times of hours or days characterize the middle levels, and cycle times measured minutes or seconds exist at the lowest levels. These marked differences in cycle time limit the ability of higher order goals to exert direct control over lower level goals that operate on a much faster timeframe (Lord & Levy, 1994). The differences in cycle times imply that goal-related feedback

information concerning low-level goals must be aggregated over time before it can be fed back to higher levels in the goal hierarchy. Lower-level velocity feedback is crucial for upward communication across hierarchical levels because it effectively aggregates this information (Johnson et al., 2006).

Affect and Well-Being

Affect has been linked to many aspects of employee health and well-being. Positive affect has been meta-analytically linked to reduced levels of employee stress (Fogarty et al., 1999). Positive affect has also been linked to increased immune function (Davidson et al., 2003), and regularly experiencing positive affect may even reduce the chances of suffering a stroke among older adults (Ostir, Markides, Peek, & Goodwin, 2001). In contrast, negative affect has been meta-analytically tied to increased levels of stress (Spector & Jex, 1998), and occupational injury (Kaplan, Bradley, Luchman, & Haynes, 2009), as well as coronary heart disease and overall mortality from all causes (Miller, Smith, Turner, Guijarro, & Hallet, 1996).

Several aspects of affective experience at work also influence both subjective and objective employee well-being. For example, feeling pressure to perform emotional labor has been related to the experience of negative physiological symptoms (Schaubroeck & Jones, 2000). In addition, affective distress has also been found to mediate the relationship between daily reports of workload and well-being (Ilies, Dimotakis, & De Pater, 2010). In addition, affect has been shown to influence job satisfaction, an important indicator of employee subjective well-being (Judge & Church, 2000).

While affect and job satisfaction are unique constructs (Hulin & Judge, 2003; Weiss & Cropanzano, 1996), they are far from unrelated. Trait affect, a predisposition to view the world in a generally positive or negative light (Watson, 2000), has long been known to be related to job satisfaction ratings (Staw, Bell, & Clausen, 1986). More recent work has demonstrated the

importance of state affect as well finding that a temporary positive mood is associated with higher levels job satisfaction (Brief, Butcher, & Roberson, 1995). In addition, fluctuations in both positive and negative mood within individuals have been associated with individual variation in job satisfaction ratings (Ilies & Judge, 2002). Although the empirical linkages between affect and employee stress and well-being are well established, the processes and mechanisms underlying these relationships are not always clear. In the following sections, we discuss how these linkages may be explained by considering affect, stress, and well-being within a self-regulation framework.

IMPLICATIONS OF AFFECT FOR STRESS AND WELL BEING WITHIN A SELF-REGULATION FRAMEWORK

The stress process can be conceptualized as a negative feedback loop where desired states (e.g., high role clarity) are compared against actual states (e.g., high role ambiguity) and, if a sufficiently large discrepancy is detected, coping action is taken to reduce the discrepancy (e.g., seek clarification about role responsibilities from supervisors and coworkers; see Edwards, 1992). Affect is thought to play a critical role in this process. For example, the presence of persistent desired–actual discrepancies elicit negative affective reactions (Carver & Scheier, 1990) that harm employee well-being. Experiencing strong affective reactions may also necessitate that employees regulate their emotions, which can be conceptualized as a separate feedback loop where felt emotions represent the actual state and organizational display rules represent the desired state (Diefendorff & Gosserand, 2003). The self-regulation of stress and coping may also be impacted by affect that originates from outside the feedback loop. That is, affect can function as a disturbance that biases employees' perceptions of their actual and desired states, and the nature and intensity of coping behavior. In this section we discuss the role of affect as an outcome, as an input, and as a disturbance in stress-based feedback loops.

Affect as an Outcome

In this section we describe the origins of affective reactions within a negative feedback system. Several theories either explicitly or implicitly posit that emotional and physical strains result from discrepancies between desired and actual states (Edwards, 1992). Such discrepancies are at the heart of prominent models of work stress (e.g., Beehr & Newman, 1978), job satisfaction (e.g., Locke, 1976), coping (e.g., Lazarus, 1966), and person-environment fit (e.g., French et al., 1982). In all of these models it is proposed that the degree to which employees experience strain, dissatisfaction, etc., corresponds to the size of the discrepancies between desired states and actual states. A control theory perspective of stress, however, makes a slightly different prediction. Although affective reactions are an outcome of self-regulation within a negative feedback loop, such reactions depend less on the current size of desired–actual discrepancies as compared to how quickly those discrepancies are shrinking (Carver & Scheier, 1998; Johnson et al., 2006; Johnson et al., 2013).

Regulating actual states vis-à-vis desired states not only provides feedback about the size of discrepancies but, as this feedback accumulates over time, it provides feedback about the rate at which discrepancies are changing (i.e., velocity; Johnson et al., 2013). Discrepancy feedback indicates whether coping action is needed, whereas velocity feedback determines the intensity of reactions (Carver & Scheier, 1998). For example, in McGrath's (1976) model of stress, employees experience strain when discrepancies are detected between situational demands and personal abilities. If demands exceed abilities, it signals to employees that some sort of action (e.g., training, reassignment) is needed to eliminate the discrepancy. The intensity and scope of action, though, depends on velocity. Although the demands–abilities discrepancy may be large, if employees' abilities are improving quickly (i.e., fast velocity), then there is less urgency for them

to take additional action. However, if velocity is slow, then employees will exert considerable effort and pursue multiple courses of action to overcome the discrepancy.

Research findings indicate that the intensity of affective reactions is also sensitive to velocity information. For example, Hsee and colleagues (Hsee & Abelson, 1991; Hsee, Abelson, & Salovey, 1991) demonstrated that people are more satisfied with positive velocity versus no velocity, which in turn is more satisfying than negative velocity. This is true even when a constant outcome (e.g., a fixed salary of $100,000 over three years) results in a larger total payout than a smaller but increasing outcome (e.g., an initial salary of $70,000 with a yearly raise of $10,000). Across a variety of scenarios, Hsee and colleagues replicated the finding that people are more satisfied with improving to a high outcome versus a constant high outcome, and that fast velocities are more satisfying than slow velocities.

Using manipulated feedback regarding performance on an ambiguous task, Lawrence, Carver, and Scheier (2002) directly investigated the relationship between velocity and affect. Over multiple trials, participants received manipulated performance feedback (% correct) after each trial, with the goal of achieving a perfect score (100%). Reported performance was identical for all participants on the final trial (50%), but initial performance differed across conditions: participants experienced either positive velocity (initial performance of 30% or 10%), zero velocity (initial performance of 50%), or negative velocity (initial performance of 70% or 90%). Only participants who experienced positive velocity reported an increase in positive affect, despite the fact that they had the lowest average performance across all trials. Negative velocity was associated with a sharp increase in negative affect, even though average performance was highest in this case.

Chang et al. (2010) examined discrepancies between desired and actual job characteristics (e.g., autonomy, pay, learning opportunities, etc.). They found that perceived

positive velocity (i.e., shrinking discrepancies) predicted additional variance in employees' reports of satisfaction incremental to the size of desired–actual discrepancies. In a second study, the authors observed significant interactions between velocity and discrepancy, such that the size of discrepancies had no effect on satisfaction so long as velocity was fast. Similar effects of velocity on affective reactions have been observed with respect to life goals (Brunstein, 1993), interpersonal goals (Affleck et al., 1998), academic goals (Chang, Johnson, & Rosen, 2009), and job search goals (Wanberg et al., 2010).

