

EFFECTS OF CONSCIENTIOUSNESS AND EXTRAVERSION ON NEW LABOR MARKET ENTRANTS' JOB SEARCH: THE MEDIATING ROLE OF METACOGNITIVE ACTIVITIES AND POSITIVE EMOTIONS

DANIEL B. TURBAN
University of Missouri

CYNTHIA K. STEVENS
University of Maryland

FELISSA K. LEE
Marquette University

Job seekers' Conscientiousness and Extraversion show consistent relationships with their job search activities and success, although the explanatory mechanisms for these relationships are unclear (Kanfer, Wanberg, & Kantrowitz, 2001). To explore these mechanisms, we developed and tested a model in which both Conscientiousness and Extraversion influenced metacognitive activities whereas Extraversion alone influenced positive emotions; these mediating variables in turn were predicted to influence resumé submissions, first interviews, second interviews, and job offers. Using longitudinal data collected from 232 job applicants, we found support for these predictions. Interestingly, meta-cognitive activities appeared to be more important in predicting resumé submissions and first interviews, whereas positive emotions predicted success in obtaining second interviews and job offers. We discuss the implications of our results and suggest future directions for research.

The job search process is often emotionally and financially draining, and thus identifying ways to improve the search process provides significant benefits to job seekers and their families (Vinokur & Caplan, 1987). People vary considerably both in how they pursue jobs and in their success in obtaining positions. Evidence from a meta-analysis indicates that personality traits are related to job search effort, intensity, and success, although the mechanisms through which personality influences these processes are not well understood (Kanfer, Wanberg, & Kantrowitz, 2001). Thus, our study addresses the call for research (Kanfer et al., 2001) that

Correspondence and requests for reprints should be addressed to Daniel B. Turban, Department of Management, University of Missouri, 517 Cornell Hall, Columbia, MO 65211-2600; turband@missouri.edu.

articulates and tests how distinct personality traits influence job search processes and success.

Consistent with Kanfer and Heggstad (1997), our general model proposes that distal variables, such as personality traits, influence proximal variables, such as motivation, planning, implementation, and emotions, which subsequently influence job search outcomes. We examined Conscientiousness and Extraversion—personality variables that showed strong relationships with job search intensity (Kanfer et al., 2001), performance motivation (Judge & Ilies, 2002), and different search outcomes (Caldwell & Burger, 1998). In particular, we conducted a longitudinal study to examine the impact of these traits on metacognitive activities and positive emotions, which we theorize influence job search outcomes. In the next section, we offer an overview of attributes needed for a successful job search. The subsequent sections explain our conceptual model and develop specific hypotheses.

Attributes of Successful Job Searches

The job search process is a dynamic, self-regulated process in which individuals need to manage their emotions, motivation, and thoughts while engaging in goal-directed behaviors (Kanfer et al., 2001; Wanberg, Kanfer, & Rotundo, 1999). In particular, new labor market entrants, the focus of our study, need to learn how to develop and implement an overall plan for the job search that keeps them motivated in the face of rejections from potential employers. We theorize that a successful job search entails the development of *metacognitive activities* and sustaining *positive emotions*. New labor market entrants have little job search experience and metacognitive activities are critical for learning, especially in unstructured environments (Bell & Kozlowski, 2008). Moreover, sustaining positive emotions may provide job seekers with additional resources to apply toward the search (Fredrickson, 2001). Before presenting our conceptual model we first describe facets of the job search that give rise to the importance of metacognitive activities and positive emotions in the job search.

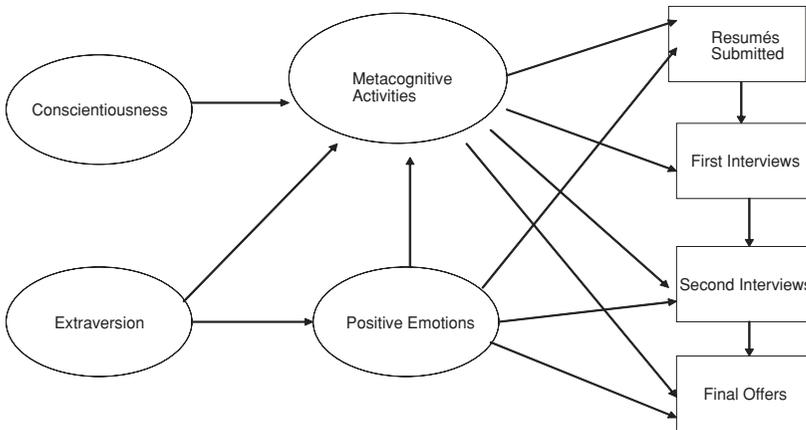
Metacognitive activities. Barber, Daly, Giannantonio, and Phillips (1994) argued that individuals need to develop and enact a search plan and learn from their search experiences. Specifically, job seekers need to set goals, strategize how to accomplish them, analyze how well the strategy is working, and make adjustments when needed (Barber et al., 1994; Saks & Ashforth, 2000). Given the importance of metacognitive activities for learning, particularly in novel contexts (Zimmerman, 1998), we theorize that novice job seekers will benefit from using these metacognitive activities.

