AFTER THE PINK SLIP: APPLYING DYNAMIC MOTIVATION FRAMEWORKS TO THE JOB SEARCH EXPERIENCE

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We propose and examine a self-regulatory framework focused on understanding the dynamics of job search intensity and mental health over the first several months of unemployment. We use a repeated-measures design, surveying newly unemployed individuals weekly for 20 weeks. Through the lens of our framework, we test relationships pertaining to the role of motivational "traits" (i.e., temporally stable approach and avoidance motivations) and self-regulatory "states" (i.e., more transient motivation control and self-defeating cognition) in predicting job seekers' search intensity and mental health over the duration of our study. The findings provide evidence on the dynamics of the job search journey.

In late 2008, the U.S. and much of the industrialized world entered a recession, resulting in significant job loss around the globe. For most individuals, job loss is a highly negative event, signaling the loss of a steady income and an end to the routine, identity, and daily social connections associated with employment. Because of the importance of this issue to individuals and society, the experience of job loss and subsequent search for employment has attracted steady research attention dating back to the Great Depression (Hanisch, 1999; Saks, 2005).

From a micro or individual-level perspective, two of the most extensively studied constructs examined in this literature have been job search intensity and job seeker mental health. *Job search intensity* refers to the amount of time or effort individuals spend on their job search. Search intensity is an essential behavior for most individuals who wish to find work (Prussia, Fugate, & Kinicki, 2001). Meta-analytic findings show that individuals who allocate more time to job search find work more quickly (Kanfer, Wanberg, & Kantrowitz, 2001). *Mental health* refers to individuals' psycho-logical distress and well-being (Ware, Manning, Duan, Wells, & Newhouse, 1984). Meta-analytic findings suggest that the experience of unemployment is associated with poor mental health and stress-related physical symptoms such as headaches and stomachaches (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009).

Significant research attention has been devoted to understanding individual differences in effort devoted to job search during unemployment, as well as why some individuals have a more negative experience with job loss than others (e.g., Creed & Bartrum, 2006; Kanfer et al., 2001; McKee-Ryan et al., 2005). As a recent part of this research stream, self-regulation theories, which address the extent to which individuals are able to successfully modulate their emotions, attention, effort, and performance during goal-directed activity, have emerged as having promising potential to help deepen understanding of the experience of unemployment.

Like many other common issues individuals struggle with, such as overeating, procrastination, or smoking cessation, the unemployment experience is inherently a self-regulatory process. In addition to requiring goal setting and attention to the direction of one's efforts, issues that are outside the focus of our study, being unemployed demands self-regulation to sustain job search effort and manage negative emotions over time. As delineated by

Kanfer and colleagues (2001), looking for a job is an unfolding task that is highly autonomous, self-organized, loosely structured, and ill-defined. Individuals must decide on their own how and how often to search, and they rarely receive feedback about the effectiveness of the job search activities and strategies they are using. A myriad of issues challenge job seeker psychological well-being, such as low opportunities for control and skill use, reduced daily variety and opportunity for social contact, shortage of money, and loss of a valued social position (Jahoda, 1987; Warr, 1987). In this context, emotion regulation is required to manage feelings of discouragement and frustration, fears about financial challenges, and embarrassment about being unemployed. Motivation to persist is needed to sustain search efforts despite possible distractions at home, multiple rejections, or disliking the search process (i.e., identifying job openings, revising one's résumé, networking, applying for jobs, preparing for interviews, and more).

Empirical work applying self-regulation perspectives to the unemployment experience, although valuable, has tended to focus on the study of job search behavior and has almost exclusively used a set of measures assessed at one time point to predict between-individual differences in search behavior at a later time point (e.g., Creed, King, Hood, & McKenzie, 2009; van Hooft, Born, Taris, Flier, & Blonk, 2005; Van Hoye & Saks, 2008; Zikic & Saks, 2009). Self-regulatory frameworks are also useful for examining how individuals psychologically adjust and respond to their unemployment experience (Feather & Davenport, 1981; Latack, Kinicki, & Prussia, 1995; Niessen, Heinrichs, & Dorr, 2009). To date, however, applications of self-regulatory perspectives to mental health during unemployment have been sparse. No current work, furthermore, has applied self-regulatory theory to the examination of job search behavior or mental health over several weeks, limiting the types of self-regulation questions that can be asked.

Our study investigates self-regulatory processes involved in unemployment in a dynamic, temporal framework. The incorporation of time opens the door to new questions and insight. Steel (2002), for example, developed an extensive argument for the need to study the process of job search over time. He distinguished between longitudinal research (i.e., constructs measured at time 1 are used to predict outcomes at time 2) and repeated-measures research (i.e., the same constructs are measured at multiple time points). He argued that repeated-measures research is essential for understanding phenomena such as job search that involve constructs that change and evolve over time. Research

measuring focal outcomes such as job search intensity or mental health at only one time point is insufficient for understanding self-regulatory processes that unfold over time, such as *persistence* in search behavior, *maintenance* of mental health, *decline* (or increase) in job search or mental health, and *vacillation* in self-regulated job search activities. A few recent studies have shown that time put into job search and levels of distress during unemployment vary from day to day and week to week (Song, Uy, Zhang, & Shi, 2009; Wanberg, Glomb, Song, & Sorenson, 2005; Wanberg, Zhu, & van Hooft, 2010), but researchers know very little about the factors that contribute to changes in job search and distress levels over the course of unemployment. Static research is also not well suited to examining process questions. For example, through what dynamic, more transitory, "state-related" mechanisms do stable "trait variables" exert their impact on study outcomes? It is furthermore important (although to date unusual) for studies employing self-regulation theories to incorporate time, since self-regulation theories are by nature dynamic (Dalal & Hulin, 2008). For many real-world problems, studying a person's motivated behavior at one point in time is not compelling. The larger interest is "the manifestation of motivation in some sustained way" (Ployhart, 2008: 54).

In this article, we extend theory and empirical findings by proposing and testing a comprehensive self-regulatory framework focused on understanding the dynamics of job search intensity and mental health over the first several months of the unemployment experience. We used a repeated-measures design, surveying newly unemployed individuals once per week for either 20 weeks or until an individual was reemployed. Contributing to theory, we use our proposed framework to delineate expectations about how self-regulatory constructs are relevant in a time-based context. The dynamic nature of the model allows us to propose both between and within-individual relationships. For example, we develop arguments about how self-regulatory constructs can help explain (1) interindividual differences in levels of job search intensity and mental health over continued weeks of unemployment, (2) interindividual differences in declines in job search intensity and mental health over time, and (3) intraindividual differences in self-regulation over time and relationships to job search level and mental health. Empirically, we put forth the most comprehensive repeated-measures investigation within the job loss domain that we know of to date. Beyond the aforementioned points, our data provide practical new information about within-person changes in job search and

mental health over the duration of an unemployment experience and advance understanding of *how* (i.e., through what mechanisms) stable individual differences exert their influence on the job search experience.
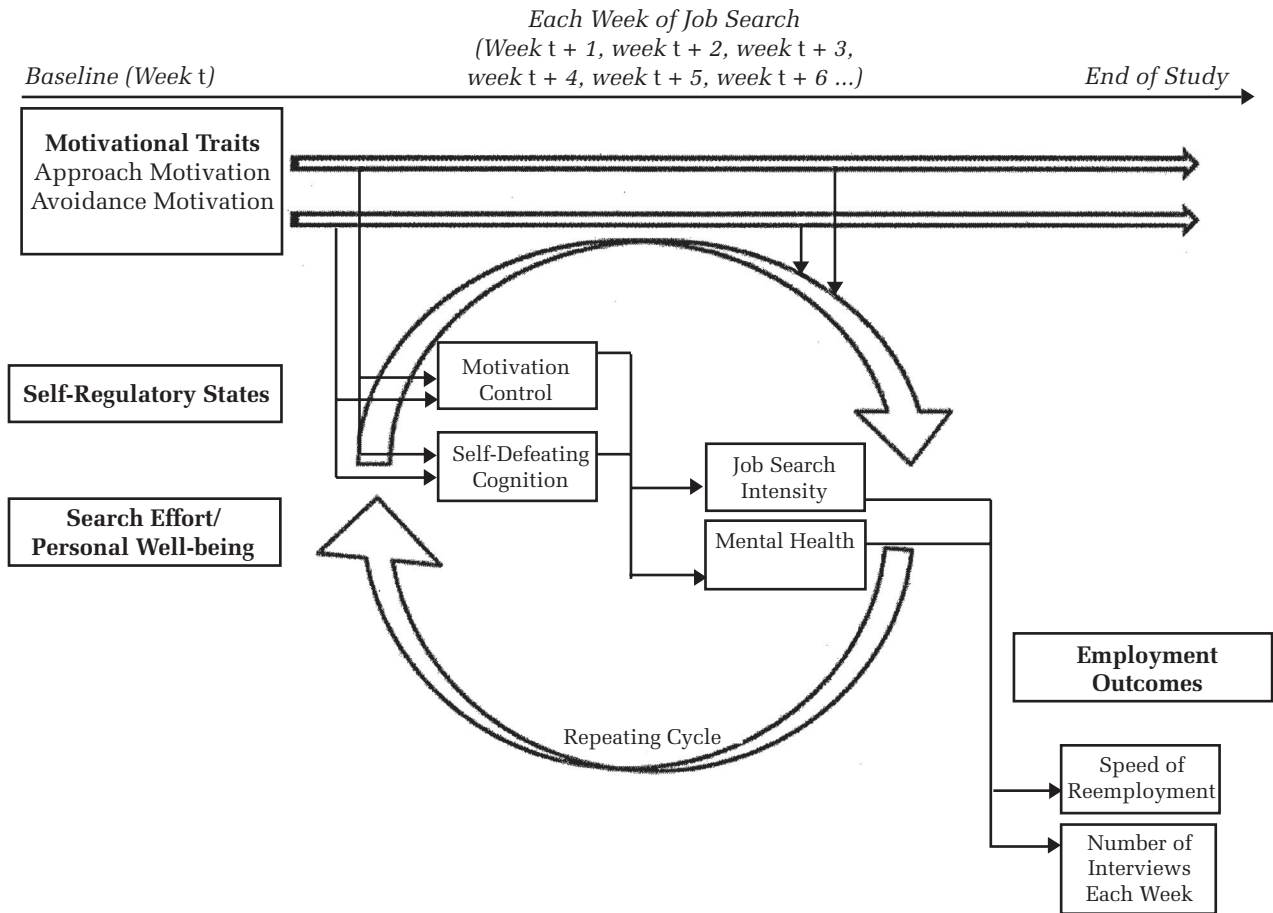
A DYNAMIC SELF-REGULATORY PERSPECTIVE

Our conceptual model, based in extant self-regulatory theorizing and prior research in motivational science and personality psychology, is shown in Figure 1. Our expectations regarding the importance of time in the relationships shown are elaborated in the presentation of our hypotheses. We first posit that individual differences in broad and stable motivational traits (specifically, *approach and avoidance motivations*) exert direct effects on observed levels and changes in job search intensity and mental health throughout a spell of unemployment. We then propose that these motivation traits influence job search intensity and mental health in part through two key self-regulatory state variables:

motivational control and self-defeating cognition. We conceptualize these processes as operating dynamically, in such a way that self-regulatory states vary as a function of time and exert corresponding time-based changes and vacillation in search intensity and mental health observed during a period of unemployment. Finally, although the central focus of our study is on understanding the manifestation and dynamics of job search intensity and mental health over the unemployment experience, we also examine two outcomes relevant to reemployment success: speed of reemployment and number of interviews each week.