Taken together, theoretical and empirical evidence suggest that affective reactions during the course of self-regulation are driven primarily by velocity rather than discrepancy information (Johnson et al., 2013). In terms of the occupational stress process, so long as employees perceive that actual states are progressing towards desired states, then they should experience minimal emotional strain (and possibly other types of strain as well; e.g., physical and psychological strain). Even when the size of desired–actual discrepancies appears daunting, such as when newly hired or promoted employees are faced with novel tasks and roles for which they lack experience and expertise, an acceptable rate of velocity will negate the stressful effects of large discrepancies (Chang et al., 2010). Although we are sympathetic to the idea that stress is regulated within a negative feedback loop (e.g., Edwards, 1992), our view differs in that we suspect discrepancies play a secondary role relative to velocity.

Proposition 1: Positive velocity (i.e., the rate at which desired–actual discrepancies are decreasing) reduces emotional strain and increases positive affective reactions.

Proposition 2: Velocity has a stronger effect on emotional strain and affective reactions than does the size of desired–actual discrepancies.

Proposition 3: Velocity moderates the effects of desired–actual discrepancies on emotional strain and affective reactions, such that these effects weaken as velocity increases.

The intensity of emotional strain and affective reactions is not only influenced by discrepancies and velocity, but also by the importance of the desired state in question. Not surprisingly, velocity also has stronger effects on affect and satisfaction when desired states are more (vs. less) important to people (Elicker et al., 2010). As discussed earlier, desirable states at the top of the hierarchy are abstract, self-relevant, and long term, and typically reflect "be" states (e.g., the desire to be successful or happy or healthy). Fundamental values like autonomy, competence, and belonging are also high-level desirable states (Baumeister & Leary, 1995; Deci & Ryan, 1985). Because of their close ties to the self, high-level desirable states are imbued with great importance, and are therefore capable of eliciting potent affective reactions. It is extremely satisfying when people progress towards high-level desirable states, but extremely frustrating when progress is stalled.

In contrast, desirable states at lower levels of the hierarchy are concrete, short-term, and reflect "do" states (e.g., the desire to do well on an activity or complete a project). Although low-level states are linked to high-level ones, and thus attaining the former moves people closer to the latter (e.g., publishing a paper moves people closer to being a successful faculty member), low-level states lack the same affective punch as high-level states. One reason is because numerous low-level states are linked to any one high-level state. For example, being a successful faculty member involves publishing papers, teaching undergraduate students, training doctoral students, and serving on committees, among other activities. Thus, lack of progress on any one low-level state (e.g., publishing a paper) is offset by the fact that it is replaceable by other low-level states (e.g., presenting at a conference, giving an invited talk).

Low-level desirable states also pack less of an affective punch because, as you move down the hierarchy, states become more concrete and task-specific. Any activity can be framed in terms of its meaning (i.e., why it is being performed) or in terms of concrete actions (i.e., what is being performed), but it is the former interpretation that has emotional impact (Vallacher & Wegner, 1987). For example, when constructing a wall, greater emotion is aroused when the activity is interpreted at a high level (e.g., building a cathedral) versus a low level (e.g., laying bricks). Framing activities in terms of concrete actions also lessens their self-relevance and the personal value that is attached to them, which also diminishes their emotional impact.

Thus, when faced with slow velocities and large discrepancies, it is advantageous to direct people's attention to the low-level, concrete aspects of activities rather than their high-level meaning and value. Doing so lessens the emotional strain that people experience when confronted with negative feedback (Kluger & DeNisi, 1996). For example, upon receipt of a rejection letter, it is less distressing to interpret the feedback as "Failure to publish this paper at that journal" (concrete, low level) as opposed to "Failure to be a successful researcher" (self-relevant, high level). Thus, the hierarchical nature of desired states suggests that affective reactions to velocities and discrepancies are stronger when they involve high (vs. low) level states or when activities are framed in terms of their high-level meaning (vs. concrete actions).

Proposition 4: Velocities and discrepancies involving high-level desired states have stronger effects on emotional strain and affective reactions as compared to low-level desired states.

Proposition 5: The emotional strain and negative affect caused by slow velocities and large discrepancies can be mitigated by shifting employees' focus downward to desired states at lower levels.

The unique characteristics of high-level and low-level desires also suggest that the effectiveness of strategies for coping with emotional strain and negative affective reactions may differ across the two states. As we proposed above, slow velocities and large discrepancies involving high-level desired states elicit potent affective reactions. Such reactions serve an interrupt function that pulls attention away from current self-regulatory activities (Carver & Scheier, 1998). In order to resume regulating actual states vis-à-vis desired states, it is necessary to first manage these emotions since the continued, unchecked experience of these emotions consumes personal resources that are then unavailable for other activities (Grandey, 2000). Thus, we suspect that emotion-focused coping is required (at least initially) when discrepancies and velocities concern high-level states. Also, high-level desired states are abstract and, when considered independently from the low-level states that are coupled to them, they offer little insight on how best to attain them (e.g., what does it mean to "Be successful" or "Be happy"?). Thus, the abstract nature of high-level desired states can sometimes be frustrating. Emotion-focused coping helps people overcome the frustration and anxiety owing to uncertainty about the means to attain high-level desires.

Low-level desired states, in contrast, are concrete and action-oriented (e.g., "Praise a coworker" or "Finish a report"). These states are also far-removed from one's identity and fundamental values. Thus, experiencing setbacks during the pursuit of low-level states elicits weaker affective reactions compared to high-level states. When frustration and anxiety are absent, there is less need to engage in emotion-focused coping (Grandey, 2000). Instead, setbacks involving low-level desires can be tackled directly via problem-focused coping because the concrete nature of these desires provides people with a clear objective and direction. In addition, personal resources not consumed coping with the experience of an intense emotional response can be deployed directly to dealing with the focal discrepancy.

Proposition 6: Emotion-focused coping is effective for addressing the consequences of unfavorable velocities and discrepancies involving high-level desired states.

Proposition 7: Problem-focused coping is effective for addressing the consequences of unfavorable velocities and discrepancies involving low-level desired states.

Affect as an Input

Although researchers have traditionally treated affect as an outcome of the self-regulation process, recent work has begun to consider an alternative role of affect. Namely, researchers have applied the control theory framework for understanding the emotional labor process (Diefendorff & Gosserand, 2003; Diefendorff & Richard, 2008). Emotional labor typically involves two processes: surface acting and deep acting (Grandey, 2000). Employees who engage in surface acting suppress their true feelings and express the desired emotional display by faking. Alternatively, employees who engage in deep acting, either by reappraising the current situation or by deploying attentional resources to recall events that reflect the desired emotional display, show the desired emotions by first experiencing them (Grandey, 2000).

Regardless of the process employed, emotional displays represent actual states whereas prescriptive display rules function as desirable states. The emotional display is then evaluated against the display rules through the comparator mechanism. Consistent with a control theory perspective, if employees perceive a discrepancy between their emotional display and the desirable display rules, they may respond to the negative discrepancy by either engaging in emotional regulation strategies to alter their behaviors, or cognitively changing the mental representation of the display rules (Diefendorff & Gosserand, 2003).

Moreover, Diefendorff and colleagues (Diefendorff & Gosserand, 2003; Diefendorff & Richard, 2008) apply the goal hierarchy framework to differentiate prescriptive display rules from contextual display rules, and how these display rules are integrated into the general

employee performance framework. In particular, they suggest that general work performance goals represent the higher level standards. These higher-level, performance goals can be achieved by conforming to the prescriptive display rules specified by the organization, which represent a lower level desirable state.