Metacognitive activities refer broadly to self-regulation activities that involve setting goals, developing plans, and monitoring and analyzing progress toward goal accomplishment (Clause, Delbridge, Schmitt, Chan, & Jennings, 2001; Elliot, McGregor, & Gable, 1999; Schmidt & Ford, 2003). Considerable evidence indicates that individuals who make a plan for goal accomplishment and monitor their progress toward the goal perform better in both training and learning contexts (Clause et al., 2001; Elliot et al., 1999; Schmidt & Ford, 2003), leading to arguments that metacognitive activities are critical for learning new skills (Bell & Kozlowski, 2008). Although scholars have noted that job seekers need to learn how to conduct effective searches (Barber et al., 1994; Saks & Ashforth, 2000), we found no studies specifically examining the role of metacognitive activities in job search.

Emotions in job search. Drawing from the coping research literature on the role of emotion-focused efforts to manage stress, Wanberg et al. (1999) investigated the role of *emotion control*, measured as managing negative emotional reactions, in job search success among recently unemployed job seekers. Surprisingly, however, they found that controlling negative, intrusive thoughts was not related to either job-search activity or reemployment. Based on recent evidence from “positive psychology,” we theorized that positive emotions might play a larger role in job search than controlling negative emotions and thus extend recent research examining positive affectivity in the job search (Côté, Saks, & Zikic, 2006).

Substantial evidence indicates that positive and negative emotions are separate dimensions with potentially distinct control mechanisms and outcomes (Tellegen, Watson, & Clark, 1999). Seo, Barrett, and Bartunek (2004) proposed that positive emotions may increase motivation both indirectly (through higher goal levels and assessments of goal progress) and directly (through greater effort and better persistence), effects that do not result from managing negative emotions. Other findings indicate that not only can success lead to happiness but also that positive emotions can lead to success (Lyubomirsky, King, & Diener, 2005).

Fredrickson's (2001) *broaden-and-build theory of positive emotions* provides a theoretical explanation for the importance of positive over negative emotions during job search. Specifically, positive emotions are theorized to *broaden* attention and cognition and thus the individual's repertoire of thoughts and actions (Fredrickson & Joiner, 2002). Over time, as individuals experience positive emotions, they *build* enduring personal resources that can be applied to various challenges. Thus, job seekers who generate and sustain positive emotions may have more resources to pursue goals and to process information that might involve costs to their self-esteem (e.g., being rejected by potential employers). Furthermore, research has shown that job seekers' positive emotional states are linked



Note. GPA served as a control variable in the model and was included as a predictor for resumés submitted, first interviews, second interviews, and final offers. However, for the sake of clarity GPA is omitted from the figure.

Figure 1: Hypothesized Model.

with favorable employer evaluations (e.g., Burger & Caldwell, 2000). More recently, Côté et al. (2006) found that trait negative affectivity was not related to job search clarity or intensity, although positive affectivity was related to both variables. Together, these data suggest that job seekers who cultivate positive emotions may fare better during their searches than those who focus on minimizing negative emotions.

In summary, job search activities may be more successful when job seekers have positive emotions and engage in metacognitive activities such as developing and enacting search plans. Individuals with more positive emotions are theorized to have more emotional and cognitive resources to develop and enact plans and to display more positive behavior during what can be a discouraging process. In addition, a successful search will include strategizing about how to accomplish plans and improve skills, developing goals and plans, and monitoring progress.

Effects of Conscientiousness and Extraversion on Job Search and Employment

Figure 1 depicts our proposed model, which predicts that Conscientiousness and Extraversion influence job search outcomes through their effects on *metacognitive activities* and *positive emotions*. In particular, we expected that both Conscientiousness and Extraversion prompt

job seekers to engage in more metacognitive activities, which increases job search success. In addition, we predicted that only Extraversion would be related to positive emotions, which would have beneficial effects on metacognitive activities and also directly on job search outcomes.

Conscientiousness. Conscientiousness taps the extents to which people are achievement striving, self-disciplined, and dependable. Highly conscientious individuals are more likely than those low in Conscientiousness to plan and organize their work, set goals, and persist in pursuing excellent performance (Hogan & Ones, 1997). Considerable evidence indicates that of the Big Five factors, Conscientiousness shows the strongest relationship to performance (Barrick, Mount, & Judge, 2001). With regard to job search specifically, the Kanfer et al. (2001) meta-analysis found consistent relationships between Conscientiousness and both job-search behaviors and employment outcomes, although the mechanisms underlying these relationships were uncertain.

We propose that Conscientiousness influences job search outcomes through its effects on metacognitive activities. Highly conscientious individuals are more likely to set goals and persist in pursuing goals than those low in Conscientiousness (Barrick, Mount, & Strauss, 1993; Hogan & Ones, 1997). Similarly, we expected that conscientious job seekers will learn effective search methods due to their tendency to plan and organize tasks. Adoption of an organized, analytical stance with regard to employer feedback increases the chances that job seekers will detect and discard tactics that aren't successful (e.g., responding to newspaper ads) and experiment with more effective methods (e.g., networking). Perhaps not surprisingly, a recent meta-analysis (Judge & Ilies, 2002) found that Conscientiousness was positively related to the motivation indices of goal setting, expectancy, and self-efficacy.

Hypothesis 1: Job seekers' Conscientiousness will be positively related to their use of metacognitive activities during the job search process.