The Effect of Approach and Avoidance Motivations on Job Search Intensity

An "achievement goal" refers to a desired, competence-related, future end state that guides individual behavior (see, for example, Elliot & McGregor, 2001; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010). Although such goals have been considered from a variety of perspectives that

FIGURE 1
Theoretical Framework

are still evolving into a cohesive framework (Hulleman et al., 2010; Payne, Youngcourt, & Beaubien, 2007), deeply steeped in the motivational literature is the recognition that individuals may differ in their tendency to conceptualize the goals they wish to achieve from either an approach or an avoidance orientation (Elliot, 2008). Individuals high in *approach orientation* (related concepts include "promotion focus," "learning orientation," and "personal mastery") are posited to engage in goal striving for the purpose of personal growth and developing competencies. In contrast, individuals high in *avoidance orientation* (related concepts include "prevention focus," "performance orientation," and "anxiety-related goal orientation") are posited to strive to avoid failure, preserve resources, protect self-concept, prevent emotional disruption of action, and fulfill obligations (Elliot & Harackiewicz, 1996; Higgins, 1998; Kanfer & Heggestad, 1997; VandeWalle, 1997). Evidence suggests that distinct and independent systems of approach and avoidance exist and that the approach and avoidance motivations capture different aspects of behavioral, neural, and affect-related processes (Robinson, Meier, Tamir, Wilkowski, & Ode, 2009; Watson, Wiese, Vaidya, & Tellegen, 1999).

In goal situations, approach-oriented individuals have been characterized as focused on possibility, opportunity, challenge, and what they want to achieve. In keeping with this description, research suggests that individuals with higher levels of approach-oriented motivational traits demonstrate enhanced performance outcomes in a variety of goal-oriented contexts (e.g., Galinsky, Leonardelli, Okhuysen, & Mussweiler, 2005; Hinsz & Jundt, 2005; Liberman, Molden, Idson, & Higgins, 2001; Payne et al., 2007; Porath & Bateman, 2006). For example, approach motivation was positively related to goal commitment and performance on an idea generation task (Hinsz & Jundt, 2005) and sales performance in a field context (Porath & Bateman, 2006). Specific to the job search context, Creed et al. (2009) found that higher levels of approach orientation on the part of job seekers was related to higher levels of job search intensity measured four months later.

In this study, we examined approach orientation as an individual-difference predictor of time spent in job search over several weeks. Because individuals with high approach orientation tend to actively pursue their goals and demonstrate higher levels of goal-related performance, we expect such individuals will report higher levels of search intensity at the start of their unemployment experience than individuals with lower levels of approach orientation. With respect to what happens over time, Dweck and Leggett (1988) suggested that individuals with higher approach motivation are well suited to persist in their goal pursuit efforts. Their research suggests that children with high approach orientation who do not immediately achieve their goals tend not to feel they are failing. Instead, they view unsolved problems as challenges to be overcome. We expect that, owing to this constructive interpretation of failure and persistence, individuals with higher levels of approach orientation will report higher average levels of search intensity over the duration of their unemployment experience. We propose:

> *Hypothesis 1a. Approach-oriented trait motivation is positively related to higher levels of job search intensity at the start of an unemployment experience.*

> *Hypothesis 1b. Approach-oriented trait motivation is positively related to higher average levels of job search intensity over the duration of an unemployment experience.*

In a goal situation, individuals high in avoidance motivation tend to focus heavily on risks of failure, threats to themselves, and what they ought to do or prevent from happening. Research has been somewhat inconsistent but has tended to show that avoidance orientation tends to hinder goal-related performance outcomes. In a meta-analysis, Payne and colleagues (2007) found avoidance performance goal orientation had estimated true mean correlations of −.13 with task performance on laboratory tasks and −.06 with academic performance. In the context of job search, Creed et al.. (2009), however, found that higher levels of avoidance orientation on the part of job seekers were not related to levels of job search intensity measured four months later. Dweck and Leggett (1988) argued that the passage of time during goal pursuit may have a special relevance for individuals with high avoidance motivation. Specifically, these authors suggested that individuals with high avoidance motivation may be able to pursue goals with a high intensity of effort *early* in the goal pursuit process. However, when faced with failure, these individuals show a helpless, maladaptive response involving avoiding challenge and deteriorating performance. In a study with children, for example, individuals with high avoidance motivation showed a clear decline in their problem-solving strategies following failure (Diener & Dweck, 1978).

We propose that over time, job seekers with higher avoidance motivation will show a declining trend (i.e., a negative slope of change) in their job search intensity. We further expect that individuals

with high avoidance motivation will show lower average levels of search intensity when considered over multiple weeks of unemployment than individuals low in avoidance motivation.

> *Hypothesis 2a. Avoidance-oriented trait motivation is negatively associated with the slope of change in job search intensity over the duration of an unemployment experience.*

> *Hypothesis 2b. Avoidance-oriented trait motivation is related to lower average levels of job search intensity over the duration of an unemployment experience.*

The Effects of Approach and Avoidance Motivations on Mental Health

To date, the impact of motivational traits on affect during goal striving has been largely limited to the study of task-related variables such as performance satisfaction and self-efficacy. Nonetheless, emerging research suggests that individual differences in motivational traits may exert influence on both immediate and longer-term affective states, such as mental health (e.g., Carver & White, 1994; Tamir & Diener, 2008). For example, Tamir and Diener (2008) suggested the inherent tendency of individuals high in approach motivation to meet goal-oriented situations with an appetitive rather than a defensive posture is conducive to well-being. In contrast, the tendency for individuals high in avoidance motivation to view goals with fear and anxiety and to be sensitive to criticism and risk propagates low well-being. Strauman (2002) similarly proposed that individuals who have difficulty pursuing promotion goals (i.e., making good things happen, fulfilling personal aspirations) and those who emphasize prevention goals (i.e., keeping bad things from happening, emphasizing obligations, and fulfilling duties) are at risk for lower well-being. Although the study outcome was frustration, rather than mental health, Whinghter, Cunningham, Wang, and Burnfield (2008) found that high workload was more associated with frustration for individuals with higher avoidance orientation than it was for individuals with higher approach orientation.

In the emotionally demanding job loss–job search context, it is reasonable to expect that approach and avoidance tendencies may exert influences that are reflected in levels of well-being. First, we expect that individuals with higher levels of approach orientation, because of their higher likelihood of positively framing job search as an opportunity for personal growth and career en-hancement, will report higher levels of well-being at the start of their unemployment experience as well as over its duration.

> *Hypothesis 3a. Approach-oriented trait motivation is related to higher levels of mental health at the start of an unemployment experience.*

> *Hypothesis 3b. Approach-oriented trait motivation is related to higher average levels of mental health over the duration of an unemployment experience.*

Our expectation with regard to avoidance motivation highlights the temporal nature of our data set. Specifically, our expectation is that individuals with higher levels of avoidance orientation will show lower levels of mental health over the course of unemployment as a consequence of their higher levels of apprehension, worry, and anxiety related to employment loss and reemployment success. In addition, these individuals are also expected to show greater sensitivity to the negative consequences of unemployment that accrue over time. With the passage of time, the threat of staying unemployed is likely to be more manifest (McFadyen & Thomas, 1997). Although speculative, given the lack of field research on trait avoidance motivation and mental health over time, our proposition is that continued unemployment among individuals high in avoidance motivation will exacerbate the possibility of failure, a sensitivity that tends to bring out increased anxiety in these individuals (Carver & White, 1994). We thus propose that individuals high in avoidance motivation will show a decline in mental health over the course of job search.

> *Hypothesis 4a. Avoidance-oriented trait motivation is negatively associated with the slope of change in mental health over the duration of an unemployment experience.*

> *Hypothesis 4b. Avoidance-oriented trait motivation is related to lower average levels of mental health over the duration of an unemployment experience.*

Self-Regulatory States as Mediating Processes

Although individual differences in motivational traits are purported to directly affect both job search intensity and mental health, we posit that self-regulatory processes partially mediate this relationship (see Figure 1). Specifically, drawing on Kanfer and Ackerman (1996) and Kanfer and Heggestad (1997), we suggest the relationship between motivational traits and mental health and search intensity can be explained in part through

experienced levels of two fundamental self-regulatory states: motivation control and self-defeating cognition. *Motivation control* refers to the intentional cognitive redirection of attention, use of goal setting, and/or use of environmental management strategies to stay on course and sustain effort with respect to a job search (Kanfer & Heggestad, 1997; Kuhl, 1985). *Self-defeating cognition* refers to negative, rigid, and dysfunctional "self-talk" (Alloy, Abramson, Grant, & Liu, 2009; Glass & Arnkoff, 1997; Kanfer & Ackerman, 1989). In our study, we assess self-talk specific to feelings of hopelessness, giving up, and negative expectations about being successful in a job search. Motivational control is characterized by cognition directed toward increasing task effort. In contrast, self-defeating cognition is a failure in emotional control, characterized by cognition directed toward off-task negative affect and task withdrawal.

Effects of Motivational Traits on Self-Regulatory States

Kanfer and Heggestad (1997) argued that motivational traits influence the use of self-regulatory strategies in specific goal-oriented situations. This work suggests that, when confronted with the need to continue with a difficult problem or task, approach-oriented individuals will tend to engage in activities that exemplify motivational control, such as planning or instructing themselves to exert extra effort. Even when faced with failure, they will tend to direct their attention toward goal pursuit and overcoming the obstacles at hand. For example, when faced with a difficult problem, approach-oriented individuals tend to make remarks such as "The harder it gets, the harder I need to try" (Diener & Dweck (1978: 459). In contrast, when faced with a difficult situation, avoidance-oriented individuals will tend to display self-defeating cognition and a conviction that they cannot overcome the situation and make remarks such as "I give up" (Diener & Dweck, 1978; Kanfer & Heggestad, 1997). Rather than engaging in extra effort when the going gets rough, individuals high in avoidance motivation instead tend to view challenge as a threat. Consistently with these findings, in a recent meta-analysis of related constructs (Payne et al., 2007), a learning goal orientation was negatively associated with state anxiety, and an avoidance performance goal orientation was positively associated with state anxiety (k's = 16, 7; estimated true mean correlations = −.09, −31, respectively). Given this work, we expected to observe the following relationships between the trait-based predictors shown

in Figure 1 (approach motivation and avoidance motivation) and motivational control and self-defeating cognition:

Hypothesis 5a. Higher levels of approach-oriented trait motivation are associated with higher average levels of motivation control and lower average levels of self-defeating cognition over the duration of an unemployment experience.

Hypothesis 5b. Higher levels of avoidance-oriented trait motivation are related to lower average levels of motivation control and higher average levels of self-defeating cognition over the duration of an unemployment experience.

Effects of Self-Regulatory States on Job Search Intensity and Mental Health

Kanfer and Heggestad (1997) further argued that self-regulatory strategies impact goal-relevant outcomes. In the dynamic unemployment context, we posit that within-individual changes in the use of self-regulation from week to week will predict changes in demonstrated search intensity and mental health.

First, when an individual exerts motivational control, it involves purposeful management of the environment to stay on task, generate next steps, and direct attention to the task at hand (Kanfer & Heggestad, 1999). Findings in the goal orientation and goal setting literatures (e.g., Kanfer & Ackerman, 1996; Kozlowski & Bell, 2006; Lee, Sheldon, & Turban, 2003) suggest that higher levels of motivation control are associated with higher levels of performance on goal-related activities. In the job search context, Wanberg, Kanfer, and Rotundo (1999) showed that motivation control was positively associated with job search intensity both at the same point in time and three months later. Creed and colleagues (2009) obtained similar findings. Although the relationship between motivational control and well-being has not been directly studied, Kanfer and Ackerman (1996) suggested that individuals have limited attentional resources and that motivational control strategies will divert attention from feelings of unhappiness or dissatisfaction about performance. In this study, because motivational control and our outcomes were measured each week as repeated measures, we were able to use within-person analyses to examine the extent to which changes in the extent to which individuals display motivational control help explain vacillations in their job search intensity and mental health over time. We propose:

Hypothesis 6a. During weeks when individuals exert more motivation control, we expect their job search intensity to be higher, compared to weeks when they exert less motivation control.

Hypothesis 6b. During weeks when individuals exert more motivation control, we expect their mental health to be higher, compared to weeks when they exert less motivation control.