However, as emotional labor involves regulation of emotional displays during various affective encounters, these individual encounters provide further contextual display rules that guide employees' emotional displays during an episode. For example, sales employees may have the overall performance goal of making a sale, which leads them to adopt the general prescriptive display rules of displaying positive emotions. However, a particular customer interaction may require the display of calmness to ensure that they address the customer's questions or concerns adequately, or happiness to facilitate harmonious communication with the customer. Thus, while the general performance goals and prescriptive display rules constrain the contextual display rules for individual interactions, the hierarchical nature of the control loops allows employees the flexibility to set the desirable contextual display rules when regulating their emotions for a specific encounter (Diefendorff & Richard, 2008).

Consistent with their model, Diefendorff and Richard (2008) found that the prescriptive display rules expressed by organizational norms and supervisor expectations informed individuals' perceived display rules at work, leading to the actual display of more positive and fewer negative emotions. Perceived display rules were also found to be positively related to employees' engagement in emotional regulation strategies (Diefendorff, Erickson, Grandey, & Dahling, 2011; Gosserand & Diefendorff, 2005), both including surface acting and deep acting. These positive relationships were particularly strong when employees reported high commitment to these display rules (Gosserand & Diefendorff, 2005).

Interestingly, although Diefendorff and colleagues (Diefendorff & Gosserand, 2003; Diefendorff & Richard, 2008) view emotional labor as a dynamic process within the control theory framework, their model focuses on the implications of discrepancies between current emotional displays and desired emotional displays, with limited attention on how these discrepancies may change over time. As mentioned earlier, researchers have proposed that velocity feedback at the lower level of the goal hierarchy is accumulated over time to facilitate the upward communication to higher levels of the goal hierarchy (Johnson et al., 2006; Johnson et al., 2013). A similar mechanism may operate when affect is the input to the feedback loop. In this case, velocity feedback from the lower level (e.g., individual encounters with customers) serves as input for the higher-level feedback loop, which involves an overall judgment of whether one is behaving consistently with prescriptive display rules.

Proposition 8: When affect is the input, discrepancy feedback is more salient for control loops that involve contextual display rules as the desired states.

Proposition 9: When affect is the input, velocity feedback is more salient for control loops that involve prescriptive display rules as the desired states.

Given that emotional labor involves hierarchically-ordered control loops (Diefendorff & Richard, 2008), the adoption of different behavioral strategies to regulate emotional display at the lower level of the hierarchy (i.e., showing desired emotions for individual encounters) may have different implications for how feedback from this level is incorporated over time at higher levels in the hierarchy. Although both surface and deep acting may reduce the discrepancy and allow employees to display emotions consistent with the contextual display rules, these strategies achieve the discrepancy reduction through different means. Surface acting focuses solely on the alteration of outward responses, whereas deep acting requires employees to expend energy to call up the desired emotions first, and then display them naturally.

In this case, surface acting may lead to fast initial reduction in discrepancy (i.e., fast velocity) as it only requires employees to suppress their current feelings to fake the desired emotions. On the contrary, deep acting requires employees to engage in additional cognitive processing (i.e., attention deployment or cognitive reappraisal; Grandey, 2000) prior to showing the desired emotions. Thus, surface acting as a behavioral strategy to reduce the discrepancy between the actual and desired affective display may result in a faster progress rate than deep acting at first. However, as employees continue to regulate their affective display over multiple encounters, the two regulatory strategies have different acceleration patterns.

Repeated engagement in surface acting requires employees to constantly monitor and suppress undesirable emotions, and fake the desired affective displays. This will become increasingly difficult over time as suppression and faking both require expenditure of limited mental resources (Wegner, Erber, & Zanakos, 1993). As such, it will become increasingly difficult to rely on surface acting to reduce the discrepancy between the current and desired emotional display over multiple encounters. This suggests that the fast initial velocity associated with adopting surface acting is likely to slow down over time, which is consistent with a deceleration pattern. On the other hand, although the initial preparation work (i.e., recalling relevant situations, reappraising the current situation) for deep acting requires additional time and effort initially, once employees successfully experience and display the desired emotions, it may be easier for them to maintain their authentic emotional display, and this will facilitate emotional regulation for subsequent encounters. Thus, while deep acting may show a slow velocity initially, the progress rate of achieving the goal of showing desirable emotions is likely to speed up over time.

Proposition 10: Initial velocity is faster for surface acting compared to deep acting as behavioral strategies to regulate affect.

Proposition 11: Subsequent velocity is faster for deep acting compared to surface acting as behavioral strategies to regulate affect.

Proposition 12: Surface acting will show a deceleration pattern (i.e., fast initial velocity and then slowing down) when it is applied to regulate emotional displays over time.

Proposition 13: Deep acting will show an acceleration pattern (i.e., slow initial velocity and then speeding up) when it is applied to regulate emotional displays over time.

Finally, the differential effects of surface and deep acting on velocity and acceleration for control loops that involve affect as an input may also explain how these different emotional regulatory strategies lead to long-term well-being. Indeed, surface acting has been consistently related to employee burnout symptoms and lower job satisfaction, whereas deep acting has weaker implications on these well-being indicators (Hülsheger & Schewe, 2011). These differential effects on employee well-being may in part be due to the different velocity and acceleration resulting from repeated regulation over multiple encounters. As mentioned earlier, fast velocity and acceleration have been linked to experiences of positive affect and satisfaction (Chang et al., 2010; Lawrence et al., 2002). In this case, the differential effects of surface and deep acting on employee well-being indicators may in part be explained by their deceleration and acceleration patterns over time, respectively.

Proposition 14: The effects of surface acting and deep acting on employee well-being will be partially mediated by the velocity and acceleration associated with how fast employees can achieve the goal of displaying emotions consistent with the contextual display rules.

Affect as a Disturbance

Even though we have discussed self-regulation primarily in terms of a deliberate, cognitive-based process thus far, this does not preclude an active role for affect. There are

numerous ways in which affect and cognition interact to generate judgments, leading some scholars viewing affect and cognition as two components of a "single interdependent representational system" (Forgas, 1995, p. 41). Building on theory and findings from other areas of affect research, we present propositions relating to ways in which affect may influence the input, output, standard, and comparator components of self-regulation and discuss the stress and well-being implications of those effects. We begin our discussion with a brief overview of the evolutionary value to having affectively influenced judgments and then move on to articulate the various ways in which affect can influence the functions of control-theory based self-regulation.

It has long been proposed that negative emotions are generally viewed as being evolutionarily beneficial, tending to narrow attention and limit the number of alternatives considered (Fredrickson, 1998; Fredrickson & Levenson, 1998). Such theories of affect generally pair each emotion with specific action tendencies (Frijda, 1986; Lazarus, 1991a; Levenson, 1994). For example, anger is associated with a desire to confront and engage the stimulus while fear elicits a desire to rapidly extricate oneself from the present situation. In addition, negative emotions are also associated with physiological changes (e.g. increased heart-rate and blood flow) that enable these actions to be carried out (Lazarus, 1991a; Levenson, 1992). These theories presume that these changes allow for the rapid selection and enactment of behaviors that had historically proven beneficial to surviving the imminent physical threats that occurred regularly in humankind's past.

More recently, positive emotions have been proposed to have evolutionary value as well (Fredrickson, 1998; Fredrickson & Levenson, 1998). Specifically, positive emotions may speed recovery from the physiological effects of negative emotions, facilitating rest and recuperation (Fredrickson & Levenson, 1998). In addition, they signal the opportunity to develop lasting resources, including social resources and personal skills, during good times that can be deployed

to foster survival during bad ones (Fredrickson, 1998, 2001). This seems to be borne out by subsequent work demonstrating that frequent experience of positive affect is associated with success in a variety of domains (Lyubomirsky, King, & Diener, 2005).