Extraversion. Extraversion refers to the degree to which individuals are energetic, outgoing, warm, assertive, optimistic, and sociable (Costa & McCrae, 1992; Watson & Clark, 1997). The Kanfer et al. (2001) meta-analysis found that of the Big Five factors, Extraversion showed the strongest relationship with job-search behavior. Given that Judge and Ilies' (2002) meta-analysis found consistent relationships between Extraversion and motivation indices (e.g., self-efficacy, goal setting), it seemed likely that Extraversion may influence job search outcomes both through positive emotions and metacognitive activities.

Extraverts are more likely to be optimistic and outgoing, to experience positive moods, seek out positive stimuli, and to interpret events positively (Costa & McCrae, 1992; Watson & Clark, 1997). Furthermore, extraverts are affectionate and friendly with others, fostering positive interactions. Thus, we expected extraverted job seekers to cultivate warm interactions and to experience and remember positive emotions. Moreover, evidence suggests that positive emotions fully mediate the effects of Extraversion on job search outcomes and behaviors (Burger & Caldwell, 2000).

Hypothesis 2: Job seekers' Extraversion will be positively related to their reported levels of positive emotions during the search process.

We also expected that extraverted job seekers would engage in more metacognitive activities than would less extraverted job seekers. Several prior findings support this reasoning: Extraversion is positively related to proactivity (Bateman & Crant, 1993), which suggests that extraverts are inclined to plan their searches. Extraverts also are more likely than introverts to have high energy levels and to adopt an approach motivation to tasks, including taking proactive steps that increase chances for success (Elliot et al., 1999). More broadly, when coping with a stressor extraverts tend to use constructive thinking strategies (McCrae & Costa, 1986), which consist of seeing the situation as a learning experience and considering what might be learned from it. Thus, because extraverts are more likely to see the job search as a learning experience, we expect they are more likely to monitor and analyze their job search strategies. Moreover, Extraversion is positively related to both goal setting and self-efficacy (Judge & Illies, 2002), suggesting that extraverts may spontaneously engage in metacognitive activities such as setting search goals and monitoring progress despite setbacks (e.g., negative feedback from employers) to identify successful tactics. For example, Wood and Bandura (1989) found that high self-efficacy learners were better able than those low in self-efficacy to identify successful analytic task strategies despite negative performance feedback on a complex decision-making task. Thus, we predicted that extraverts are likely to engage in more metacognitive activities than individuals low on Extraversion during their job searches.

Hypothesis 3: Job seekers' Extraversion will be positively related to their use of metacognitive activities during the job search.

Effects of Metacognitive Activities and Positive Emotions on Outcomes

Metacognitive activities. We expected that metacognitive activities will have direct effects on job search outcomes. Considerable evidence indicates that individuals who set specific, difficult goals expend greater effort toward goal attainment (Locke & Latham, 1990) and those who plan for and monitor their progress toward goal attainment have better outcomes (Clause et al., 2001; Elliot et al., 1999; Schmidt & Ford, 2003). Furthermore, we anticipated that metacognitive activities are crucial for learning when job seekers must discover what behaviors yield better outcomes. As noted previously, Wanberg et al. (1999) found that unemployed job seekers' motivation control (defined as goal setting and planning during search) was linked with greater job search intensity. We anticipated a similar relationship using a broader measure of metacognitive activities and a sample of new labor market entrants for whom learning is crucial.

Hypothesis 4: Job seekers' metacognitive activities will be related positively to the number of (a) resumé submitted, (b) first interviews, (c) second interviews, and (d) job offers.

Positive emotions. We also investigated whether job seekers' state positive emotions contributed to their search activities and outcomes. As noted earlier, the presence of positive emotions triggers creative, exploratory approaches (Seo, et al., 2004) and broadens the range of thought and action considered (Fredrickson, 2001). Furthermore, individuals who experience positive emotions have more personal resources to apply toward goal attainment (Fredrickson, 2001) and also have enhanced goal levels and assessments of goal-related progress (Seo et al., 2004). Given the resources provided by positive emotions, we expected that job seekers' positive emotions would increase their use of metacognitive activities.

Hypothesis 5: Job seekers' positive emotions during their searches (i.e., their state positive emotions) will be related positively to their use of metacognitive activities.

Beyond their impact on metacognitive activities, positive emotions should have a direct effect on job search activities and outcomes. Specifically, job seekers with positive emotions will have more energy and are more likely to consider a wider array of actions, which may lead them to pursue more job opportunities. Further, applicants' positive emotions are detectable by interviewers and may trigger positive interview evaluations (Burger & Caldwell, 2000). Given the growing evidence that displays of

positive emotions transfer easily from one individual to another (Barsade, 2002; Kelly & Barsade, 2001), it seems likely that job seekers' positive emotions would have direct effects on their success following exposure to interviewers.

Hypothesis 6: Job seekers' positive emotions will be positively related to their numbers of (a) resumés submitted, (b) second interviews, and (c) job offers.

We expected that positive emotions would influence job seekers' activity levels (i.e., resumé submissions) and interpersonal interactions (i.e., follow-up interviews and job offers), but have no direct effects on outcomes such as first interviews. In contrast, we expected that metacognitive activities would influence all job search outcomes as job seekers who developed and monitored plans would be able to modify both their search activities and their self-presentations to employers, facilitating greater success.

Summary. We extended current findings by specifying how personality triggers behavior associated with learning and implementing effective job search steps. Specifically, we tested a fully mediated model of how Conscientiousness and Extraversion influence job search activities and success through positive emotions and metacognitive activities. In addition to the hypothesized fully mediated effects, we also examined whether personality has direct effects on job-search outcomes using longitudinal data from new labor market entrants.