The effects of self-defeating cognition on effort devoted to goal attainment have yet to receive substantial research attention. Available work suggests that the coactivation of negative cognition or affect with goal-directed activity will reduce or even stop goal-directed effort (Aarts, Custers, & Holland, 2007). Self-destructive self-talk can be expected to result in reduced effort when it reflects a lack of hope (Lopez, Snyder, & Pedrotti, 2003). It furthermore reduces cognitive resources needed for performing well on the task at hand (Kanfer & Heggestad, 1999). A more substantial literature exists with respect to the relationship between self-defeating cognition and well-being. Dysfunctional thought processes, including a broad array of negative cognitive styles, negative self-attributions, and self-defeating cognition, have been shown to undermine self-worth (Kuiper, Olinger, & Swallow, 1987) and to diminish individual well-being (Judge & Locke, 1993; Petrocelli, Glaser, Calhoun, & Campbell, 2001). High levels of self-defeating cognition specifically related to lack of hope and low expectancy of success are problematic because they lock individuals into viewing their problems as unsolvable, a core issue that triggers depression (Beck, 1972, 1987). Despite some consistency in individual tendencies to engage in dysfunctional thinking, environmental stressors and events that vary from week to week intensify the extent to which individuals engage in self-defeating cognition (Zuroff, Blatt, Sanislow, Bondi, & Pilkonis, 1999). In this study, we propose that variability in job seeker self-defeating cognition from week to week will help explain changes in their job search intensity and mental health.

Hypothesis 7a. During weeks when individuals report higher levels of self-defeating cognition, job search intensity is lower than in weeks when they report lower levels of self-defeating cognition.

Hypothesis 7b. During weeks when individuals report higher levels of self-defeating cognition, mental health is lower than in weeks when they report lower levels of self-defeating cognition.

Effects of Motivational Traits on Self-Regulatory States Affecting Job Search Intensity and Mental Health

Although motivational traits may exert some direct effects on goal outcomes, theorizing by Kanfer and colleagues suggests that the impact of traits on behavior occurs in part through the influence that traits have on the initiation and execution of self-regulatory processes that govern the direction and intensity of action. We propose that the relationship between the broad motivational traits included in our model (approach and avoidance motivation) and job search intensity and mental health are partially mediated by context-specific self-regulatory states (specifically, motivation control and self-defeating cognition).

Hypothesis 8. The relationship between approach and avoidance motivation and search intensity and mental health are partially mediated by motivation control and self-defeating cognition.

Effects of Job Search Intensity and Mental Health on Job Search Success

Although our hypotheses for the most part focus on job search intensity and mental health, we also assess two important distal job search outcomes of our participants, reemployment speed and number of interviews. Search intensity has been studied as a predictor of job search success more frequently than has mental health. A meta-analysis by Kanfer and colleagues (2001) suggests job search intensity is a positive predictor of later employment status ($r_c = .21$, $k = 21$) and number of offers ($r_c = .28$, $k = 11$), and a negative predictor of unemployment duration ($r_c = -.14$, $k = 9$). The more intensive a person's search behaviors are and the more time is spent on search, the more employers potentially have the job seeker's information brought to their attention. On the basis of this literature, we expect that search intensity is positively related to success in getting interviews as well as to reemployment speed.

Hypothesis 9. Job search intensity at the start and over the duration of an unemployment experience is positively related to success in getting interviews and reemployment speed.

Although a wealth of studies have examined how unemployment affects mental health, surprisingly few have addressed mental health as a predictor of job search success. Authors have argued that low mental health slows reemployment because depressed mood deprives job seekers of the mental

and physical energy needed to engage in an effective job search (Viinamäki, Koskela, & Nishanen, 1996). At least one study, however, has shown that unemployed individuals with higher depression were reemployed more quickly (Kessler, Turner, & House, 1988). These authors argued that stress may motivate individuals to find work faster. One of the most extensive studies of the relationship between well-being during unemployment and the probability of reemployment is by Ginexi, Howe, and Caplan (2000). The authors assessed the mental health of 254 unemployed individuals three times, first within 49 days of job loss, then 5 and 11 months later. Their times 1 and 2 measures of depression were not predictive of time to reemployment. A recent meta-analysis compared the mental health levels of continuously unemployed individuals with the mental health levels of individuals who found jobs during the study reporting periods (Paul & Moser, 2009). Although effect sizes were small, continuously unemployed individuals had lower levels of mental health than individuals who found jobs ($k = 49$, $n = 13,259$, $D = .15$).

Overall, the literature regarding mental health as a predictor of reemployment speed is somewhat unclear. Because few previous studies (Ginexi et al. [2000] is an exception) have assessed mental health early in an unemployment experience and also repeated those assessments over its duration, we suggest our study has the potential to contribute unique insight into mental health as a predictor of job search success. Specifically, our study allows using both baseline and aggregate levels of mental health measured over multiple weeks (thus removing some of the issues related to self-report bias from one-time assessments and also providing a collective assessment over time). Given the results of the Paul and Moser (2009) meta-analysis, we propose a positive relationship between mental health and search success:

Hypothesis 10. Mental health at the start and over the duration of an unemployment experience is positively related to success in getting interviews and reemployment speed.

METHODS

Participants

Participants were drawn from a pool of unemployment insurance recipients identified by the U.S. Department of Employment and Economic Development as having been unemployed for 3 weeks or less and eligible for a full-duration claim (i.e., 25 or 26 weeks) of unemployment insurance. We sought out individuals unemployed for 3 weeks or

less because our aim was to get individuals into the study as quickly after job loss as possible (to reduce problems of "left-censoring" and allow a logical starting point for examination of changes in the job search experience over time). In the United States, unemployment insurance is available to individuals who lose their jobs through no fault of their own (i.e., they did not quit and were not fired for misconduct); individuals also have to be available for work and seeking full-time employment. Individuals eligible for fewer than 25 weeks of unemployment insurance tend to have more intermittent connections with the workplace.

To preclude the possibility of potential influences associated with recent unemployment experience or age-related differences in job search and reemployment likelihood, we required that potential participants be between the ages of 25 and 50 and have had no unemployment insurance claim in the last four years. In addition, to reduce the impact of occupational level, we required potential participants to have at least a bachelor's degree. According to U.S. Department of Labor statistics, the seasonally adjusted unemployment rate in the state in which we conducted the study ranged from 4.7 to 5.4 percent over its duration (from the end of January 2008 to the beginning of July 2008).

Our study design required individuals to complete a weekly online survey for 20 weeks or until they found reemployment, whichever came first. This time period was chosen to exceed the median time reported by the Bureau of Labor Statistics for weeks unemployed (8.9 weeks for the study period [Bureau of Labor Statistics, 2009]). Our chosen time period also allowed us to follow most of the individuals in our sample throughout the duration of their unemployment experience.

Study invitations were sent by mail, and individuals were asked to enroll in the study by visiting the study's website. We recognized the serious challenge posed by sending individuals a "cold" invitation in the mail for a study that asked them to complete a survey once a week for 20 weeks. To enhance our response rate, we enclosed a professionally printed brochure with clear information about the study requirements in our invitation. We offered individuals a $20 incentive to enroll in the study and complete the baseline survey within one week. Individuals were offered an additional $20 to complete the second weekly survey and an additional $75 again if they completed at least 16 of the 20 surveys involved in the project.

A total of 508 individuals were invited to be in the study. Of these, 182 enrolled and completed baseline surveys (36%). Participants were compared with invited nonparticipants using database

elements available from the state. Participants did not differ from nonparticipants in terms of their maximum allowed unemployment insurance amount ($t = -0.68$, $p < .50$), their unemployment insurance account balance at the end of the study ($t = -1.40$, $p < .17$), whether they had exhausted their unemployment insurance at the end of the study ($t = 0.47$, $p < .64$), proportion of females ($t = 1.15$, $p < .26$), age ($t = -0.26$, $p < .80$), education level ($t = -0.41$, $p < .72$), or length of unemployment up to the start of the study ($t = -0.98$, $p < .33$). However, the proportion of white individuals among respondents was higher than that in the pool of potential participants ($t = 2.73$, $p < .01$).

Individuals enrolled in the study were sent online surveys every week for the 20 weeks following the baseline survey. An e-mail with a survey link was sent at noon each Friday. Individuals were asked to complete the survey by Sunday evening of each week to ensure current reflection on the last week's job search as well as equal intervals between surveys. Response rates to the weekly surveys ranged from 73 to 95 percent.

A total of 177 individuals completed at least the baseline survey and one weekly survey; these individuals constituted the sample for this study. Of the 177 individuals, the average age was 37 years (s.d. = 7.52). Forty percent of the sample members were female, and 93.8 percent were white. On average, individuals in the final sample had been unemployed for 28 days (s.d. = 10.5) at the time they enrolled in the study. Approximately 60 percent of the sample reported their last job had been in a professional occupation; 19 percent reported clerical or sales-related fields, and 21 percent reported other job types.

A total of 128 individuals became reemployed during the duration of the study ($n = 35$ in week 1; 9 in week 2; 2 in week 3; 2 in week 4; 15 in week 5; 2 in week 6; 4 in week 7; 6 in week 8; 5 in week 9; 6 in week 10; 5 in week 11; 6 in week 12; 3 in week 13; 4 in week 14; 5 in week 15; 5 in week 16; 2 in week 17; 4 in week 18; 5 in week 19; and 3 in week 20). These individuals were included in the study up to the point of reemployment (i.e., their data contribute to the analyses up to the week they found a job).

Measures

Demographic characteristics, control variables, and motivational traits were assessed in the baseline survey. Self-regulatory states, job search intensity, and mental health were assessed in every weekly survey during the period when respondents were looking for a job.

Baseline survey measures. *Approach and avoidance motivation* were measured using the personal mastery (16 items) and motivation related to anxiety (19 items) subscales from the Motivational Trait Questionnaire (MTQ; Heggestad & Kanfer, 2000; Kanfer & Ackerman, 2000). Respondents were asked to indicate the extent to which each item describes them (1 = "very untrue of me," and 6 = "very true of me"). Example items for personal mastery include "When I become interested in something, I try to learn as much about it as I can" and "If I already do something well, I don't see the need to challenge myself to do better" (reverse-coded). The coefficient alpha for this scale was .90. Example items for motivation related to anxiety include "When working on important projects, I am constantly fearful that I will make a mistake" and "I do not get nervous in achievement settings" (reverse-coded). The coefficient alpha was .93. Heggestad and Kanfer (2000) and Kanfer and Ackerman (2000) provide evidence supporting the discriminant validity of these two motivational traits from each other and other personality measures.

Age in years, *education* level (0 = "bachelor's degree," 1 = "master's degree or above"), *gender* (0 = "male," 1 = "female"), and *ethnicity* (0 = "nonwhite" and 1 = "white") were included as control variables. A methodological contribution of our study is that we followed individuals from the start of their unemployment; the significant majority of existing research includes individuals at many different stages of their job search (Steel, 2002). Owing to some variability in time enrolled in the study, however, *number of days unemployed* at the time of baseline was controlled. To account at least at a coarse level for differences in labor market demand as well as possible differences in the nature of job search, *occupation* (three categories: *professional, technical, and managerial*; *clerical and sales*; and *others*) was also controlled. Finally, one item was used to control for individual differences in *employment commitment* (Rowley & Feather, 1987), although all individuals in our sample indicated they were engaged in active work search. The item, "Having a job is very important to me," was rated on a scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

Dynamic survey measures. *Motivation control* was assessed with four items developed to examine individuals' intentional, cognitive redirection of attention toward their job search, use of goal setting, and/or environmental management of their job search over the previous week. Individuals were asked to what extent four statements were descriptive of their past week with regard to their job

search ("Despite difficulties that passed my way this week, I was able to stay focused on my job search"; "If I got interrupted, I worked hard to get back on track"; "I mentally pushed myself to work harder on my job search"; "I boosted my motivation to look for a job"). Responses to the items were provided on a scale ranging from 1 ("not at all true of me") to 5 ("very true of me"). We wrote new items rather than use an existing measure for two primary reasons. First, previous assessment (e.g., Creed et al., 2009; Wanberg et al., 1999) has been at a trait level (e.g., "In general, do you have motivation control skills?") rather than at a state level; we assess the extent to which motivation control was used each week. Second, the trait-based items were not easily transferrable to a state level because they referred to specific event-based behavioral examples that might not occur every week in a job search (e.g., "I practice my conversations with potential employers ahead of time"). The coefficient alphas for the motivation control scale ranged from .84 to .92 over the 20-week study span; we interwove items with the self-defeating cognition items to reduce the possibility of high internal consistency simply due to response bias.