While the evolutionary benefits of affect have been discussed in general, we hope to inspire new investigations by proposing how these affect-induced changes may influence the process of self-regulation. However, before beginning, we wish to note that in this section we discuss affect rather generically. In line with previous findings relating both trait and state affect to other cognitively influenced evaluations such as job satisfaction (Brief et al., 1995; Ilies & Judge, 2002; Staw et al., 1986) and justice (Barsky & Kaplan, 2007), we expect the general pattern of relationships to hold for either trait or state conceptualizations. In addition, given the relative large number of discrete emotions and the ongoing debate about how best to conceptualize and categorize them (e.g., Carver & Harmon-Jones, 2009; Watson, 2009), our propositions are simply phrased in terms of positive and negative affect. We do not wish to belittle the value to be gained by considering more specific aspects of affect when investigating these proposals. Instead, we concede that given the myriad potential research questions and contexts, it is beyond the scope of this chapter to derive specific hypotheses for each combination. We encourage future researchers to give this aspect of their investigation sufficient consideration, incorporating a conceptualization and operationalization of affect that is suitable for their context and research question.

Affect as a disturbance on the input signal

As mentioned previously, self-regulation within the control theory framework centers around the perceived difference between desired and actual states. The desired state is generally represented by the goal while the actual state is ascertained based on the individual's subjective evaluation of the available feedback. The feedback can come from multiple sources (e.g. task,

co-workers, supervisor), be conveyed via multiple mechanisms (e.g. verbal, written, physical), and exhibit varying degrees of consistency and clarity across these combinations and over time (Ilgen et al., 1979). In such cases, affective processes can impact the construal of input signal critical to the functioning of the control loop (see Figure 1) by influencing the evaluation and interpretation of the perceived feedback.

It is not unusual for feedback to be contradictory. For example, consider the process of obtaining 360-degree performance feedback. This approach is predicated on the belief that different people will have different perspectives on an individual's performance in a variety of contexts. Evaluation of the results of this exercise requires the recipient to make sense of complex and often contradictory feedback regarding his or her performance. A similar process occurs when overall performance judgments are made in the context of multiple and often conflicting organizational goals, a common occurrence in modern organizations (Schmidt & DeShon, 2007).

In this context of numerous and potentially conflicting signals, affect can influence how ambiguous feedback is interpreted. As mentioned previously, negative affect generally results in more deliberate, careful processing of information because of its historical role in signaling a situation that demands attention (Forgas, 1995). In contrast, positive affect is generally associated with loose, low-effort processing strategies, consistent with its role in signaling a lack of stimuli requiring immediate attention (Forgas, 1995). As a result, positive moods generally increase inferential errors while negative moods tend to decrease them (Forgas, 1998).

These effects have been demonstrated in the context of job performance evaluations. Raters high in positive mood rated the performance of others higher than those who were in a negative or neutral mood due to increased recall of positively-valenced events, and negative affect is associated with more accurate perceptions of job performance (Sinclair, 1988). In

addition, positive affect has been theorized (Seo, Barrett, & Bartunek, 2004) and empirically found (Tsai, Chen, & Liu, 2007) to be positively associated with perceptions of progress on an ambiguous task. This is thought to be due to less frequent and less rigorous evaluation of available information (Seo et al., 2004) by those experiencing positive affect. Based on these related findings, we propose similar relations between the environmentally provided feedback and the input signal.

Proposition 15: In instances of ambiguous feedback, (a) negative affect will be positively associated with the accuracy of the input signal relative to the feedback received, whereas (b) positive affect will be negatively associated with the accuracy of the input signal relative to the feedback received.

In addition, there is reason to believe that affect will systematically bias the direction of any inaccuracy of the input signal relative to the feedback presented. There are two main mechanisms by which this biasing can occur: affect as information and affect priming. Affect as information influences judgments when a person uses the affect directly to evaluate the situation (Clore & Parrott, 1991; Neidenthal, 1990; Schwarz & Clore, 1983, 1988). For example, an individual experiencing negative affect may evaluate a subject negatively, arriving at that evaluation solely because of their current feeling; in other words, they attribute their bad mood to the subject of the evaluation and feel negatively toward it as a result.

Compared to informing the evaluation directly, affect priming has a more subtle influence on evaluations. This mechanism influences judgments by influencing the information that is recalled and attended to (Forgas & Bower, 1987; Isen, 1984, 1987). Specifically, past events in memory are more likely to be recalled if their valence is consistent with the current affective state or they were stored during an affective state that matches the present state (Bower, 1991). In addition, information currently available that has a valence matching the perceiver's

current affective state will receive disproportionally more attention and weight than information that does not match (Bower, 1991).

Proposition 16: In instances of ambiguous feedback, (a) negative affect will bias the input signal downward such that the perceived current state (input signal) is lower than indicated by the feedback received, whereas (b) positive affect will bias the input signal upward such that the perceived current state (input signal) is higher than indicated by the feedback received.

In addition, affect may also influence how the source of the feedback is perceived. As previously mentioned, while negative affect narrows attention and allows an individual to focus on details of ongoing tasks (e.g., Larsen & Diener, 1987), broaden and build theory predicts that positive affect broadens attention and encourages investment in developing lasting physical, intellectual, and social resources (Fredrickson, 1998, 2001). While the domain in which these resources are built differs along the above listed categories, the method of resource accumulation is common. In each domain, resources are gained by attempting and completing new activities. Be it new forms of play (physical resources), new exploration (intellectual resources) or helping out others (social resources), positive affect is related to broadening out beyond existing boundaries (Fredrickson, 1998, 2001).

While the establishment and subsequent striving towards these new goals has the potential to induce stress whenever perceptions fall short of desires (Edwards, 1992), the perceived nature of the stressor may vary. Specifically, challenge stressors are viewed as opportunities to bolster personal growth whereas hindrance stressors are perceived as threats to personal growth (Lazarus & Folkman, 1984; Lepine, Podsakoff, & Lepine, 2005). While these stressors have long been proposed to induce positive and negative affect respectively (Nelson & Simmons, 2003), theory on the ability of affect to alter perceptions of the nature of the stressors

is less prevalent. Because positive affect induces goals that are focused on growth potential, it is likely that environmental constraints will be seen in terms of challenge stressors while negative affect's attention narrowing, threat avoiding nature is likely to induce perceptions of hindrance stressors. These perceptions are important for individual will-being as hindrance stressors tend to induce more strain than challenge stressors (Lepine et al., 2005).

Proposition 17: (a) Negative affect is positively related to hindrance stressor perceptions, whereas (b) positive affect is positively related to the challenge stressor perceptions.

Affect as a disturbance on the output function

In addition to influencing the input signal entering the control loop, affect is likely to influence the outcome of the process as well. Seo et al. (2004) proposed that positive affect would be related to the direction, intensity, and persistence components of motivation (cf. Kanfer, 1991). Specifically, positive affect is proposed to be related to an increased focus on gains rather than losses (direction), increased effort (intensity) due to increased expectancies and valences, and increased adherence to the initial course of action (persistence) because of more favorable interpretation of available information.

These proposed relations have also been investigated empirically, receiving broad but not universal (e.g., Martin, Ward, Achee, & Wyer, 1993) support. For example, A. Erez and Isen (2002) found that when no explicit goal for task performance was provided, positive affect was positively related to task motivation. This manifest in part in increased task persistence, measured as time spent on the task (A. Erez & Isen, 2002). Tsai et al. (2007) likewise found that positive affect was related to self-reflections of generalized task persistence at work. Finally, in the absence of a specific goal, state positive affect was found to be positively related to persistence, as measured by adherence to the initial course of action (Seo, Bartunek, & Barrett, 2010).