Method

Procedure and Participants

We collected data from 327 graduating undergraduate (64%) and MBA students (36%) at two large universities in the midwest (63%) and mid-Atlantic regions (37%) across 2 academic years (56% of data collected during Year 1; 44% during Year 2). According to the Bureau of Labor Statistics, the unemployment rate averaged 4.2% in the two nearest large midwest cities and 8.6% in the mid-Atlantic region across the 2 years of the study.

Participants included nearly equal numbers of men (48%) and women (52%) and ranged in age from 20 to 40 ($M = 24$ years) with an average grade point average (GPA) of 3.26. The sample included 79% Caucasians, 11% Asian/Pacific Islanders, and 6% African Americans; 87% were U.S. citizens. Respondents were mostly single (72%) and 72% reported holding part-time jobs. Approximately 30% graduated at the end of the fall term, whereas 70% graduated at the end of the spring term. Respondents

reported 40 different majors with approximately 80% pursuing business degrees.

To solicit participation from active job seekers, we advertised the study through each university's career services office, visited classes with high percentages of graduating students, or e-mailed students directly. Students completed up to three surveys, depending on (a) when they graduated and (b) when they found employment (average search duration was 5.5 months). Survey 1, administered in early September, included personality measures and background demographic data. Survey 2, distributed in December/January, assessed positive emotions, metacognitive activities, and any employment outcomes achieved to date. Finally, Survey 3 (administered in April to May graduates who were still actively searching during the spring semester) tapped employment outcomes. Due to intensive efforts to reduce attrition, we retained 232 students (71%) who provided complete data for use in the analyses. Comparisons of attriters with those who remained in the study indicated that participants who provided complete data were more conscientious ($M = 5.89$) than did those who attrited ($M = 5.64$; $t(320) = -2.04$, $p < .05$). Thus, an important caveat is that our findings depict relationships within a more conscientious sample than may exist among new labor market entrants.

Measures

Personality traits. Extraversion and Conscientiousness were measured with 7-point scales on Survey 1 using Appendix B items from Goldberg (1992). Both measures included seven items that had acceptable reliability indices (Extraversion: $\alpha = .85$; Conscientiousness: $\alpha = .82$).

Metacognitive activities. We developed a set of items that built on the Wanberg et al. (1999) motivation control measure by incorporating facets of metacognition identified by other researchers (e.g., monitoring and revising goal appropriate behavior; see Clause et al. 2001; Schmidt & Ford, 2003). Specifically, respondents indicated the extent to which they had engaged in the following activities during the prior 3 months (1 = *I never did or thought this*; 5 = *I did or thought this all the time*; $\alpha = .82$): set personal goals to guide job search activities, developed a coherent plan to guide my job search, monitored my progress toward finding a job, thought about how to improve my skills at finding a job, thought about how best to present myself to potential employers, and analyzed interviews to improve subsequent performance.

Some preliminary analyses examining the construct validity of this scale showed that metacognitive activities correlated moderately with, but were distinct from, single items measuring effort put into searching for a

job (.57), time spent searching for a job (.48), and how hard respondents worked to find a job (.48).

Positive emotions. We measured state positive emotions on Survey 2 with three items that asked respondents to indicate how often they felt “happy,” “excited,” and “enthusiastic” during the job search during the preceding 3 months (using 5-point scales; $\alpha = .73$). These items are indicators of the high activation dimension of positive affect and were adapted from the Job Affect Scale (Burke, Brief, George, Roberson, & Webster, 1989).

Job search outcomes. On the final survey, respondents indicated the numbers of *resumés* submitted as well as the number of *first interviews*, *second interviews*, and *job offers* received.

Control variables. Participants' GPAs, obtained on the first survey, were used in the structural model as a predictor of *resumés* submitted, *first interviews*, *second interviews*, and *job offers*. In addition, we tested our final model controlling for several additional variables: degree type, university, semester of graduation, internship experience, and prior work experience. As inclusion of these additional variables had no impact on either the significance levels or direction of our hypothesized paths, we do not discuss them further.

Results

Table 1 presents the descriptive statistics and correlations among our variables. Conscientiousness and Extraversion were related to the number of first and second interviews and to job offers; neither trait, however, was related to the number of *resumés* submitted.

Tests of the Measurement Model

We conducted a confirmatory factor analysis to investigate our measurement model before examining our hypothesized structural model. For three of the four latent constructs (Extraversion, Conscientiousness, and metacognitive activities) we created three parcels that served as indicators of the latent variable; the fourth latent construct, positive emotion, had the three individual items serving as indicators. Results indicated that the measurement model fit the data well ($\chi^2(48, N = 232) = 68.22, p \leq .05$; CFI = .98, IFI = .98, RMSEA = .04) and better than any of our alternative models. Alternative Model 1 constrained the indicators of positive emotions and Extraversion to load on the same factor ($\chi^2(51, N = 232) = 182.5, p \leq .001$). Alternative Model 2 constrained the indicators of Conscientiousness and metacognitive activities to load on the same factor ($\chi^2(51, N = 232) = 252.7, p \leq .001$). In alternative Model 3,