Self-defeating cognition was assessed with six items that asked individuals about the occurrence of negative cognition over the past week specific to feelings of hopelessness, giving up, and negative expectations related to their job search. We again developed items specific to the job search context. We patterned the item content from the negative expectations and giving up/helpless dimensions of the Automatic Thoughts Questionnaire (Hollon & Kendall, 1980) and the Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974), ensuring our items were broad enough to capture thoughts that participants might actually have weekly (Glass & Arnkoff, 1997). Specific items included "I thought about simply giving up on job search"; "I felt like I couldn't continue to do this anymore"; "I thought about how much more job search I could tolerate"; "I thought about how hopeless it was to look for a new job"; "It crossed my mind that I would never find a new job"; and "It occurred to me that all my efforts to get a job weren't worth the trouble" [1, "not at all true of me," to 5, "very true of me"]). We averaged the scores of the items to measure self-defeating cognition for each week (α = .88−.97 over the span of the study). Higher scores indicate more self-defeating cognition.

Job search intensity was assessed by asking individuals the following question in each weekly survey: "How many hours did you spend on your job search each day this week?" Participants were asked to write down the number of hours for each day of the week. We summed these reported numbers to get the measure of hours spent in search for the particular week. Hours spent in job search has been shown to be highly correlated (r = .56−.68) with alternative measures (e.g., multiple-item assessments) of job search intensity (Wanberg et al., 2005).

Mental health was measured each week over the duration of the study using the five-item Mental Health Inventory (MHI; Berwick, Murphy, Goldman, Ware, Barsky, & Weinstein, 1991), a short version of the 38-item MHI (Veit & Ware, 1983). The inventory taps psychological distress (anxiety and depression) and psychological well-being (general affect). Respondents were asked to respond to each item with respect to the past week using the scale 1, "none of the time," to 6, "all of the time." Items include "Have you felt downhearted and blue?" and "Have you been a very nervous person?" The items were reverse-coded and averaged so that higher scores indicate better mental health (α = .85−.93 over the span of the study). The MHI-5 is highly correlated with other well-known measures of mental health such as the GHQ, and research has supported its ability to distinguish between groups with health differences (e.g., McCabe, Thomas, Brazier, & Coleman, 1996).

Indicators of search success. Length of unemployment was used in survival analysis (with Cox regression) to examine *reemployment speed*. From state records, we obtained each job seeker's last day on the previous job. Those who were reemployed reported their starting dates for the new jobs. We calculated the difference between these two days to get the length of unemployment for those reemployed. For those who remained unemployed, the length of unemployment was "right-censored" at the end of the study. At that time, 27.7 percent of our sample was still unemployed (n = 49), and 72.3 percent had found jobs (n = 128).

Number of interviews was calculated as the total number of interviews for an average week during a person's unemployment experience. Individuals gave their answers to the question "How many interviews did you have this past week?" in the weekly survey.

Confirmatory Factor Analysis

We conducted several sets of confirmatory factor analyses (CFAs) to establish the distinctiveness of our measures. These CFAs supported the use of the scales as distinct measures. First, self-defeating cognition refers to negative self-talk and is distinct conceptually from mental health. However, to establish empirically that these variables are distinct,

we entered the items for the MHI and self-defeating cognition into a CFA with separate but related factors. The fit indexes indicated a good fit for the two-factor model ($\chi^2 = 75.57$, $df = 41$, $p < .001$, CFI = .96, RMSEA = .08). Combining the two into one construct produced a significantly inferior fit ($\chi^2 = 261.77$, $df = 42$, $p < .001$, CFI = .73, RMSEA = .20). These CFA results were based on data from the first week; similar results were obtained from subsequent weeks.

More broadly, we also completed a CFA of all of the multiple-item self-report measures in our study (approach motivation, avoidance motivation, motivation control, self-defeating cognition, and mental health). To achieve a sufficient ratio between sample size and the number of estimated parameters (Bentler & Chou, 1987), we generated item parcels instead of using individual items for the approach and avoidance scales; we used individual items for the other scales. The fit indexes indicated a good fit for the five-factor model ($\chi^2 = 343.69$, $df = 220$, $p < .001$, CFI = .94, RMSEA = .06). Combining the items into competing models of two, three, or four factors produced a significantly inferior fit ($p < .001$).

Analyses

The survey questions were set to require a response to all questions. However, participants were able to skip a week's survey, which would in turn lead to missing data for that week. We examined the electronic time stamps associated with all surveys to ensure they were submitted within the appropriate time frame (i.e., between Friday noon and Sunday midnight). Surveys containing electronic time stamps outside of the acceptable time frame were not used.

The data set has a hierarchical structure, in which repeated measures (level 1) were nested within individuals (level 2). For hypotheses in which the dependent variable is not job search intensity (i.e., Hypotheses 3a–5b, 6b, 7b, and part of Hypothesis 8), we used linear mixed models, as implemented by SAS "proc mixed" (Fitzmaurice, Laird, & Ware, 2004), to test the within-individual relationships among approach and avoidance motivation, motivation control and self-defeating cognition, and mental health. For hypotheses in which job search intensity is the dependent variable (i.e., Hypotheses 1a, 1b, 2a, 2b, 6a, 7a, and part of Hypothesis 8), because job search intensity is a count variable (e.g., number of hours) and its distribution was positively skewed, generalized linear models, as implemented by SAS "proc genmod" with a Poisson distribution and a repeated function, were used.

In the analyses of dynamic variables, we included a linear term (i.e., *week*, coded 0 for the first week, 1 for the second week, and so forth) and a quadratic term for time (i.e., the squared term of week). The inclusion of week and week squared served three purposes. First, the coefficients of the linear and quadratic terms allowed us to estimate the growth trends of the dynamic variables (e.g., job search intensity and mental health) over time. Second, for testing Hypotheses 1a and 3a, the inclusion of week and week squared in their current coding theme allow us to predict the relationships between motivational traits and the dynamic dependent variables at the start of the job search duration. In contrast, when week and week squared were excluded from the model, motivational traits were predicting the average or overall levels of the dynamic dependent variables over the unemployment experience, as in the testing of Hypotheses 1b, 2b, 3b, 4b, 5a, and 5b. The third purpose of including week and week squared, pertinent to the testing of Hypotheses 2a and 4a, lay in the fact that the coefficients of the linear and quadratic term can be predicted by individual-level (level 2) variables. Thus, we could show that a motivational trait was related to the decline or increase of a dynamic dependent variable over time.

Hypotheses 6a through 8 use dynamic predictors, that is, motivation control and self-defeating cognition each week, to predict that week's job search intensity and mental health. In testing these level 1 relationships, we included week and week squared as control variables to partial out any association between the independent and dependent variables due to the growth trends of the dependent variables. For Hypotheses 9 and 10, we used Cox regression (i.e., proportional hazard model [Klein & Moeschberger, 1997]) and ordinary least squares (OLS) regression to predict the speed of reemployment and number of interviews. OLS regression was used because the number of interviews (per week) follows an approximately normal distribution.

RESULTS

Descriptives

Table 1 portrays descriptive statistics and correlations for baseline variables (variables 1–11), repeated measures (variables 12–15), and distal outcome measures (variables 16–17). We have 20 time waves of data for variables 12–15, but as this is an extensive amount of data, we only present correlations for these variables based on the measures

TABLE 1
Descriptive Statistics and Correlations of Selected Study Variables[a]

Variable[b]	n	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	177	37.02	7.52																
2. Education	177	0.11	0.32	.17*															
3. Gender	177	0.40	0.49	-.12	.00														
4. Ethnicity	177	0.94	0.24	.02	.02	.02													
5. Days unemployed up to study start	177	28.02	10.50	.05	.16*	-.13	.05												
6. Occupation–Professional	177	0.60	0.49	.10	.18*	.13	-.02	-.18											
7. Occupation–Clerical	177	0.19	0.39	.00	-.08	.11	.00	.03	-.59**										
8. Occupation–Other	177	0.21	0.41	-.12	-.14	-.26**	.02	.18*	-.64**	-.25**									
9. Employment commitment	177	4.48	1.17	.01	.08	.06	-.09	.05	.02	.06	-.09								
10. Approach-oriented motivation	177	4.69	0.06	-.05	-.09	.11	.14	.01	.00	.03	-.02	.02	(.90)						
11. Avoidance-oriented motivation	177	3.30	0.84	.04	.01	.20**	.02	.03	-.01	.08	-.06	.08	-.29**	(.93)					
12. Week 1 motivation control	129	3.33	0.85	-.06	.00	-.12	-.09	.03	.03	-.07	.03	.16	.40**	-.26**	(.84)				
13. Week 1 self-defeating cognition	129	1.58	0.72	-.05	-.04	.16	.02	.10	-.03	-.05	.10	-.02	-.20*	.37**	-.36**	(.88)			
14. Week 1 job search intensity	129	17.80	12.85	.12	.04	-.17	-.13	-.01	.24**	-.10	-.20*	.20*	.09	-.06	.48**	-.08			
15. Week 1 mental health	129	4.39	0.98	-.04	.12	-.02	-.04	.00	.06	-.04	-.04	.01	.21*	-.48**	.30**	-.43**	-.11	(.89)	
16. Number of interviews	132	1.93	0.93	.10	.15	-.07	.00	.06	.06	.02	-.10	.10	.10	-.22*	.36**	-.017	.45**	.13	
17. Reemployed during the study	177	0.72	0.45	-.21**	-.06	-.04	.00	.00	.06	-.16*	.08	.08	.23**	-.17*	.18*	.07	.11	-.03	.25**

[a] Variables 1–11 were assessed in the baseline survey (n = 177). Variables 12–15 were assessed each week for a total of 20 measurements; only the week 1 measures are included here. Entries on the diagonal in parentheses are alphas for the listed variables.

[b] Education was coded 0 = "bachelor's or below," 1 = "master's or above"; gender, 0 = "male," 1 = "female"; ethnicity, 0 = "nonwhite," 1 = "white." Job search intensity was measured as number of hours spent in job search per week. Number of interviews is the average number of interviews individuals had per week during unemployment. Reemployed during the study, 0 = "no," 1 = "yes."

* $p < .05$
** $p < .01$

TABLE 2
Generalized Linear Model and Hierarchical Linear Modeling Results for Linear and Quadratic Coefficients of Repeated Measures[a]

Variables	Intercept γ_{00}		Linear Term of Time γ_{10}		Quadratic Term of Time γ_{20}	
	Coefficient	Between-Individual Variances	Coefficient	Between-Individual Variances	Coefficient	Between-Individual Variances
Job search intensity	0.95**	n.a.[b]	−0.04**	n.a.	1.70E-3**	n.a.
Mental health	4.45**	0.69**	0.03*	5.25E-3**	−1.40E-3*	1.50E-5**
Motivation control	3.29**	0.28**	−0.04**	4.80E-5	2.27E-3**	4.76E-6
Self-defeating cognition	1.60**	0.26**	0.06**	8.13E-3**	−1.88E-3*	2.50E-5**

[a] The linear term of time was coded 0 for week 1, 1 for week 2, and so forth. Generalized linear model (SAS "proc genmod") with a Poisson distribution and AR (1) variance-covariance structure (i.e., first-order autoregressive) correlation matrix structure was used to test the unconditional model for job search intensity. Linear mixed model (SAS "proc mixed") with the RE-AR (1) variance–covariance structure (i.e., random effects plus auto-regression [1]) structure was used to test the unconditional model for all other variables.