In addition, within control theory, there are two behavioral avenues available to address inadequate performance: more effort can be put into the current course of action or an alternative course of action can be employed. This latter approach, the generation of novel alternatives to the current goal striving strategy employed, is closely related to common conceptualizations of creativity (e.g., Mumford & Gustafson, 1988; Perry-Smith & Shalley, 2003). In meta-analysis, positive affect has been found to be positively related to creativity, while no relation was found for negative affect (Davis, 2009). This is consistent with the previous discussions about positive affect signaling the opportunity to employ more simplified, high level processing (Forgas, 1995) and a broadened attentional focus (Fredrickson, 1998) due to a lack of immediate threats. Further, this seems to lead to the ability to identify more nuanced connections among concepts and objects (Isen, 1999). In summary, "positive affect increases a person's ability to organize ideas in multiple ways and access alternative cognitive perspectives" (Isen, 1999, p. 3).

In light of these well-established links between positive affect and creativity (Isen, 1999) as well as general persistence, we propose that positive affect will be positively related to persistence in regards to goal striving. By thinking creatively and making novel connections, positive affect enables new methods of approach to be attempted. In addition, the expected ability to successfully execute these alternatives and the expected outcomes for successfully doing so should also be heightened due to increased optimism and affect priming associated with past successes (Seo et al., 2004; Seo et al., 2010; Tsai et al., 2007).

We propose that this increased persistence provides more opportunities for individuals to remain engaged in problem-focused coping, via increased duration spent implementing the initial approach as well as an increase in the number and breadth of alternative problem solving approaches generated. While emotion-focused coping may be necessary at times due to the ambiguity and uncertainty associated with high-level goal attainment, it is generally not as

effective as problem-focused coping because it fails to address the root cause of the stress (Grandey, 2000). Thus, individuals who regularly employ problem-focused coping are likely to be more successful at managing their stress and positive affect would likely enable this process.

Proposition 18: Positive affect will be positively associated with (a) goal persistence, (b) the number and breadth of alternative goal striving approaches employed, and (c) problem-focused coping.

Affect as a disturbance on the standard signal

In addition to operating at the boundary between the individual and the environment, affect can also disturb the internal functioning of the control loop as well. For example, affect can influence the level of goals that are active. While negative affect generally serves to narrow attention by acting as a signal that a particular issue needs attention (Frijda, 1986), positive affect tends to broaden attention (Fredrickson, 1998, 2001) and allow for higher-level, more abstract processing (Isen, 1999). As such, negative affect is associated with more discrete and concrete goals. In contrast, positive affect is linked to more abstract conceptualizations. As discussed previously, goals tend to differ in their level of concreteness vs. abstractness with their level within an individual's goal hierarchy with more concrete "do" goals existing at the lower levels while more abstract "be" goals exist at higher levels. In turn, the way that information on discrepancies and progress is processed varies with position within the hierarchy (Johnson et al., 2006; Lord & Levy, 1994).

Proposition 19: Negative affect will be positively associated with a focus on (a) lower levels of the goal hierarchy (i.e. "do" goals) and (b) discrepancy feedback.

Proposition 20: Positive affect will be positively associated with a focus on (a) higher levels of the goal hierarchy (i.e. "be" goals) and (b) velocity feedback integrated over time.

Affect as a disturbance on the comparator function

In addition to consuming cognitive and attentional resources, the experience of affect and affective suppression in particular have the potential to consume general regulatory resources (Beal, Weiss, Barros, & MacDermid, 2005). Recent theory and empirics support the notions that regulatory resources are unique from cognitive resources and these regulatory resources may be depleted by regulation in a variety of domains; once depleted, rest is required to replenish regulatory resources so that they may be applied elsewhere (Baumeister, Muraven, & Tice, 2000; Muraven & Baumeister, 2000). As discussed below, affect can consume attentional and cognitive resources via four main mechanisms (Beal et al., 2005).

First, people spend resources on appraisal in order to evaluate the cause of the affect and determining potential mitigation strategies (Smith & Kirby, 2001). This can be accompanied by arousal (Lazarus, 1991b), causing people to become highly attuned to the source of the affect, reducing the ability to process additional information effectively (Kahneman, 1973). In addition, experiencing negative affect can lead to continued rumination about the cause of the affect, consuming cognitive and attentional resources (Martin & Tesser, 1996). Finally, efforts may be made to regulate the experience of affect via a variety of mechanisms (Gross, 1998), which consume considerable cognitive and attentional resources. Thus, the experience of emotion, and in particular the regulation and suppression of emotion can temporarily limit the ability to subsequently self-regulate due to consumption of limited cognitive, attentional, and regulatory resources. In such situations, people may be particularly prone to experiencing high levels of stress and over time strain, since the experience of goal challenging events can evoke particularly strong responses when insufficient individual resources are unavailable (Zohar, Tzischinski, & Epstein, 2003).

Proposition 21: (a) Experience and (b) regulation of affect temporarily reduces the ability to effectively self-regulate.

Affect may also influence the "deadband" with which the comparator function operates. In a control system, there is some amount of difference between the specified and measured attribute that is allowed before a discrepancy is signaled. This range is referred to as the deadband. For a furnace thermostat set at 68 degrees, the deadband may be plus or minus one degree such that a signal to turn the furnace on is sent when the thermostat detects that the temperature has fallen below 67 degrees and the signal remains on until the temperature exceeds 69 degrees. This allows for small, inconsequential temperature variations to be ignored and reduces rapid cycling of the furnace that reduces efficiency and introduces premature wear to ignition and valve components.

In order to reduce resource consumption, the comparator function in a self-regulatory frame likely acts with a similar deadband such that small perturbations from the desired state do not constitute a meaningful discrepancy that would draw attention from whatever task was being worked on previously. Affect is likely to influence the width of this deadband. As previously discussed, positive affect generally signals that there are no pressing attentional demands (Fredrickson, 1998) and is related to less regimented processing (Isen, 1999) and relatively infrequent environmental sampling and perceptions of sufficient performance (Seo et al., 2004; Tsai et al., 2007). This implies that positive affect would induce *loose regulation*, equivalent to a wide deadband, such that small discrepancies between desired and actual performance would be tolerated and no problem signal would be sent.

In contrast, negative affect is associated with focused attention, accurate, detailed appraisal and perceived threat requiring immediate attention (Forgas, 1995). Negative affect enables individuals to detect even small abnormalities in the environment (Larsen & Diener,

1987). This type of functioning is akin to *tight regulation*, which is equivalent to a narrow deadband for the comparator function. That is, even minor discrepancies between actual and desired states are detected, perceived as problematic, and attention is redirected to addressing the discrepancy according to control theory principles. Much like the furnace example discussed above, this frequent switching and near constant perception of problems can take its toll on the individual, leading to the experience of chronic stress. In addition to the more frequent experience of desired-actual state discrepancies that induce stress (Edwards, 1992), the ability to effectively cope with any particular problem is apt to be diminished due to the limited resources (time, attention, cognitive, etc.) available to devote to any particular problem when there are so many perceived stressors competing for attention.

Proposition 22: (a) Negative affect is positively related to tight regulation, whereas (b) positive affect is positively related to loose regulation.

This points to a novel means of explaining how positive affect can help individuals cope with negative information. Researchers have recently begun to understand that positive affect can act as a resource to mitigate these potentially negative and lingering effects of negative feedback (Forgas & George, 2001; Trope, Ferguson, & Ragunanthan, 2001). While this effect is consistent with multiple aspects of Fredrickson's (2001; 1998) broaden and build theory discussed previously, the tightness or looseness of the regulation employed may further help explain how affect functions in this context.