TABLE 1
Descriptive Statistics and Correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Extraversion (<i>T1</i>)	5.24	.92	(.85)							
2. Conscientiousness (<i>T1</i>)	5.91	.73	.16	(.82)						
3. Positive emotions (<i>T2</i>)	3.48	.64	.34	.03	(.73)					
4. Metacognitive activities (<i>T2</i>)	3.31	.70	.41	.21	.32	(.82)				
5. # Resumés submitted (<i>T3</i>)	26.09	33.60	.08	.06	.04	.20	—			
6. # First interviews (<i>T3</i>)	7.86	6.69	.16	.15	.12	.34	.48	—		
7. # Second interviews (<i>T3</i>)	3.83	3.47	.21	.14	.24	.39	.36	.72	—	
8. # Job offers (<i>T3</i>)	1.27	1.45	.22	.20	.28	.33	.07	.39	.56	—
9. GPA (<i>T1</i>)	3.27	.46	-.03	.09	.03	.13	.17	.21	.27	.26

Note. $N = 232$; reliability coefficients, where available, are shown on the diagonal. Correlations of .14 or higher are significant at $p < .05$. Designations of *T1*, *T2*, and *T3* indicate the approximate timing of survey administration (except for December graduates, for whom *T2* and *T3* survey measures were collected at *T2*).

the indicators of metacognitive activities and positive emotions were constrained to the same factor ($\chi^2(51, N = 232) = 183.1, p \leq .001$). For the proposed measurement model, all standardized path coefficients were greater than .50 ($p < .01$), indicating a good-fitting measurement model.

Hypothesized Structural Model Tests

We tested the hypothesized model (see Figure 1, although in our analyses the personality variables were correlated with each other and we controlled for the effects of GPA on the job search outcomes) and several theoretically relevant alternative models. As shown in Table 2, which provides overall fit statistics for the model comparisons, the hypothesized model provided a good fit to the data: $\chi^2(103, N = 232) = 144.86, p \leq .01$; CFI = .97, IFI = .97, RMSEA = .04. The results indicated that both Conscientiousness (Hypothesis 1) and Extraversion (Hypothesis 3) were positively related to metacognitive activities and that Extraversion was related to positive emotions (Hypothesis 2). Metacognitive activities were positively related both to the numbers of resumés submitted (Hypothesis 4a) and first interviews (Hypothesis 4b), but not to the numbers of second interviews or job offers. Finally, positive emotions were not related to number of resumés submitted but did predict metacognitive activities (Hypothesis 5) and the numbers of second interviews (Hypothesis 6b) and job offers received (Hypothesis 6c), controlling for prior success. Thus, with three exceptions (links between positive emotions and resumés and for metacognitive activities with second interviews and job offers), all hypothesized paths were significant.

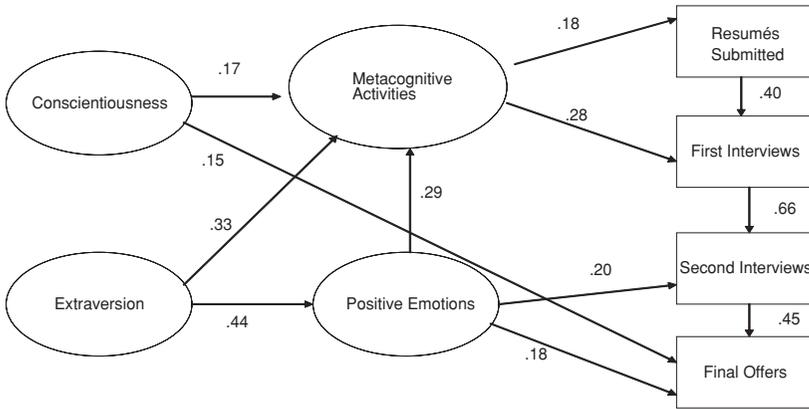
Alternative Model Tests

Although the results largely supported our hypothesized model, we also examined several competing alternative models. First, we explored whether Conscientiousness had direct effects on search outcomes in addition to mediated effects through metacognitive activities (Alternative Model 1). Although this alternative model did *not* provide a better fit to the data ($\Delta\chi^2 = 7.21, \Delta df = 4, ns$), the path from Conscientiousness to job offers received was significant (.15; $p \leq .05$).

Our second alternative explored the direct effects of Extraversion on job search outcomes. Results showed that this model did not improve overall model fit ($\Delta\chi^2 = .49, \Delta df = 4, ns$) and none of the added paths was significant. Thus, it appears that the effects of Extraversion on job search outcomes were fully mediated by metacognitive activities and positive emotions.

TABLE 2
Structural Model Comparisons

Model	χ^2	df	CFI	IFI	RMSEA	Model comparison	Change in χ^2	Change in df	Prob.
1. Null model	624.48	121	.62	.62	.13	—	—	—	—
2. Hypothesized model	144.86	103	.97	.97	.04	2 vs. 1	479.62	18	$p < .001$
3. <i>Alternative Model 1</i> : Conscientiousness → resumés, 1st interview, 2nd interview, and final offers (hereafter outcomes)	137.65	99	.97	.97	.04	3 vs. 2	7.21	4	ns
4. <i>Alternative 2</i> : Extraversion → outcomes	144.37	99	.97	.97	.05	4 vs. 2	.49	4	ns
5. Final model	144.58	105	.97	.97	.04	5 vs. 2	.28	2	ns



Note. All statistics are standardized path coefficients and are significant at $*p < .05$.