[b] Between-individual variances were not available for job search intensity with the generalized linear model (SAS "proc genmod") because of its "population-average" feature. Instead, we tested the between-individual variances (i.e., random effects) for job search intensity with a linear mixed model (SAS "proc mixed"). The variance of the intercept was significant (variance = 134.50, $p < .01$); the variance of the linear term of time was significant (variance = 0.6040, $p < .05$); and the variance of the quadratic term of time was nonsignificant.

* $p < .05$
** $p < .01$

assessed in the week 1 survey for illustration purposes. Before testing the hypotheses, we examined whether systematic within- and between-individual variance existed in the repeated-measures variables by running a series of null (intercept-only) models. The analyses supported using hierarchical linear modeling (HLM) on these data, as there was sufficient within-individual and between-individuals variance in the measures over time. For example, within-individual variance was 53 percent for motivation control, 41 percent for self-defeating cognition, 22 percent for job search hours, and 26 percent for mental health. Although not reported in Table 1, the average number of hours spent in job search per week over the 20 weeks of our study was 14.5 hours, ranging from an average of 11.2–17.8.

We examined the trends of our repeated measures with unconditional HLM (only including the intercept, linear term and quadratic term of time) to portray the growth patterns of these variables over time. Table 2 shows the results of these models. The intercept, linear (week), and quadratic (week squared) coefficients are significant for all variables, indicating that there was an average within-person change on these variables over time. For job search intensity, these data show that individuals in our study reported spending less time in job search as their unemployment spell continued, with a slight uptick in later weeks. For mental health, there was an improvement over time, with a slight downturn in later weeks (see Figure 2). The trends shown in Figure 2 must be interpreted with the caveat that, over time, some individuals in the
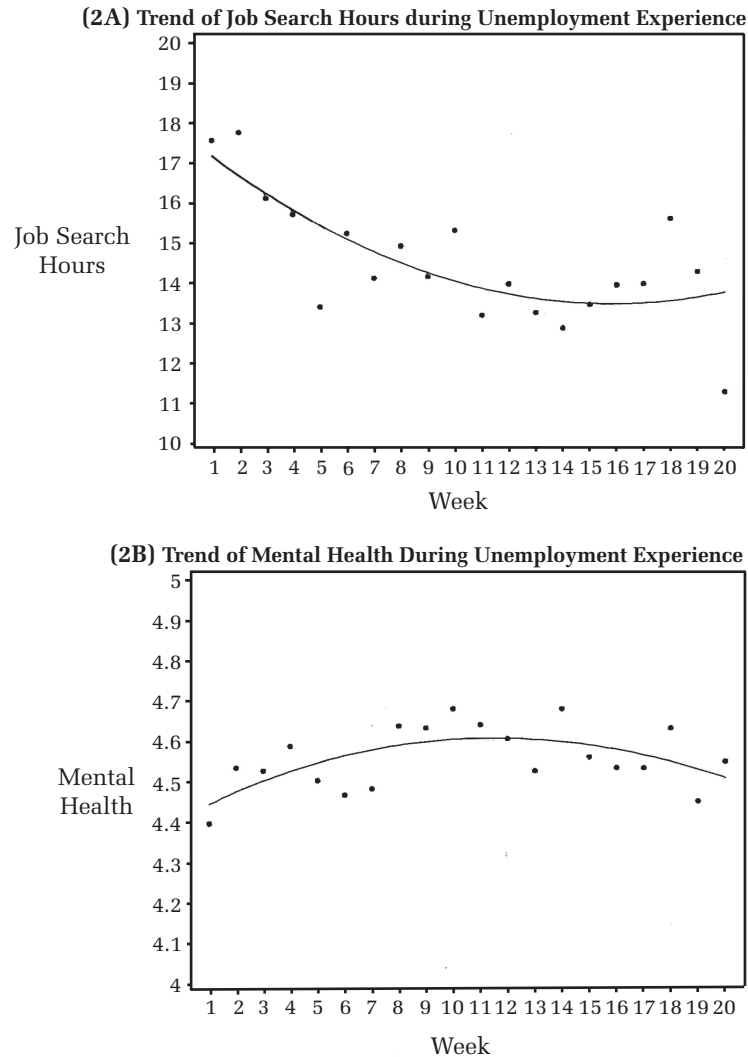
sample are becoming reemployed. All participants are represented in the data up to the point at which they became reemployed. This means that the data points for early weeks are based on a larger sample.

The trends observed across individuals varied considerably, in particular with regard to the linear slope coefficients, meaning that changes in job search and mental health are not the same for everyone over time. We model these changes dependent on our focal study variables in the next sections. As the coefficients of the quadratic term of job search intensity and mental health were extremely small (see Table 2), to obtain parsimonious models we did not use individual-level (level 2) variables to predict these quadratic term coefficients. Thus, in testing Hypotheses 2a and 4a, we used motivational traits to predict the coefficient of the linear term only (i.e., the interaction terms between motivational traits and week).

Motivational Traits Affecting Search Intensity

Hypothesis 1a, suggesting that approach-oriented trait motivation is related to more time spent in job search at the start of an unemployment experience, was supported ($\gamma = .21$, model 1a, Table 3). Supporting Hypothesis 1b, individuals with higher levels of approach-oriented trait motivation also reported more job search hours over the duration of their unemployment spell. As shown in model 1b, Table 3, a one-point increase in approach-oriented motivation was associated with a .25 times ($= e^{(.22)} - 1$) increase in average job search hours per week

FIGURE 2
Mean Plots of Job Search Hours and Mental Health during Unemployment Experience

(2A) Trend of Job Search Hours during Unemployment Experience

(2B) Trend of Mental Health During Unemployment Experience

over the unemployment duration. Stated another way, given a one-point increase in approach-oriented motivation, average job search hours would be increased from 1 to 1.25 hours, 2 to 2.5 hours, 10 to 12.5 hours, and so on, each week. Figure 3 is provided to illustrate the job search hours trend over time of people who were high (in the top third) versus people who were low (in the bottom third) on approach motivation. The figure helps portray how approach motivation makes a difference over time.

Hypothesis 2a indicates that avoidance-oriented trait motivation will be negatively associated with the slope of job search intensity over time. Model 2a of Table 3 shows that the interaction term of avoidance-oriented trait motivation and week (i.e., the linear term of time) was not significant. There-

fore, Hypothesis 2a was not supported. Hypothesis 2b suggests that avoidance-oriented trait motivation will be negatively related to average levels of job search intensity over an unemployment experience, which was not supported in model 2b of Table 3.

Motivational Traits Affecting Mental Health

Supporting Hypothesis 3a, approach-oriented trait motivation was positively related to mental health at the start of unemployment (see model 3a, Table 3). Hypothesis 3b was also supported. Higher levels of approach-oriented trait motivation were associated with higher average levels of mental health over the duration of unemployment (model 3b, Table 3). Results of the tests of the two hypoth-

TABLE 3
Generalized Linear Model and Hierarchical Linear Modeling Results for Intraindividual and Cross-Level Effects[a]

Variables[b]	Model 1a: Job Search Intensity	Model 1b: Job Search Intensity	Model 2a: Job Search Intensity	Model 2b: Job Search Intensity	Model 3a: Mental Health	Model 3b: Mental Health	Model 4a: Mental Health	Model 4b: Mental Health	Model 5: Motivation Control	Model 6: Self-Defeating Cognition	Model 7: Job Search Intensity	Model 8: Mental Health	Model 9: Job Search Intensity	Model 10: Mental Health	Model 11: Mental Health
Intercept	1.01	0.83	1.87**	1.76**	3.38**	3.87**	5.89**	6.13**	1.75*	2.27**	1.28**	5.27**	0.90	4.55**	6.10**
Controls and static predictors															
Age	0.01	0.01	0.01	0.01	−0.01	−0.01	0.00	0.00	0.01	−0.01	0.00	−0.01	0.00	−0.01	0.00
Education	−0.06	−0.08	−0.08	−0.10	0.31	0.15	0.07	0.07	−0.08	−0.08	−0.18	0.18	−0.17	0.21	0.15
Gender	−0.27*	−0.27*	−0.21	−0.21	−0.07	−0.08	0.16	0.15	−0.11	0.19	−0.30**	0.09	−0.32**	0.05	0.21
Ethnicity	−0.05	−0.03	0.09	0.11	−0.29	−0.34	−0.08	−0.06	−0.16	−0.03	−0.01	−0.21	−0.07	−0.30	−0.11
Days unemployed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Occupation—Professional	0.44*	0.43*	0.44*	0.43*	0.32	0.31	0.30	0.29	0.08	−0.30	0.49**	0.19	0.49**	0.20	0.19
Occupation—Clerical	0.21	0.19	0.23	0.20	−0.02	−0.10	−0.07	−0.07	0.11	−0.29	0.24	−0.13	0.24	−0.12	−0.10
Employment commitment	0.08	0.08	0.10	0.11	−0.04	−0.07	−0.01	−0.01	0.06	−0.06	0.11	−0.05	0.09	−0.08	−0.04
Approach motivation	0.21*	0.22*			0.34**	0.31*			0.32**	−0.17				0.21	
Avoidance motivation			−0.06	−0.07			−0.46**	−0.51**	−0.16*	0.27	0.11		0.11		−0.37
Static moderators															
Approach motivation × week		−0.00				−0.01**									
Avoidance motivation × week				−0.00				−0.01**							
Weekly predictors															
Week	−0.04**		−0.03		0.02*		0.06**				−0.03**	0.05**	−0.03**	0.05**	0.05**
Week squared	0.001*		0.001		−0.001*		−0.001**				0.00	−0.002**	0.00	−0.002**	−0.002**
Motivation control											0.23**	0.09**	0.23**	0.08**	0.08**
Self-defeating cognition											0.03	−0.34**	0.04	−0.34**	−0.34**
Model fit[c]	−8,576.12	−8,740.87	−8,315.31	−8,201.69	2,425.30	2,464.10	2,582.80	2,435.80	3,175.50	2,690.90	−10,395.93	2,135.50	−10,512.30	2,134.60	2,113.40