First, positive affect reduces the duration of the aftereffects of the negative affect (Fredrickson & Levenson, 1998), freeing up resources in a more timely manner. This may be due to the wider deadband associated with loose regulation allowing for residual discrepancies to be ignored sooner than they would be with tight regulation. Second, positive affect signals that the threat is not imminent and facilitates processing of the negative information and extraction of its

diagnostic value (Trope et al., 2001). This problem-focused coping requires persistence, and is likely to be hindered by numerous competing attentional demands fostered by tight regulation. In this manner, positive affect encourages exploration and approach activities aimed and reducing and eliminating large negative discrepancies that are apt to be longer lasting, chronic problems.

CONCLUSION

In the current paper, building on the literature around control theory in a variety of domains, we have discussed a number of ways in which self-regulation can impact employee well-being by influencing affective states. In particular, affect can be viewed as a result of velocity towards one's desired states at work. Positive affect resulting from fast progress can enhance employee well-being, whereas negative affect resulting from slow or no progress can induce employee distress. Next, affect can also be considered an input of a series of hierarchically organized control loops that function to regulate employees' emotional displays at work. In this case, employees compare their actual emotional display against the display rules prescribed by the organization or the interaction context, which serve as the desirable goal state. Discrepancies between the two result in employees adopting behavioral regulation strategies (i.e., surface or deep acting) to reduce the discrepancies. Finally, affect can function as a situational disturbance, altering employee perceptions or assessment of the input, output, signal and comparator for other goal-related control loops. In this case, instead of having main effects, affect mainly moderates the associations between progress towards desirable state and employee well-being.

In order to empirically examine the various roles affect can play for employees' well-being within the control theory framework, researchers must pay close attention to measurement issues associated with assessing goal-performance gaps, especially the type of feedback that has unique relevance to affect (i.e., velocity and acceleration). Prior research has typically assessed

the effects of velocity using one of the following methods. The first method relies on individual perceptions of actual and desired velocity. This is the approach taken by Chang et al. (2010, Study 1), who measured participant perceptions of both their ideal and perceived velocity and used both as predictors for employee job satisfaction. This approach is consistent with the meta-monitoring framework proposed by Carver and Scheier (1998), and it also takes into account individual differences in desired rates of gap closure. This type of approach has long been used in the person-environment fit literature whenever a subjective fit assessment is conducted (French, Rodgers, & Cobb, 1974). However, because it relies on individuals to provide their perceptions of actual and desired velocity level, cognitive biases that influences subjective fit perceptions, such as consistency or dissonance (e.g., consistency, dissonance; French et al., 1974), or even affect itself, may also manifest in the measures of velocity (both ideal and current) obtained.

A second approach involves providing participants with an objective rate of progress and using that as a direct indication of velocity feedback. Hsee and Abelson (1991) implemented this approach, fixing the velocity of feedback provided to their participants at a given percentage change per year in salary. The primary benefit of this approach is that it allows the researcher to draw inferences about the relationship between velocity feedback and the outcome variables of interest (e.g., persistence, self-efficacy) directly. However, this measure does not take individuals' desired level of velocity into consideration, which is inconsistent with the framework proposed by Carver and Scheier (1998).

The third approach involves a directly calculated velocity measure. This can be done by measuring ideal–actual discrepancies over time. Chang et al. (2009) used this approach. They measured students' goal level and actual performance in class every three weeks for the entire semester and calculated the velocity by dividing the change in discrepancy across two time

points by the time that elapsed between the time points. A similar approach has been used to study the impact of goal-performance discrepancy changes over time on goal revision in college athletes (Donovan & Williams, 2003; Williams, Donovan, & Dodge, 2000).

Like the previous approach, this approach utilizes objectively obtained velocity information, avoiding individual self-reports which may reflect cognitive biases. In addition, it has the added advantage of allowing researchers to set the temporal interval between measure collections so that it is appropriate for the task at hand. Unfortunately, this approach also shares the drawback of the previous method in that this objectively-calculated velocity measure does not consider individuals' preferred level of velocity.

Given that the examination of velocity, affect, and employee well-being is likely to take place primarily in field settings, the manipulated feedback approach may not be as applicable as the other two approaches. As such, we recommend that future research in this area collect desired states as well as objective and subjective measures for current states utilizing a longitudinal design that allows for the investigation of the discrepancy between current and desired states at multiple time points. The multiple assessments afforded by a longitudinal design will allow researchers to objectively compute velocity information and compare that to participants' subjective perceptions. As stated above, affective disturbances (and other biases) may cause these two quantities to diverge, which may create the opportunity build a more nuanced understanding in this area. Moreover, by measuring both desired goal states and current states at multiple time points, it is possible to better model the dynamics of behavioral (e.g., increased effort), cognitive (e.g., goal revision), and affective responses to discrepancy and velocity feedback over time.

Finally, it should be noted that in the preceding discussion, we assumed that goals represented desirable states that individuals move towards. However, Carver and Scheier (1998)

discussed another category of end states—avoidance goals. Instead of characterizing an attractive end state, avoidance goals are end states from which individuals try to distance themselves. For example, in the case of affect as input, while the display rules typically require employees to show certain emotions (e.g., happy displays by service representatives), some display rules may require employees to suppress certain emotions (e.g., displays of impatience). While we believe that affect may take on similar roles within the hierarchically-organized feedback loops that involve avoidance goals, future research is necessary to better illustrate how affect may influence employee well-being when feedback loops involve avoidance goals.

REFERENCES

Affleck, G., Tennen, H., Urrows, S., Higgins, P., Abeles, M., Hall, C., . . . Newton, C. (1998). Fibromyalgia and women's pursuit of personal goals: A daily process analysis. *Health Psychology, 17*, 40-47.

Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338-375.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology, 88*, 87-99. doi: 10.1037/0021-9010.88.1.87

Barsky, A., & Kaplan, S. A. (2007). If you feel bad, it's unfair: A quantitative synthesis of affect and organizational justice perceptions. *Journal of Applied Psychology, 92*, 286-295. doi: 10.1037/0021-9010.92.1.286

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.

Baumeister, R. F., Muraven, M., & Tice, D. M. (2000). Ego depletion: A resource model of volition, self-regulation, and controlled processing. *Social Cognition, 18*, 130-150.

Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology, 90*, 1054-1068. doi: 10.1037/0021-9010.90.6.1054

Beehr, T. A., & Newman, J. E. (1978). Job stress, employee health, and organizational effectiveness: A facet analysis, model, and literature review. *Personnel Psychology, 31*, 665-699.

Bower, G. H. (1991). Mood congruity of social judgments. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 31-53). Elmsford, NY: Pergamon Press.

Brief, A. P., Butcher, A. H., & Roberson, L. (1995). Cookies, disposition, and job-attitudes - the effects of positive mood-inducing events and negative affectivity on job-satisfaction in a field experiment. *Organizational Behavior and Human Decision Processes, 62*, 55-62. doi: 10.1006/obhd.1995.1030

Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology, 65*, 1061-1070.

Campion, M. A., & Lord, R. G. (1982). A control systems conceptualization of the goal-setting and changing process. *Organizational Behavior and Human Performance, 30*, 265-287. doi: 10.1016/0030-5073(82)90221-5

Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: Evidence and implications. *Psychological Bulletin, 135*, 183-204.

Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer-Verlag

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19-35. doi: 10.1037/0033-295x.97.1.19

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge, UK: Cambridge University Press.

Chang, C.-H., Johnson, R. E., & Lord, R. G. (2010). Moving beyond discrepancies: The importance of velocity as a predictor of satisfaction and motivation. *Human Performance, 23*, 58-80. doi: 10.1080/08959280903400226

Chang, C.-H., Johnson, R. E., & Rosen, C. C. (2009). *Discrepancy, velocity, and goal revision: Temporal orientation as a moderator*. Paper presented at the 24th Annual Society for Industrial and Organizational Psychology Conference, New Orleans, Louisiana.