Figure 2: **Final Model.**

In summary, results indicated that our hypothesized model was superior to the alternatives, although Conscientiousness appeared to have a direct effect on the number of job offers. Although this finding may capitalize on chance variation, it has important theoretical implications for understanding how personality influences job search. Thus, we tested a final model (see Figure 2) in which we added a direct link from Conscientiousness to job offers and eliminated the three nonsignificant paths in the hypothesized model. As seen in Table 2, this revised model showed a strong fit to the data [$\chi^2(105, N = 232) = 144.58, p \leq .01$]. Because some relationships may have resulted from chance associations, we encourage caution in interpreting the results; yet, we note that this revised model is largely consistent with our original hypotheses.

Discussion

Responding to the Kanfer et al. (2001) call to explore the mechanisms through which personality influences job search, we tested a model examining how Extraversion and Conscientiousness influence the job search. Both Conscientiousness and Extraversion showed significant relationships with metacognitive activities, with Extraversion showing a somewhat stronger link. In addition, job seekers' Extraversion was significantly related to positive emotions. Both metacognitive activities and positive emotions influenced job search outcomes. Although not predicted, Conscientiousness also had a direct effect on job offers, possibly the result of conscientious job seekers focusing more on finding high-quality jobs. We encourage additional work to assess the generalizability of this finding as

well as Kanfer and Heggestad's (1997) conceptualization of how motivationally relevant traits may influence skill development.

We extended prior research by examining the role of metacognitive activities and positive emotions in the job search. Drawing from the role of metacognitive activities for learning (Bell & Kozlowski, 2008; Clause et al., 2001; Schmidt & Ford, 2003), we theorized that metacognitive activities would be linked to success for novice job seekers. Interestingly, metacognitive activities were related to *early* search behaviors and outcomes (the numbers of resumés submitted and first interviews) but not to distal outcomes (second interviews or job offers). In contrast, positive emotions were unrelated to early job outcomes but predicted *later* success (numbers of second interviews and job offers). This intriguing pattern, which we had not anticipated, is consistent with a sequential search approach (Barber et al., 1994) in which different tactics are needed across phases of the job search. Our findings suggest that early in the search, job seekers' success is linked with their capacity to develop clear goals and plans, analyze their skills, and monitor progress. It seems reasonable to surmise that job seekers who develop and enact plans are better able to target openings for which their skills are well suited and thus reap greater rewards in the form of more initial interviews. Our data also suggest that job seekers' metacognitive activities became less critical to success once their interviews began. Note, however, that we developed and used a broad measure of job seekers' metacognitive activities; it is possible that the importance or value of specific metacognitive activities such as monitoring progress or analyzing skills might increase at latter stages.

We theorized, based on the *broaden-and-build theory* (Fredrickson, 2001), that job seekers with positive emotions would have more personal resources to apply to the job search, thereby improving their success. The relationship between positive emotions and metacognitive activities provides some support for this mechanism, although positive emotions were unrelated to the number of resumés submitted. Yet, the results indicated that positive emotions were related to *success* in obtaining second interviews and job offers, controlling for early success.

There are several possible explanations for this relationship. For example, research suggests that positive emotions are related to optimism, likability, and self-efficacy (Lyubomirsky et al., 2005). Perhaps job seekers with positive emotions behaved more confidently or coped better with stress (Baron, 2008), thereby responding more skillfully in interviews than job seekers with less positive emotions. Another possibility is that behavioral contagion (Barsade, 2002) enabled job seekers with positive emotions to generate favorable evaluations during the interview (see Burger & Caldwell, 2000). We note that, because some respondents had received job offers by December/January, a third possibility is that the receipt of job offers created positive emotions rather than the reverse. We expect,

as argued by Lyubomirsky et al. (2005), that the relationship between positive emotions and job-search success is bidirectional such that positive emotions lead to success and success leads to positive emotions. Nonetheless, additional research, measuring positive emotions before the search begins and multiple times during the search process, is needed to clarify the direction of causality.

We extended prior research by specifically examining the beneficial effects of positive emotions in the job search rather than the control of negative emotions.¹ In particular, we focused on high-arousal positive emotions (happy, enthusiastic, and excited) because we anticipated that they would be more likely than low-arousal positive emotions (such as relaxed, placid, and calm) to activate proactive search activities and broaden job seekers' resources. Nonetheless, future studies might corroborate our results with different measures of positive and negative emotions. Given recent evidence that the positivity ratio—the ratio of positive to negative affect—is related to positive outcomes for individuals and business teams (see Fredrickson & Losada, 2005), researchers might investigate how the positivity ratio influences job search success. Many job searches lead to some employer rejections that may stimulate negative emotions. We urge researchers to continue investigating positive emotions in the job search and, more broadly, in work settings.

One unexpected finding was the direct relationship between job seekers' Conscientiousness and job offers. This relationship is remarkable for two reasons: (a) our personality measures were obtained 3 to 7 months prior to collection of job search outcome data; and (b) respondents who dropped out of the sample had significantly lower Conscientiousness scores than those who remained, which would attenuate the strength of observed relationships with Conscientiousness. Perhaps conscientious job seekers conducted better quality job searches by scrutinizing their fit with prospective employers more carefully or more effectively following up with employers (e.g., sending thank you notes that emphasized qualifications). Alternatively, perhaps managers screened for applicants' Conscientiousness when extending job offers, under the theory that conscientious employees will be more productive (Barrick et al., 2001). The explanation for this direct effect is uncertain and provides a fruitful avenue for future research.