[a] $n = 1{,}455$ observations. SAS "proc genmod" was used with Poisson distribution and an AR(1) (i.e. first-order autoregressive) correlation matrix structure for models in which the dependent variable is job search intensity. Coefficients need to be anti-log-transformed and treated as multipliers when calculating the predicted hours of job search. SAS "proc mixed" analysis was used with the RE-AR(1) variance-covariance structure (i.e., random effects plus autoregression [1] structure) for all other models. Entries corresponding to the predictors in the first column are estimates of fixed effects, γ's.
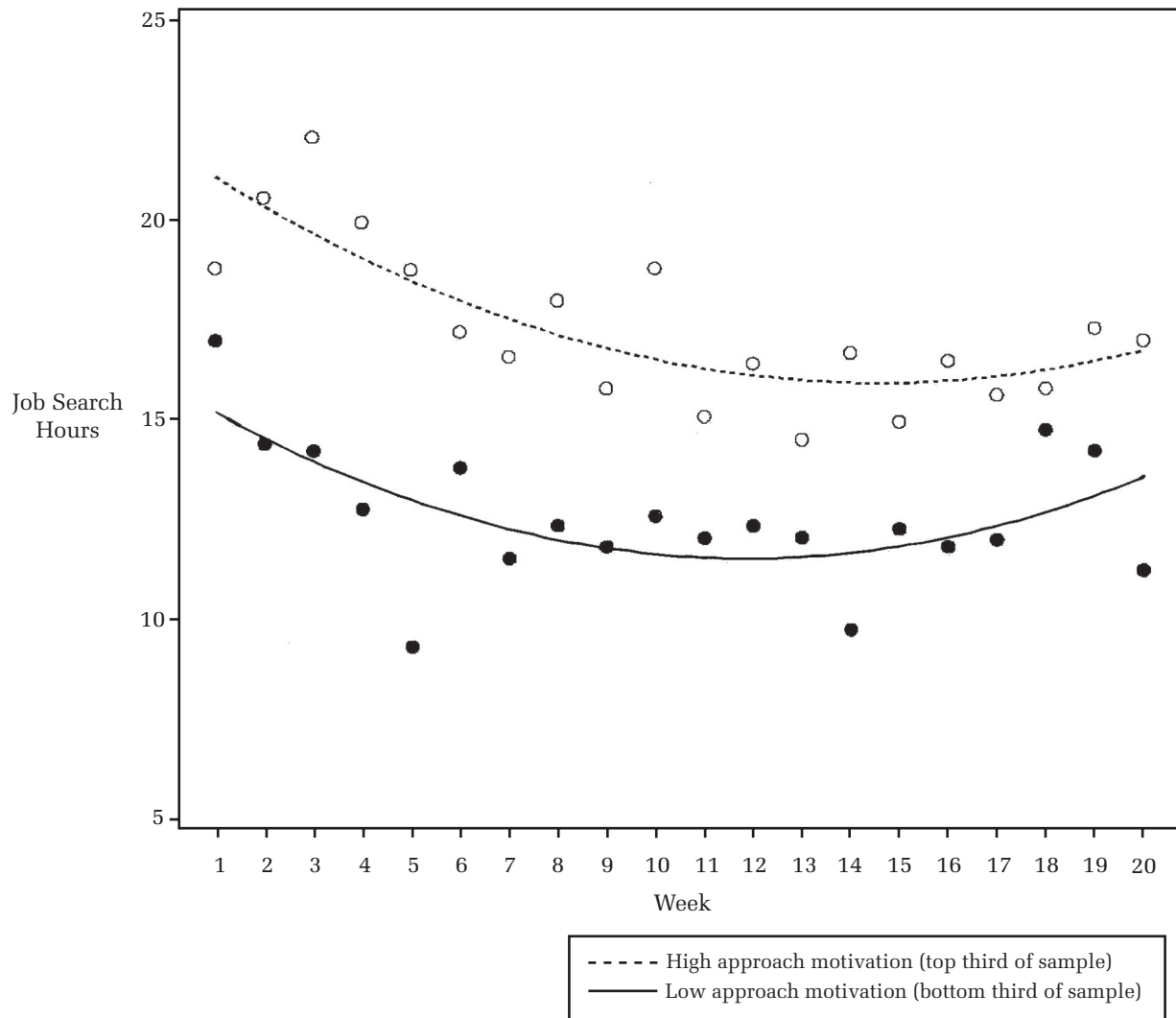
[b] For occupation, the comparison group is "other occupations."

[c] The model fit index is QIC for "proc genmod" models and −2 log-likelihood for "proc mixed" models. The smaller the value, the better the fit.

* $p < .05$

** $p < .01$

FIGURE 3
Job Search Hours Trend Breakdown on High versus Low Levels of Approach Motivation

eses together showed that individuals one point higher in approach-oriented trait motivation were .34 points higher on their mental health level at the start of their unemployment and .31 points higher on average over its course.

Hypothesis 4a suggests that avoidance-oriented trait motivation will be negatively associated with the slope of mental health over time. This was tested in model 4a of Table 3. As predicted, avoidance-oriented trait motivation was negatively associated with the slope of mental health ($\gamma = -.01$, $p < .01$). Therefore, Hypothesis 4a was supported. Hypothesis 4b suggests that avoidance-oriented trait motivation will be negatively related to average levels of mental health over an unemployment experience. This was supported in model 4b of Table 3 ($\gamma = -.51$, $p < .01$).

Motivational Traits Affecting Self-Regulatory States Affecting Search Intensity and Mental Health

Hypothesis 5a suggests that approach motivation will be positively related to motivation control and negatively related to self-defeating cognition during unemployment, and Hypothesis 5b suggests that avoidance motivation will be negatively related to motivation control and positively related to self-defeating cognition during unemployment. Models 5 and 6 of Table 3 are the tests of these hypotheses. Hypothesis 5a was partially supported, and Hypothesis 5b was fully supported. Specifically, a one-point increase in approach motivation was associated with an average .32 point increase in motivation control but was not

significantly related to self-defeating cognition. In contrast, a one-point increase in avoidance motivation was associated with an average .16 point decrease in motivation control and a .27 point increase in self-defeating cognition over the course of unemployment.

The goal of the next set of analyses was to investigate whether motivation control and self-defeating cognition reported in each week account for differences in weekly job search intensity and mental health levels.[1] Hypotheses 6a and 6b suggest that in weeks in which motivation control was higher, job search intensity and mental health will also be higher. Results in models 7 and 8 supported these two hypotheses. Specifically, a one-point increase in motivation control in a given week was associated with a .26 times ($= e^{(.23)} -1$) increase in job search hours and a .086 point increase in mental health in that same week.

Hypothesis 7a was not supported. Specifically, levels of self-defeating cognition in a given week did not predict levels of job search intensity in the same week ($\gamma = .034$, n.s.; see model 7 in Table 3). Hypothesis 7b, however, was supported, with higher levels of self-defeating cognition in a given week associated with lower levels of mental health in the same week ($\gamma = -.34$, $p < .01$; see model 8 in Table 3).

Hypothesis 8 proposes that motivational states mediate the relationship between approach and avoidance motivation and mental health and job search intensity. We examined the indirect effects via motivational states using the bootstrapping method recommended by Bauer, Preacher, and Gil (2006). As suggested by prior research, the conventional method (i.e., Baron & Kenny, 1986) may include unnecessary steps and is inferior in terms of statistical power and type I error rates (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Based on the direct effects of approach and avoidance motivation on the motivational states mentioned above and the direct effects of the motivational states on job search intensity and mental health shown in models 9, 10, and 11 of Table 3, our bootstrapping results indicated the following.

For approach motivation, the 95% confidence interval of the indirect effect via motivation control was .15, .65 for job search intensity and .0085, .05 for mental health. This suggests that motivation control mediated the relationships between approach motivation and job search intensity and mental health. Self-defeating cognition was not a mediator of the relationships between approach motivation and job search intensity or mental health.

For avoidance motivation, the 95% confidence interval of the indirect effect via motivation control was -0.38, -0.021 for job search intensity and $-.028$, $-.001$ for mental health. This suggests that motivation control mediated the relationships between avoidance motivation and job search intensity and mental health. In addition, the 95% confidence interval of the indirect effect of avoidance motivation via self-defeating cognition on mental health was $-.14$, $-.046$. Self-defeating cognition was not a mediator of the relationships between avoidance motivation and job search intensity.

In sum, out of the eight possible indirect effects of approach and avoidance motivation on mental health and job search intensity via motivational states, we found five indirect effects that were statistically significant. Thus, Hypothesis 8 was supported.

Search Intensity and Mental Health Affecting Job Search Success

Hypothesis 9 suggests that job search intensity at the start and over the course of unemployment will be positively related to number of interviews and reemployment speed.[2] We conducted Cox regres-

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[1] We report the unlagged instead of lagged model results. It is the motivational states displayed in a given week that are most central, theoretically, to behavior and mood in that same week. For example, it is possible for a person to engage in self-defeating cognition in one week but recover by the following week, making current levels of self-defeating cognition most relevant. However, for comprehensiveness and to assess lingering effects, we examined whether motivational states in each week t were related to job search intensity and mental health in the following week ($t + 1$). Our lagged results were similar to the nonlagged results. Specifically, our findings showed that motivation control in each week was positively related to job search intensity in weeks $t + 1$ ($\gamma = .11$, $p < .001$), but self-defeating cognition was not related to job search intensity in weeks $t + 1$. Motivation control was positively related to mental health in weeks $t + 1$ ($\gamma = .04$, $p \leq .05$), and self-defeating cognition was negatively related to mental health in weeks $t + 1$ ($\gamma = -.21$, $p < .001$).

[2] Although, given the many relationships we focused on in our literature review, approach and avoidance motivation and the two motivational states were not hypothesized as predictors, they were examined as such in analyses reported in Table 4. Approach motivation was not associated with either outcome. Avoidance motivation was significantly and negatively associated with number of interviews but not with reemployment speed. Motivational states were unrelated to the distal outcomes, with the exception of motivation control, which was a positive predictor of number of interviews.

TABLE 4
Relationship between Mental Health and Job Search Intensity and Indicators of Search Success[a]

Variables	Reemployment Speed		Average Number of Interviews per Week	
	Model 1	Model 2	Model 3	Model 4
Intercept			0.49	0.03
Age	0.98	0.98	0.00	0.00
Education	0.63	0.60	0.36	0.31
Gender	1.06	1.02	−0.05	0.04
Ethnicity	1.40	1.75	0.10	0.30
Days unemployed before the start of the study	1.00	1.00	0.00	0.00
Occupation—Professional	0.71	0.69	−0.08	−0.13
Occupation—Clerical	0.45*	0.37*	0.15	0.03
Employment commitment	1.19	1.23	−0.01	−0.01
Average mental health over unemployment duration	0.97		0.12	
Average job search hours over unemployment duration	1.03*		0.05***	
Week 1 mental health		0.92		0.17*
Week 1 search hours		1.01		0.04***
n[b]	125	123	132	129
Adjusted R^2			.28	.20

[a] Hazard ratios are reported for the reemployment rate-speed analysis. A coefficient greater than 1.0 means that the variable is associated with faster reemployment speed.

[b] Sample size varies owing to missing data on the two dependent variables and the week 1 and average levels of job search hours and mental health.

* $p < .05$
*** $p < .001$

sions and OLS regression for the dependent variables reemployment speed and number of interviews, respectively (see Table 4). Using average search intensity over the duration of unemployment as the predictor (see columns 1 and 3), we found that it was positively related to both reemployment speed (hazard ratio = 1.03, $p < .05$) and number of interviews ($\gamma = .05$, $p < .001$). Using job search intensity at the beginning of unemployment as the predictor (see columns 2 and 4), we found that it was not related to reemployment speed but was positively related to average number of interviews per week ($\gamma = .04$, $p < .001$).

Hypothesis 10 suggests that job seekers' mental health at the start and over the course of unemployment will be positively related to reemployment speed and number of interviews. The results from Table 4 indicate that mental health at the start was positively related to number of interviews ($\gamma = .17$, $p < .05$; column 4), but whether measured at the start or over the unemployment experience, it was not related to reemployment speed.

DISCUSSION

Over the course of job search, individuals experience a panoply of events and emotions that may impact their mental health or derail their search process. However, very little research data address what happens over time during a job search experience. Our findings address this gap by providing evidence on temporal dynamics in the job search process. Building upon recent theorizing and studies of job search from the self-regulation perspective, we proposed a framework to examine the role of motivational traits and states and their relevance to the job search journey. Our findings offer both empirical and theoretical contributions to the literature and suggest implications for practice as well as several directions for future research.

The design of our study permits evaluation of the findings at several levels of analysis. At the aggregate level, focusing on the temporal dimension alone, we examined general trends in how job search and mental health changed during unemployment. Among all the individuals in our sample, significant within-person decline in the time spent in job search occurred over time, with a slight uptick in later months. This finding is similar to that reported by Wanberg et al. (2005), the only other repeated-measures (over several weeks), within-person assessment of job search that we know of. For mental health, we found that participants showed gradual improvement over the first 10–12 weeks. This was followed by a slight downturn in mental health in later weeks. This finding is contrary to the negative relationship between length of unemployment and mental health re-

ported in meta-analyses by both McKee-Ryan et al. (2005) and Paul and Moser (2009). However, the work summarized in these studies was largely cross-sectional, based on observations of the mental health levels of different individuals unemployed for various lengths of time rather than on following the same individuals over time. In contrast, the design of our study permitted us to assess within-person changes in mental health by following individuals from *the start* of their unemployment experience over time. It is possible that the improvement in mental health we observed stems from an inherently low level of mental health associated with the start of an involuntary unemployment spell. For example, Amundson and Borgen (1982), drawing on their counseling experience, observed that it is typical for newly unemployed individuals to feel angry and powerless. As time passes, they accept their unemployment situation. There is an increase in energy, high hopes, and sometimes unrealistic expectations that can lift mood. As time passes further, individuals begin to feel burned out and frustrated as they encounter repeated rejections. The Amundson and Borgen (1982) portrait of the dynamics of unemployment from an experiential standpoint fit our data reasonably well. Further repeated-measures research, beginning at the onset of job loss, is needed to extend our results as well as to ascertain whether the average search intensity and mental health trajectories we observed are robust.