Clore, G. L., & Parrott, G. (1991). Moods and their vicissitudes: Thought and feelings as information. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 107-123). Elmsford, NY: Pergamon Press.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., . . . Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic medicine, 65*, 564-570.

Davis, M. A. (2009). Understanding the relationship between mood and creativity: A meta-analysis. *Organizational Behavior and Human Decision Processes, 108*, 25-38. doi: 10.1016/j.obhdp.2008.04.001

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Diefendorff, J. M., Erickson, R. J., Grandey, A. A., & Dahling, J. J. (2011). Emotional display rules as work unit norms: A multilevel analysis of emotional labor among nurses. *Journal of Occupational Health Psychology, 16*, 170-186.

Diefendorff, J. M., & Gosserand, R. H. (2003). Understanding the emotional labor process: A control theory perspective. *Journal of Organizational Behavior, 24*, 945-959. doi: 10.1002/job.230

Diefendorff, J. M., & Richard, E. M. (2008). Not all emotional display rules are created equal: Distinguishing between prescriptive and contextual display rules. In N. M. Ashkanasy & A. C. Cooper (Eds.), *Research companion to emotion in organizations* (pp. 316-334). Cheltenham, UK: Edward Elgar Publishing Limited.

Donovan, J. J., & Williams, K. J. (2003). Missing the mark: Effects of time and causal attributions on goal revision in response to goal-performance discrepancies. *Journal of Applied Psychology, 88*, 379-390. doi: 10.1037/0021-9010.88.3.379

Edwards, J. R. (1992). A cybernetic theory of stress, coping, and well-being organizations. *Academy of Management Review, 17*, 238-274.

Elicker, J. D., Lord, R. G., Ash, S. R., Kohari, N. E., Hruska, B. J., McConnell, N. L., & Medvedeff, M. E. (2010). Velocity as a predictor of performance satisfaction, mental focus, and goal revision. *Applied Psychology-an International Review, 59*, 495-514. doi: 10.1111/j.1464-0597.2009.00409.x

Erez, A., & Isen, A. M. (2002). The influence of positive affect on the components of expectancy motivation. *Journal of Applied Psychology, 87*, 1055-1067. doi: 10.1037//0021-9010.87.6.1055

Erez, M. (1977). Feedback - necessary condition for goal setting-performance relationship. *Journal of Applied Psychology, 62*, 624-627. doi: 10.1037//0021-9010.62.5.624

Fogarty, G. J., Machin, M. A., Albion, M. J., Sutherland, L. F., Lalor, G. I., & Revitt, S. (1999). Predicting occupational strain and job satisfaction: The role of stress, coping, personality, and affectivity variables. *Journal of Vocational Behavior, 54*, 429-452. doi: 10.1006/jvbe.1998.1670

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (aim). *Psychological Bulletin, 117*, 39-66.

Forgas, J. P. (1998). Happy and mistaken? Mood effects on the fundamental attribution error. *Journal of personality and social psychology, 75*, 318-331.

Forgas, J. P., & Bower, G. H. (1987). Mood effects on person perception judgments. *Journal of personality and social psychology, 53*, 53-60.

Forgas, J. P., & George, J. M. (2001). Affective influences on judgments and behavior in organizations: An information processing perspective. *Organizational Behavior and Human Decision Processes, 86*, 3-34. doi: 10.1006/obhd.2001.2971

Fredrickson, B. L. (1998). What good are positive emotions. *Review of General Psychology, 2*, 300-319.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden and build theory of positive emotions. *American Psychologist, 56*, 218-226. doi: 10.1O37//0OO3-O66X.56.3.218

Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed reovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion, 12*, 191-220.

French, J. R. P., Caplan, R. D., & Harrison, R. V. (1982). *The mechanisms of job stress and strain*. London: Wiley.

French, J. R. P., Rodgers, W., & Cobb, S. (1974). Adjustment as person-environment fit. In G. V. Coelho, D. A. Hamburg & J. E. Adams (Eds.), *Coping and adaptation* (pp. 316-333). New York: Basic Books.

Frijda, N. H. (1986). *The emotions*. Cambridge: Cambridge University Press.

Gosserand, R. H., & Diefendorff, J. M. (2005). Emotional display rules and emotional labor: The moderating role of commitment. *Journal of Applied Psychology, 90*, 1256-1264. doi: 10.1037/0021-9010.90.6.1256

Grandey, A. A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology*, 95-110.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271-299.

Hollenbeck, J. R. (1989). Control-theory and the perception of work environments - the effects of focus of attention on affective and behavioral reactions to work. *Organizational Behavior and Human Decision Processes, 43*, 406-430. doi: 10.1016/0749-5978(89)90045-9

Hsee, C. K., & Abelson, R. P. (1991). Velocity relation: Satisfaction as a function of the first derivative of outcome over time. *Journal of personality and social psychology, 60*, 341-347. doi: 10.1037/0022-3514.60.3.341

Hsee, C. K., Abelson, R. P., & Salovey, P. (1991). The relative weighting of position and velocity in satisfaction. *Psychological Science, 2*, 263-266. doi: 10.1111/j.1467-9280.1991.tb00146.x

Hulin, C., & Judge, T. A. (2003). Job attitudes. In W. C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (pp. 255-276). Hoboken, NJ: Wiley.

Hülsheger, U. R., & Schewe, A. F. (2011). On the costs and benefits of emotional labor: A meta-analysis of three decades of research. *Journal of Occupational Health Psychology, 16*, 361-389.

Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feeback on behavior in organizations. *Journal of Applied Psychology, 64*, 349-371. doi: http://dx.doi.org.proxy1.cl.msu.edu/10.1037/0021-9010.64.4.349

Ilies, R., Dimotakis, N., & De Pater, I. E. (2010). Psychological and physiological reactions to high workloads: Implications for well-being. *Personnel Psychology, 63*, 407-436.

Ilies, R., & Judge, T. A. (2002). Understanding the dynamic relationships among personality, mood, and job satisfaction: A field experience sampling study. *Organizational Behavior and Human Decision Processes, 89*, 1119-1139. doi: 10.1016/s0749-5978(02)00018-3

Isen, A. (1984). Towards understanding the role of affect in cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 3, pp. 179-236). Hillsdale, NJ: Erlbaum.

Isen, A. (1987). Positive affect, cognitive processes and social behaviour. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 20, pp. 203-253). San Diego, CA: Academic Press.

Isen, A. (1999). *Affect, creative experience and psychological adjustment*. Ann Arbor, MI: Taylor & Francis.

Johnson, R. E., Chang, C.-H., & Lord, R. G. (2006). Moving from cognition to behavior: What the research says. *Psychological Bulletin, 132*, 381-415. doi: 10.1037/0033-2909.132.3.381

Johnson, R. E., Howe, M., & Chang, C.-H. (2013). The importance of velocity, or why speed may matter more than distance. *Organizational Psychology Review, 3*, 62-85.

Judge, T. A., & Church, A. H. (2000). Job satisfaction: Research and practice. In C. L. Cooper & E. A. Locke (Eds.), *Industrial and organizational psychology: Linking theory with practice* (pp. 166-198). Oxford, UK: Blackwell.

Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice Hall.

Kanfer, R. (1991). Motivation theory and industrial/organizational psychology. In M. D. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology.* (Vol. 1, pp. 75-170). Palo Alto, CA: Consulting Psychologists Press.