Study Limitations and Strengths

Our study has several limitations that deserve mention. One issue is our use of college students who may not be representative of other populations.

¹Based on suggestions from reviewers we examined whether Emotional Stability and negative affectivity were related to the job search outcomes; these variables were not correlated with any of our job search outcomes.

Although we selected this sample to minimize the role of prior experience in job search, a broader sample of new labor market entrants (e.g., high school or vocational training students) might yield different results. We encourage additional tests of our proposed relationships with alternative samples of job seekers.

A concern with our findings is the extent to which they may be influenced by our reliance on single-source data. Following recommendations of Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we collected data across a 3- to 7-month period, designed to coincide with distinct job search phases, and measured objective verifiable outcomes (e.g., numbers of interviews and job offers). These procedures, and the lack of transparency about the nature of our hypotheses, minimize the chances that demand characteristics or self-serving bias explain our findings. To further examine whether common-method variance could explain our findings, we considered an additional structural model that included a latent factor (i.e., a single unmeasured latent method factor; see Podsakoff et al., 2003). This analysis suggested two minor changes in our hypothesized structural model: The paths from Conscientiousness to metacognitive activities and from metacognitive activities to resumé submissions were significant only using a one- (vs a two-) tailed test, which was still consistent with our directional hypotheses. In summary, the combination of our design features and results suggests that although common method variance may have inflated some observed correlations it does not explain our pattern of findings. Nonetheless, because structural equation modeling cannot prove causality, it is important to be cautious in interpreting our results, particularly because positive emotions and job search outcomes may have a nonrecursive relationship.

A third issue concerns our measures of job search outcomes. Although we included a wide range of success indicators (e.g., numbers of resumé, interviews, and job offers) that have been used in prior research, the reliability and adequacy of these measures deserve closer examination. For example, it is uncertain whether respondents were able to accurately recall the number of resúmes submitted to employers. Similarly, success in obtaining job offers is no guarantee of having conducted an efficient, high-quality search. We did collect some additional measures such as search duration and starting salaries; however, the combination of a 61% rate of success in obtaining any offers and significant missing data among those who had obtained offers prevented us from having a sufficient sample size to test our model using alternative indices. Future researchers should expand the range of success indicators used to address these questions.

Although we carefully developed a theoretical rationale for our variables, we did not include a larger array of constructs that might explain personality effects on job search. For example, extraverts may have greater

job search success by networking with others to obtain advice or potential job leads. Similarly, researchers might investigate the role of Neuroticism in job search. Although Neuroticism was not related to job search outcomes in our sample, Neuroticism is related to increased anxiety (Schneider, 2004), which may affect performance during job interviews (McCarthy & Goffin, 2004). Finally, self-efficacy may explain the link between some personality traits and job search outcomes. Thus, we encourage researchers to continue to test conceptual models detailing how personality influences job search behaviors and success.

Notwithstanding these limitations, our study also has a number of strengths. First, we collected data from job seekers at multiple points during their job searches, enabling us to test our hypotheses with longitudinal data. Second, we were able to examine job search success at later stages while controlling for success at the prior phase. This enabled us to pinpoint the incremental role of intervening variables, such as positive emotions, in affecting *success* at each phase independently of outcomes at prior phases. We encourage future researchers to adopt a similar approach when examining job search outcomes.

Implications for Practice

Our results have practical implications both for job seekers and career counselors. Although job seekers presumably cannot change their personalities, they can alter their self-regulatory behaviors and displays of positive emotions. Based on our results, we would encourage job seekers to set goals, plan, and monitor their job search progress, and analyze their interview skills during the search process. Many job search training programs provide opportunities for job seekers to develop these important metacognitive activities, and our results suggest that such training may substantially benefit job seekers. Our results suggest the need for additional training programs focused on the importance of cultivating and displaying positive emotions, in particular for interviews and site visits. To the extent that generating positive emotions is more helpful than controlling negative emotions during job search, job seekers might be encouraged to cultivate positive thought patterns and reactions when receiving disappointing news from employers. Moreover, job seekers might also be trained to display positive emotions in the interview, given that emotional regulation and display is an important component of many jobs (Hochschild, 1983; Rafaeli & Sutton, 1987).

In summary, job search is an important, yet potentially stressful, aspect of adult life to which job seekers bring a variety of personal resources, including their personalities. Our results indicate that Extraversion and Conscientiousness influence how individuals prepare for, respond to, and

conduct their searches and how they may present themselves during critical contacts with employers. More broadly, our results contribute to the growing stream of research examining self-regulatory activities that mediate the effects of personality on outcomes (e.g., Barrick, Stewart, & Piotrowski, 2002). We encourage further research examining how personality influences self-regulatory activities using job seekers, as we believe such research will not only extend our theoretical understanding of how personality influences outcomes but also provide additional guidance to job seekers as they search for a job. We hope that our findings provide a strong impetus for such future research.