At a second, more person-oriented level of analysis, our findings indicate the importance of determining not only what the *average* experience looks like for individuals over time, but also the impact of *individual differences* on experienced trajectories of job search intensity and mental health over time. Specifically, our investigation into the role of individual differences in motivational traits and states showed that higher approach-oriented trait motivation was related to higher levels of job search intensity and mental health, both at the start of and over the course of unemployment. Higher avoidance-oriented trait motivation, on the other hand, predicted lower levels of mental health at both the start of unemployment and over time. In addition, we further found that avoidance-oriented trait motivation was associated with a negative slope for mental health over time. Taken together, the findings contribute new information about the use of self-regulatory variables to predict goal-based effort as well as mental health over time in a field context. The time-based effects of motivational traits on job search intensity, for example, are illustrated in Figure 3.

Finally, analyses conducted on motivational states by week showed that changes in motivation control in any given week were significantly associated with within-person changes in search intensity and mental health, and changes in self-defeating cognition from week to week were significantly associated with changes in mental health. On the basis of our proposed conceptual model, we further examined these motivational states as mediating variables between motivational traits, job search intensity, and mental health. These findings advance understanding of *how* (i.e., through what mechanisms) stable individual differences exert their influence and the effects of these mechanisms on the job search experience. Our results especially highlight motivation control as an explanatory mechanism. Motivation control mediated the relationship between approach motivation and both job search intensity and mental health, mediated the relationship between avoidance motivation and job search intensity, and mediated the relationship between avoidance motivation and mental health. In contrast, self-defeating cognitions only mediated the relationship between avoidance motivation and mental health and had no relationship with job search intensity.

Although the mediating role of self-regulatory processes in trait-performance relations has been shown previously in nondynamic contexts (e.g., Creed et al., 2009; see Kanfer & Kantrowitz, 2003), the pattern of findings obtained in this study suggests a new perspective on the nature of this mediation. For example, previous findings by Creed and colleagues (2009) show that individual differences in avoidance motivational traits were not related to emotion control states. In our study, however, individuals higher in avoidance motivation experienced higher levels of self-defeating cognition, suggesting that it may be valuable to study emotion-related states in terms of both the experience of negative cognitions and attempts to control negative affect.

One particularly interesting pattern of findings pertains to the differential relationship of self-defeating cognition to job search intensity and mental health. Contrary to expectations, no significant relationship was observed between self-defeating cognition and job search intensity. However, a negative relationship was observed between self-defeating cognition and mental health. Although it might be tempting to conclude that self-defeating cognitions do not play a role in job search intensity, it is important to consider whether these cognitions may have other undesirable effects that were not measured in this study. For example, it may be that high levels of self-defeating cognition exert their

influence on other dimensions of search behavior that we did not measure, such as breadth or quality of search activities. It is also possible that the behavioral impact of thinking negatively about one's search may be more immediate and thus more likely to be captured in a repeated-measures study that assesses behavior daily.

Alternatively, our findings may reflect important contextual differences in behavioral sensitivity to negative affective states. For example, behavioral sensitivity to negative self-defeating cognition may be lower in the job search context than in time-bounded, routine achievement contexts. Or, from a control theory perspective (Carver, 2003, 2006), it is possible that self-defeating cognition stems from low levels of perceived progress, creating a discrepancy to be resolved. Some individuals may use their negative emotions to highlight the specific threat or issue that needs to be resolved (Wanberg et al., 2010). Finally, it is possible a broader or alternative measure of self-defeating cognition may produce the expected findings. Our measure focused on cognition specific to feelings of hopelessness, giving up, and negative expectancies, fundamental triggers of depression and reduced activity (Beck et al., 1974), but self-defeating cognition can more broadly include destructive thoughts about oneself, such as "What is wrong with me?" (Hollon & Kendall, 1990). Our measure was, furthermore, developed for this study and did not undergo examinations of concurrent or predictive validity, something that may be considered a limitation to our study. A similar limitation applies to our measure of motivational control; it was developed for this study, and further validation and development of this measure is desirable before it is used more widely.

With regard to helping individuals find jobs more quickly, our results showed that individuals who reported higher initial levels of search intensity and mental health at the beginning of job loss experienced greater success in obtaining job interviews and that individuals who maintained high levels of job search intensity over the duration of job search had more interviews and found jobs more quickly. These findings are consistent with previous research results that show a positive relationship between job search intensity and reemployment (Kanfer et al., 2001). In addition, our findings indicate that although the importance of job search intensity continues throughout unemployment, the mental health of a person at the start of job search also plays an important role in search outcomes. Future research is needed to determine the full range of mechanisms by which mental health at the onset of a job search affects job search outcomes.

Implications for Practice and Future Research

The average tendency for individuals to decrease their search behavior as their unemployment experience continues suggests that it may be constructive for job seekers, as well as organizations that work with job seekers, to monitor job search levels over time to keep persistence in the search going. Although other factors, such as a job seeker's "human capital" and quality of search, are critical to reemployment, research has established that time spent in search distinguishes between successful job seekers and unsuccessful job seekers (Kanfer et al., 2001). We additionally recognize that in some situations, such as that faced by a job seeker in a small town without the choice of relocating, a time may come when there are few new job search leads to pursue.

The process orientation of our study yields other findings that have implications for job search interventions. In keeping with models of action that conceptualize traits as inputs to proximal determinants of action, we found that motivational states mediated the relationship between motivational traits and the focal variables. In particular, strategies to enhance motivation control not only facilitated job search intensity but also had a salutary effect on mental health. These findings suggest that training individuals to employ self-regulation strategies that "pump up" attentional effort for job search activities may be effective in enhancing job search intensity and may in fact also confer more mental health protection (by attenuating the negative influence of avoidance-oriented traits on mental health) than training directed toward reducing self-defeating cognitions. Consistently with this notion, van Hooft and Noordzij (2009) showed the utility of helping unemployed individuals with self-regulatory states (i.e., situational state on learning goal orientation). To date, many interventions for job seekers place equal emphasis on training in both motivation control and emotion control. Research to identify a more complete understanding of the consequences of both motivational and various forms of emotional control, including self-defeating cognition, is needed.

Overall, substantially more can be learned about how the two focal variables included in our study (search intensity and mental health) change over time during unemployment, why they change, for whom they change, the implications of such change, and how new knowledge about the dynamics of job search might be used to help job seekers. With regard to how these focal variables change over time, repeated-measures studies of both shorter durations (see, e.g., Song et al., 2009; Wan-

berg et al., 2010) and longer durations would be valuable. It will also be useful to examine the generalizability of the average trajectories we report for job search and mental health over the duration of unemployment. Specifically, to what extent do the trajectories we show generalize to other economic or cultural contexts, to very low or very high income groups, to more ethnically diverse samples, or to individuals in very narrow fields with limited job openings versus fields with many opportunities? For example, regarding economic context and type of profession, individuals may be more likely to decline in their job search intensity when jobs are scarce (Micklewright & Nagy, 1999). Regarding cultural context, the mental health of unemployed individuals tends to be higher in countries with generous safety nets (Bambra & Eikemo, 2009) and in countries that place a lower importance on work (Marsh & Alvaro, 1990). Scholars are in the very early stages of understanding what happens within the job search experience over time. There is extensive opportunity to build upon our self-regulatory model as well as to use other theoretical perspectives to understand such dynamics. It would be valuable to incorporate additional distal outcomes into future studies, beyond the two we used, such as reemployment quality.

REFERENCES

Aarts, H., Custers, R., & Holland, R. W. 2007. The nonconscious cessation of goal pursuit: When goals and negative affect are coactivated. *Journal of Personality and Social Psychology,* 92: 165–178

Alloy, L. B., Abramson, L. Y., Grant, D., & Liu, R. 2009. Vulnerability to unipolar depression: Cognitive-behavioral mechanisms. In K. Salzinger & M. R. Serper (Eds.), *Behavioral mechanisms and psychopathology: Advancing the explanation of its nature, cause, and treatment:* 107–140. Washington, DC: American Psychological Association.

Amundson, N. E., & Borgen, W. A. 1982. The dynamics of unemployment: Job loss and job search. *Personnel and Guidance Journal,* 60: 562–564.

Bambra, C., & Eikemo, T. A. 2009. Welfare state regimes, unemployment, and health: A comparative study of the relationship between unemployment and self-reported health in 23 European countries. *Journal of Epidemiology and Community Health,* 63: 92–98.

Baron, R. M., & Kenny, D. A. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology,* 51: 1173–1182.

Bauer, D. J., Preacher, K. J., & Gil, K. M. 2006. Conceptu-

alizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods,* 11: 142–163.

Beck, A. T. 1972. *Depression: Causes and treatment.* Philadelphia: University of Pennsylvania Press.

Beck, A. T. 1987. Cognitive models of depression. *Journal of Cognitive Psychotherapy,* 1: 2–27.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. 1974. The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology,* 42: 861–865.

Bentler, P. M., & Chou, C. P. 1987. Practical issues in structural equation modeling. *Sociological Methods and Research,* 16: 78–117.

Berwick, D. M., Murphy, J. M., Goldman, P. A., Ware, J. E., Barsky, A. J., & Weinstein, M. D. 1991. Performance of a five-item mental health screening test. *Medical Care,* 29: 169–176.

Bureau of Labor Statistics. 2009. *Labor force statistics from the Current Population Survey.* http://www.bls.gov/webapps/legacy/cpsatab9.htm, accessed November 23, 2009.

Carver, C. S. 2003. Pleasure as a sign you can attend to something else. *Cognition and Emotion,* 17: 241–261.

Carver, C. S. 2006. Approach, avoidance, and the self-regulation of affect and action. *Motivation and Emotions,* 30: 105–110.

Carver, C. S., & White, T. L. 1994. Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology,* 67: 319–333.

Creed, P. A., & Bartrum, D. 2006. Explanations for deteriorating wellbeing in unemployed people: Specific unemployment theories and beyond. In T. Kieselbach, A. H. Winefield, & S. Anderson (Eds.), *Unemployment and health: International and interdisciplinary perspectives:* 1–20. Bowen Hills, Queensland: Australian Academic Press.

Creed, P. A., King, V., Hood, M., & McKenzie, R. 2009. Goal orientation, self-regulation strategies, and job-seeking intensity in unemployed adults. *Journal of Applied Psychology,* 94: 806–813.

Dalal, R. S., & Hulin, C. L. 2008. Motivation for what? A multivariate dynamic perspective of the criterion. In R. Kanfer, G. Chen, & R. D. Pritchard (Eds.), *Work motivation:* 64–100. New York: Routledge.

Diener, C. I., & Dweck, C. S. 1978. An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology,* 36: 451–462.

Dweck, C. S., & Leggett, E. L. 1988. A social-cognitive approach to motivation and personality. *Psychological Review,* 95: 256–273.

Elliot, A. J. 2008. Approach and avoidance motivation. In A. J. Elliot (Ed.), *Handbook of approach and avoidance motivation:* 415–428. New York: Psychology Press.

Elliot, A. J., & Harackiewicz, J. M. 1996. Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology,* 70: 3–14.

Elliot, A. J., & McGregor, H. A. 2001. A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology,* 80: 501–519.