Kaplan, S., Bradley, J. C., Luchman, J. N., & Haynes, D. (2009). On the role of positive and negative affectivity in job performance: A meta-analytic investigation. *Journal of Applied Psychology, 94*, 162-176. doi: 10.1037/a0013115

Katzell, R. A. (1994). Contemporary meta-trends in industrial and organizational psychology. In H. C. Triandis, M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 4, pp. 1-89). Palo Alto, CA: Consulting Psychologists Press.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*, 254-284.

Larsen, R. J., & Diener, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of research in personality, 21*, 1-39.

Lawrence, J. W., Carver, C. S., & Scheier, M. F. (2002). Velocity toward goal attainment in immediate experience as a determinant of affect. *Journal of Applied Social Psychology, 32*, 788-802. doi: 10.1111/j.1559-1816.2002.tb00242.x

Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.

Lazarus, R. S. (1991a). *Emotion and adaptation*. New York: Oxford University Press.

Lazarus, R. S. (1991b). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46*, 819-834.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Lepine, J. A., Podsakoff, N. P., & Lepine, M. A. (2005). A meta-analytic test of the challenge stressor-hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal, 48*, 764-775.

Levenson, R. W. (1992). Autonomic nervous system differences among emotions. *Psychological Science, 3*, 23-27.

Levenson, R. W. (1994). Human emotions: A functional view. In P. Ekman & R. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 123-126). New York: Oxford University Press.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago: Rand McNally.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation - a 35-year odyssey. *American Psychologist, 57*, 705-717. doi: 10.1037//0003-066x.57.9.705

Lord, R. G., Diefendorff, J. M., Schmidt, A. M., & Hall, R. J. (2010). Self-regulation at work. *Annual Review of Psychology, 61*, 543-568. doi: 10.1146/annurev.psych.093008.100314

Lord, R. G., & Levy, P. E. (1994). Moving from cognition to action - a control-theory perspective. *Applied Psychology-an International Review, 43*, 335-398. doi: 10.1111/j.1464-0597.1994.tb00828.x

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*, 803-855. doi: 10.1037/0033-2909.131.6.803

Martin, L. L., & Tesser, A. (1996). Some ruminative thoughts. In R. S. Wyer (Ed.), *Advances in social cognition* (pp. 1-47). Mahwah, NJ: Erlbaum.

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of personality and social psychology, 64*, 317-326.

McGrath, J. E. (1976). Stress and behavior in organizations. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1351-1395). Chicago: Rand McNally.

Miller, T. Q., Smith, T. W., Turner, C. W., Guijarro, M. L., & Hallet, A. J. (1996). A meta-analytic review of research on hostility and physical health. *Psychological Bulletin, 119*, 322-348.

Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome - integration, application, and innovation. *Psychological Bulletin, 103*, 27-43. doi: 10.1037/0033-2909.103.1.27

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*, 247-259.

Neidenthal, P. (1990). Implicit perception of affective information. *Journal of Experimental Social Psychology, 26*, 505-527.

Nelson, D. L., & Simmons, B. L. (2003). Health psychology and work stress: A more positive approach. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 97-119). Washington, DC: American Psychological Association.

Neubert, M. J. (1998). The value of feedback and goal setting over goal setting alone and potential moderators of this effect: A meta-analysis. *Human Performance, 11*, 321-335. doi: 10.1207/s15327043hup1104_2

Ostir, G. V., Markides, K. S., Peek, M. K., & Goodwin, J. S. (2001). The association between emotional well-being and the incidence of stroke in older adults. *Psychosomatic medicine, 63*, 210-215.

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review, 28*, 89-106.

Powers, W. T. (1973). *Behavior: The control of perception*. Chicago: Aldine.

Rodgers, R., & Hunter, J. E. (1991). Impact of management by objectives on organizational productivity. *Journal of Applied Psychology, 76*, 322-336. doi: 10.1037/0021-9010.76.2.322

Schaubroeck, J., & Jones, J. R. (2000). Antecedents of workplace emotional labor dimensions and moderators of their effects on physical symptoms. *Journal of Organizational*

Behavior, 21, 163-183. doi: 10.1002/(sici)1099-1379(200003)21:2<163::aid-job37>3.3.co;2-c

Schmidt, A. M., & DeShon, R. P. (2007). What to do? The effects of discrepancies, incentives, and time on dynamic goal prioritization. *Journal of Applied Psychology, 92*, 928-941. doi: 10.1037/0021-9010.92.4.928

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution and judgments of well-being: Informative and directive functions of affective states. *Journal of personality and social psychology, 45*, 513-523.

Schwarz, N., & Clore, G. L. (1988). How do i fell about it? The informative function of affective states. In K. Fiedler & J. P. Forgas (Eds.), *Affect, cognition, and social behavior* (pp. 44-62). Göttingen, Germany: Hogrefe.

Seo, M. G., Barrett, L. F., & Bartunek, J. M. (2004). The role of affective experience in work motivation. *Academy of Management Review, 29*, 423-439.

Seo, M. G., Bartunek, J. M., & Barrett, L. F. (2010). The role of affective experience in work motivation: Test of a conceptual model. *Journal of Organizational Behavior, 31*, 951-968. doi: 10.1002/job.655

Sinclair, R. C. (1988). Mood, categorization breadth, and performance appraisal: The effects of order of information acquisition and affective state on halo, accuracy, information retrieval, and evaluations. *Organizational Behavior and Human Decision Processes, 42*, 22-46.

Smith, C. A., & Kirby, L. D. (2001). Affect and cognitive appraisal processes. In J. P. Forgas (Ed.), *Handbook of social cognition* (pp. 75-92). Hillsdale, NJ: Erlbaum.

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale,

quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology, 3*, 356-367.

Staw, B. M., Bell, N. E., & Clausen, J. A. (1986). The dispositional approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly, 31*, 56-77.

Trope, Y., Ferguson, M., & Ragunanthan, R. (2001). Mood as a resource in processing self-relevant information. In J. P. Forgas (Ed.), *The handbook of affect and social cognition* (pp. 258-276). Mahwah, NJ: Erlbaum.

Tsai, W. C., Chen, C. C., & Liu, H. L. (2007). Test of a model linking employee positive moods and task performance. *Journal of Applied Psychology, 92*, 1570-1583. doi: 10.1037/0021-9010.92.6.1570

Tubbs, M. E. (1986). Goal-setting - a meta-analytic examination of the empirical-evidence. *Journal of Applied Psychology, 71*, 474-483. doi: 10.1037//0021-9010.71.3.474

Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review, 94*, 3-15.

Vancouver, J. B. (2005). The depth of history and explanation as benefit and bane for psychological control theories. *Journal of Applied Psychology, 90*, 38-52. doi: 10.1037/0021-9010.90.1.38

Wanberg, C. R., Zhu, J., & Van Hooft, E. A. J. (2010). The job search grind: Perceived progress, self-reactions, and self-regulation of search effort. *Academy of Management Journal, 53*, 788-807.

Watson, D. (2000). *Mood and temperament*. New York: The Guilford Press.

Watson, D. (2009). Locating anger in the hierarchical structure of affect: Comment on carver and harmon-jones (2009). *Psychological Bulletin, 135*, 205-208.

Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thoughts. *Journal of Personality and Social Psychology, 65*, 1093-1104.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior, 18*, 1-74.

Williams, K. J., Donovan, J. J., & Dodge, T. L. (2000). Self-regulation of performance: Goal establishment and goal revision processes in athletes. *Human Performance, 13*, 159-180. doi: 10.1207/s15327043hup1302_3

Zohar, D., Tzischinski, O., & Epstein, R. (2003). Effects of energy availability on immediate and delayed emotional reactions to work events. *Journal of Applied Psychology, 88*, 1082-1093. doi: 10.1037/0021-9010.88.6.1082

Figure 1. Sample Feedback Loop.