REFERENCES

- Barber AE, Daly CL, Giannantonio CM, Phillips JM. (1994). Job search activities: An examination of changes over time. *PERSONNEL PSYCHOLOGY*, *47*, 739–766.
- Baron RA. (2008). The role of affect in the entrepreneurial process. *Academy of Management Review*, *33*, 328–340.
- Barrick MR, Mount MK, Judge TA. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, *9*, 9–30.
- Barrick MR, Mount MK, Strauss JP. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology*, *78*, 715–722.
- Barrick MR, Stewart GL, Piotrowski M. (2002). Personality and job performance: Test of the mediating effects of motivation among sales representatives. *Journal of Applied Psychology*, *87*, 43–51.
- Barsade SG. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, *47*, 644–675.
- Bateman TS, Crant JM. (1993). The proactive component of organizational behavior. *Journal of Organizational Behavior*, *14*, 103–118.
- Bell BS, Kozlowski SW. (2008). Active learning: Effects of core training design elements of self-regulatory processes, learning, and adaptability. *Journal of Applied Psychology*, *93*, 296–316.
- Burger JM, Caldwell DF. (2000). Personality, social activities, job-search behavior and interview success: Distinguishing between PANAS trait positive affect and NEO extraversion. *Motivation and Emotion*, *24*, 51–62.
- Burke MJ, Brief AP, George JM, Roberson L, Webster J. (1989). Measuring affect at work: Confirmatory analyses of competing mood structures with conceptual linkage to cortical regulatory systems. *Journal of Personality and Social Psychology*, *57*, 1091–1102.
- Caldwell DF, Burger JM. (1998). Personality characteristics of job applicants and success in screening interviews. *PERSONNEL PSYCHOLOGY*, *51*, 119–136.
- Clause CS, Delbridge K, Schmitt N, Chan D, Jennings D. (2001). Test preparation activities and employment test performance. *Human Performance*, *14*, 149–167.
- Costa PT, McCrae RR. (1992). *NEO PI-R professional manual*. Odessa, FL: Psychological Assessment Resources.
- Côté S, Saks AM, Zikic J. (2006). Trait affect and job search outcomes. *Journal of Vocational Behavior*, *68*, 233–252.

- Elliot AJ, McGregor HA, Gable S. (1999). Achievement goals, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology, 91*, 549–563.
- Fredrickson BL. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218–226.
- Fredrickson BL, Joiner T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science, 13*, 172–175.
- Fredrickson BL, Losada MF. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*, 678–686.
- Goldberg LR. (1992). The development of markers for the big-five factor structure. *Psychological Assessment, 4*, 26–42.
- Hochschild AR. (1983). *The managed heart*. Berkeley, CA: University of California Press.
- Hogan J, Ones DS. (1997). Conscientiousness and integrity at work. In Hogan R, Johnson J, Briggs S (Eds.), *Handbook of personality psychology* (pp. 849–870). San Diego, CA: Academic Press.
- Judge TA, Ilies R. (2002). Relationship of personality to performance motivation: A meta-analytic review. *Journal of Applied Psychology, 87*, 797–807.
- Kanfer R., Heggestad ED. (1997). Motivational traits and skills: A person-centered approach to work motivation. *Research in Organizational Behavior, 19*, 1–56.
- Kanfer R, Wanberg CR, Kantrowitz TM. (2001). Job search and employment: A personality-motivational analysis and meta-analytic review. *Journal of Applied Psychology, 86*, 837–855.
- Kelly JR, Barsade SG. (2001). Mood and emotions in small groups and work teams. *Organizational Behavior and Human Decision Processes, 86*, 99–130.
- Locke EA, Latham GP. (1990). *A theory of goal setting & task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Lyubomirsky S, King L, Diener E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*, 803–855.
- McCarthy J, Goffin R. (2004). Measuring job interview anxiety: Beyond weak knees and sweaty palms. *PERSONNEL PSYCHOLOGY, 57*, 607–637.
- McCrae RR, Costa PT Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality, 54*, 385–405.
- Podsakoff RM, MacKenzie SB, Lee J, Podsakoff NP. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.
- Rafaeli A, Sutton RI. (1987). Expression of emotion as part of the work role. *Academy of Management Review, 12*, 23–37.
- Saks AM, Ashforth BE. (2000). Change in job search behaviors and employment outcomes. *Journal of Vocational Behavior, 56*, 277–287.
- Schmidt AM, Ford JK. (2003). Learning within a learner control training environment: The interactive effects of goal orientation and metacognitive instruction on learning outcomes. *PERSONNEL PSYCHOLOGY, 56*, 405–429.
- Schneider TR. (2004). The role of neuroticism on psychological and physiological stress responses. *Journal of Experimental Social Psychology, 40*, 795–804.
- Seo MG, Barrett LF, Bartunek JM. (2004). The role of affective experience in work motivation. *Academy of Management Review, 29*, 423–439.
- Tellegen A, Watson D, Clark LA. (1999). On the dimensional and hierarchical structure of affect. *Psychological Science, 10*, 297–303.
- Vinokur A, Caplan RD. (1987). Attitudes and social support: Determinants of job-seeking behavior and well-being among the unemployed. *Journal of Applied Social Psychology, 17*, 1007–1024.

- Wanberg CR, 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*, *84*, 897–910.
- Watson D, Clark LA. (1997). Extraversion and its positive emotional core. In Hogan R, Johnson J, Briggs S (Eds.), *Handbook of personality psychology* (pp. 767–793). San Diego, CA: Academic Press.
- Wood RE, Bandura A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology*, *56*, 407–415.
- Zimmerman BJ. (1998). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist*, *33*, 73–86.