Feather, N. T., & Davenport, P. R. 1981. Unemployment and depressive affect: A motivational and attributional analysis. *Journal of Personality and Social Psychology,* 41: 422–436.

Fitzmaurice, G. M., Laird, N. M., & Ware, J. H. 2004. *Applied longitudinal analysis.* Hoboken, NJ: Wiley.

Galinsky, A. D., Leonardelli, G. J., Okhuysen, G. A., & Mussweiler, T. 2005. Regulatory focus at the bargaining table: Promoting distributive and integrative success. *Personality and Social Psychology Bulletin,* 31: 1087–1098.

Ginexi, E. M., Howe, G. W., & Caplan, R. D. 2000. Depression and control beliefs in relation to reemployment: What are the directions of effect? *Journal of Occupational Health Psychology,* 5: 323–336.

Glass, C. R., & Arnkoff, D. B. 1997. Questionnaire methods of cognitive self-statement assessment. *Journal of Consulting and Clinical Psychology,* 65: 911–927.

Hanisch, K. A. 1999. Job loss and unemployment research from 1994 to 1998: A review and recommendation for research and intervention. *Journal of Vocational Behavior,* 55: 188–220.

Heggestad, E. D., & Kanfer, R. 2000. Individual differences in trait motivation: Development of the Motivational Trait Questionnaire. *International Journal of Educational Research,* 33: 751–776.

Higgins, E. T. 1998. Promotion and prevention: Regulatory focus as a motivational principle. In M. P. Zanna (Ed.), *Advances in experimental social psychology,* vol. 30: 1–46. San Diego: Academic Press.

Hinsz, V. B., & Jundt, D. K. 2005. Exploring individual differences in a goal-setting situation using the Motivational Trait Questionnaire. *Journal of Applied Social Psychology,* 35: 551–571.

Hollon, S. D., & Kendall, P. C. 1980. Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. *Cognitive Therapy and Research,* 14: 383–395.

Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. 2010. A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin,* 136: 422–449.

Jahoda, M. 1987. Unemployed men at work. In D. Dryer & P. Ullah (Eds.), *Unemployed people: Social and psychological perspectives:* 1–73. Milton Keynes, U.K.: Open University Press.

Judge, T. A., & Locke, E. A. 1993. Effect of dysfunctional thought processes on subjective well-being and job satisfaction. *Journal of Applied Psychology,* 78: 475–490.

Kanfer, R., & Ackerman, P. L. 1989. Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition. *Journal of Applied Psychology–Monograph,* 74: 657–690.

Kanfer, R., & Ackerman, P. L. 1996. A self-regulatory skills perspective to reducing cognitive interference. In I. G. Sarason, B. R. Sarason, & G. R. Pierce (Eds.), *Cognitive interference: Theories, methods, and findings:* 153–171. Hillsdale, NJ: Erlbaum.

Kanfer, R., & Ackerman, P. L. 2000. Individual differences in work motivation: Further explorations of a trait framework. *Applied Psychology: An International Review,* 49: 470–482.

Kanfer, R., & Heggestad, E. D. 1997. Motivational traits and skills: A person-centered approach to work motivation. In R. Sutton & B. Staw (Eds.), *Research in organizational behavior,* vol. 19: 1–56. Greenwich, CT: JAI.

Kanfer, R., & Heggestad, E. D. 1999. Individual differences in motivation: Traits and self-regulatory skills. In P. L. Ackerman & P. C. Kyllonen (Eds.), *Learning and individual differences: Process, trait, and content determinants:* 293–313. Washington, DC: American Psychological Association.

Kanfer, R., & Kantrowitz, T. M. 2003. *Individual differences in affectivity and emotion regulation during job search.* Paper presented at the Society for Industrial and Organizational Psychology meetings, Orlando.

Kanfer, R., Wanberg, C. R., & Kantrowitz, T. M. 2001. A personality-motivational analysis and meta-analytic review. *Journal of Applied Psychology,* 86: 837–855.

Kessler, R., Turner, J. B., & House, J. S. 1988. Effects of unemployment on health in a community survey: Main, modifying, and mediating effects. *Journal of Social Issues,* 44: 69–85.

Klein, J. P., & Moeschberger, M. L. 1997. *Survival analysis: Techniques for censored and truncated data.* New York: Springer.

Kozlowski, S. W. J., & Bell, B. S. 2006. Disentangling

achievement orientation and goal setting: Effects on self-regulatory processes source. *Journal of Applied Psychology,* 91: 900–916.

Kuhl, J. 1985. Volitional mediators of cognitive-behavioral consistency: Self-regulatory processes and action vs. state orientation. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior:* 101–128. New York: Springer Verlag.

Kuiper, N. A., Olinger, L. J., & Swallow, S. R. 1987. Dysfunctional attitudes, mild depression, views of self, self-consciousness, and social perceptions. *Motivation and Emotion,* 11: 379–401.

Latack, J. C., Kinicki, A. J., & Prussia, G. E. 1995. An integrative process model of coping with job loss. *Academy of Management Review,* 20: 311–342.

Lee, F. K., Sheldon, K. M., & Turban, D. B. 2003. Personality and the goal-striving process: The influence of achievement goal patterns, goal level, and mental focus on performance and enjoyment. *Journal of Applied Psychology,* 88: 256–265.

Liberman, N., Molden, D. C., Idson, L. C., & Higgins, E. T. 2001. Promotion and prevention focus on alternative hypotheses: Implications for attributional functions. *Journal of Personality and Social Psychology,* 80: 5–18.

Lopez, S. J., Snyder, C. R., & Pedrotti, J. T. 2003. Hope: Many definitions, many measures. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures:* 91–106. Washington, DC: American Psychological Association.

MacFadyen, R. G., & Thomas, J. P. 1997. Economic and psychological models of job search behavior of the unemployed. *Human Relations,* 50: 1461–1484.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. 2002. A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods,* 7: 83–104.

Marsh, C., & Alvaro, J. L. 1990. A cross-cultural perspective on the social and psychological distress caused by unemployment: A comparison of Spain and the United Kingdom. *European Sociological Review,* 6: 234–255.

McCabe, C. J., Thomas, K. J., Brazier, J. E., & Coleman, P. 1996. Measuring the mental health status of a population: A comparison of the GHQ-12 and the SF-36 (MHI-5). *British Journal of Psychiatry: The Journal of Mental Science,* 169: 516–521.

McKee-Ryan, F., Song, Z., Wanberg, C. R., & Kinicki, A. J. 2005. Psychological and physical well-being during unemployment: A meta-analytic study. *Journal of Applied Psychology,* 90: 53–76.

Micklewright, J., & Nagy, G. 1999. *The informational value of job search data and the dynamics of search behaviour: Evidence from Hungary.* Working paper no. 1999/1), Labour Research Department, Institute of Economics, Hungarian Academy of Sciences; and Department of Human Resources, Budapest University of Economics.

Niessen, C., Heinrichs, N., & Dorr, S. 2009. Pursuit and adjustment of goals during unemployment: The role of age. *International Journal of Stress Management,* 16: 102–123.

Paul, K. I., & Moser, K. 2009. Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior,* 74: 264–282.

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. 2007. A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology,* 92: 128–150.

Petrocelli, J. P., Glaser, B. A., Calhoun, G. B., & Campbell, L. F. 2001. Cognitive schemas as mediating variables of the relationship between the self-defeating personality and depression. *Journal of Psychopathology and Behavioral Assessment,* 23: 183–191.

Ployhart, R. E. 2008. The measurement and analysis of motivation. In R. Kanfer, G. Chen, & R. D. Pritchard (Eds.), *Work motivation:* 18–61. New York: Routledge.

Porath, C. L., & Bateman, T. S. 2006. Self-regulation: From goal orientation to job performance. *Journal of Applied Psychology,* 91: 185–192.

Prussia, G. E., Fugate, M., & Kinicki, A. J. 2001. Explication of the coping goal construct: Implications for coping and reemployment. *Journal of Applied Psychology,* 86: 1179–1190.

Robinson, M. D., Meier, B. P., Tamir, M., Wilkowski, B. M., & Ode, S. 2009. Behavior facilitation: A cognitive model of individual differences in approach motivation. *Emotion,* 9: 70–82.

Rowley, K. M., & Feather, N. T. 1987. The impact of unemployment in relation to age and length of unemployment. *Journal of Occupational Psychology,* 60: 323–332.

Saks, A. M. 2005. Job search success: A review and integration of the predictors, behaviors, and outcomes. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work:* 155–179. Hoboken, NJ: Wiley.

Song, Z., Uy, M. A., Zhang, S., & Shi, K. 2009. Daily job search and psychological distress: Evidence from China. *Human Relations,* 62: 1171–1197.

Steel, R. P. 2002. Turnover theory at the empirical interface: Problems of fit and function. *Academy of Management Review,* 27: 346–360.

Strauman, T. J. 2002. Self-regulation and depression. *Self and Identity,* 1: 151–157.

Tamir, M., & Diener, E. 2008. Approach-avoidance goals and well-being: One size does not fit all. In A. J. Elliot (Ed.), ***Handbook of approach and avoidance motivation:*** 415–428. New York: Psychology Press.

van Hooft, E. A. J., Born, M., Taris, T. W., Flier, H., & Blonk, R. W. B. 2005. Bridging the gap between intentions and behavior: Implementation intentions, action control, and procrastination. ***Journal of Vocational Behavior,*** 55: 238–256.

van Hooft, E. A. J., & Noordzij, G. 2009. The effects of goal orientation on job search and reemployment: A field experiment among unemployed job seekers. ***Journal of Applied Psychology,*** 94: 1581–1590.

Van Hoye, G., & Saks, A. M. 2008. Job search as goal-directed behavior: Objectives and methods. ***Journal of Vocational Behavior,*** 73: 358–367.

VandeWalle, D. 1997. Development and validation of a work domain goal orientation instrument. ***Educational and Psychological Measurement,*** 57: 995–1015.

Veit, C. T., & Ware, J. E. 1983. The structure of psychological distress and well-being in general populations. ***Journal of Consulting and Clinical Psychology,*** 51: 730–742.

Viinamäki, H., Koskela, K., & Nishanen, L. 1996. Rapidly declining mental well-being during unemployment. ***European Journal of Psychiatry,*** 10: 215–221.

Vohs, K. D., & Baumeister, R. F. 2004. Understanding self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), ***Handbook of self-regulation:*** 1–9. New York: Guilford.

Wanberg, C. R., Glomb, T. M., Song, Z., & Sorenson, S. 2005. Job-search persistence during unemployment: A ten-wave longitudinal study. ***Journal of Applied Psychology,*** 90: 411–430.

Wanberg, C. R., Kanfer, R., & Rotundo, M. 1999. Unemployed individuals: Motives, job-search competencies, and job-search constraints as predictors of job seeking and reemployment. ***Journal of Applied Psychology,*** 6: 897–910.

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

Ware, J. E., Jr., Manning, W. G., Jr., Duan, N., Wells, K. B., & Newhouse, J. P. 1984. Health status and the use of outpatient mental health services. ***American Psychologist,*** 39: 1090–1100.

Warr, P. 1987. ***Work, unemployment, and mental health.*** Oxford, U.K.: Clarendon Press.

Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. 1999. The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. ***Journal of Personality and Social Psychology,*** 76: 820–838.

Whinghter, L. J., Cunningham, C. J. L., Wang, M., & Burnfield, J. L. 2008. The moderating role of goal orientation in the workload-frustration relationship. ***Journal of Occupational Health Psychology,*** 13: 283–291.

Zikic, J., & Saks, A. 2009. Job search and social cognitive theory: The role of career-relevant activities. ***Journal of Vocational Behavior,*** 74: 117–127.

Zuroff, D. C., Blatt, S. J., Sanislow, C. A., III, Bondi, C. M., & Pilkonis, P. A. 1999. Vulnerability to depression: Reexamining state dependence and relative stability. ***Journal of Abnormal Psychology,*** 108: 76–89.

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