Job search and stress: A daily repeated measure study

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Abstract

This study examined the relationship between job search and stress using the diary method. Three models were tested using 100 unemployed job seekers: a direct causal model (examining the effect of job search on stress), a reversed causal model (assessing the impact of stress on job search), and a common factor model (testing the extent to which daily financial strain accounts for the relationship between job search and stress). Results offered support for both direct and reversed models. The common factor model was not supported. Negative job search experience mediated the direct effect of job search on stress. Using a repeated measures design, the study provides important information about the dynamic relationship between job search and stress.
Each year, millions of employees are forced to leave their jobs in events such as downsizing, restructuring, mergers, and acquisitions. Numerous psychological studies have documented the negative impact of job loss on the physical, mental, and social functioning of unemployed workers and their family members (e.g., McKee-Ryan, Song, Wanberg, & Kinicki, 2005; van Ryn & Vinokur, 1992; Vinokur & Schul, 2002). At the aggregated level, researchers have linked increases in unemployment with increases in mortality rate and mental hospitalizations (e.g., Brenner, 1973). At the individual level, studies have demonstrated that job loss is associated with increased anxiety, depression, sleeping problems, alcohol disorder, divorce, and child abuse (e.g., Dooley, Fielding, & Levi, 1996).

One of the most practical ways to respond to the unemployment situation is to look for a new job. Job search has been commonly conceptualized and tested as a major type of problem-focused coping behavior (e.g., McKee-Ryan et al., 2005; Wanberg, 1997), whereby individuals conduct job search in order to directly address the unemployment condition. In the general coping literature, a positive relationship between problem-focused coping and well-being is generally expected (Thoits, 1995). A recent meta-analysis, however, showed that job search is related to lower, rather than higher, psychological well-being of job seekers (McKee-Ryan et al., 2005), suggesting that job search may play a dual role of being both a beneficial coping strategy as well as a stressor.

While the unemployment literature is replete with studies examining the relationship between mental health and unemployment (e.g., Hamilton, Hoffman, Broman, & Rauma, 1993), there is a contrasting lack of studies that have aimed to understand the relationship between job search and the stress experienced by job seekers. This study used a 14-day diary methodology to allow unique, repeated measures insight into (a) the effect of job search on the daily stress
experienced by job seekers (i.e., a direct causal model), (b) the impact of reported stress on job search effort (i.e., a reversed causal model), and (c) the extent to which daily financial strain accounts for the relationship between job search and stress (i.e., a common factor model). Given that most empirical studies related to stress and unemployment are cross-sectional in nature or include only a limited number of time waves (McKee-Ryan et al. 2005), this study focuses on the link between job search and stress and provides critically important insights into the daily experience of unemployment.

The Direct Causal Model

The first purpose of our study is to examine a direct causal model to assess the effect of job search on the stress level of the job seeker. Although a repeated measures study cannot completely resolve issues of causal direction between two variables, it can provide valuable insights that can be combined with other methodological approaches to build information about the nature of the relationship.

Supporting a positive relationship between job search and stress, there is evidence to show that sometimes coping behaviors can be a source of stress (Schönpflug, 1985). In their analysis of the costs and benefits of coping, Schönpflug and Battmann (1988) suggest that new problems may emerge in the course of coping and such “after effects” of coping can become new stressors. Similarly, the model of conservation of resources (Hobfoll, 1988; 1989) maintains that individuals experience stress when they face the danger of loss of resources. They will try to minimize net resource loss by activating, borrowing, or risking personal resources to offset potential or actual resource loss. Since these offsetting coping actions have to mobilize and could potentially drain valuable resources, they could lead to further stress. In the job search area, it has been suggested that job search can be viewed as one type of stressor during unemployment.
The job search process has been characterized as demanding and full of obstacles (Vinokur & Schul, 2002). It can exhaust an individual’s psychological energy and could lead a job seeker to become dispirited (Wanberg, 1997).

Our repeated measures assessment of job search and stress allows us to assess the direction of the relationship across time in a repeated measurement, within-person context. To best examine the causal direction between job search and stress, we followed Zapf et al.’s (1996) recommendation to include a 1-day-lag stress outcome in both hypotheses.

**Hypothesis 1:** There will be a positive relationship between job search effort and stress. Job search effort will be positively related to next-day stress.

It is reasonable to claim that the impact of job search on well-being could depend on some other contextual factors or moderators. In this regard, Folkman and Moskowitz (2004) argued that an individual’s coping effectiveness, manifested in one’s well-being, may be influenced by the fit between characteristics of the context and various types of coping efforts. The fit between the appraisal of controllability—the most often examined dimension in the context of coping, and the coping strategy is called the goodness of fit (Folkman & Moskowitz, 2004). According to the goodness-of-fit hypothesis, problem-focused coping is adaptive in situations perceived as controllable while maladaptive in situations perceived as uncontrollable. Previous findings revealed that problem-focused coping strategies are associated with positive coping outcomes only when the encountered situation is perceived to be controllable (Christensen, Benotsch, Weibe, & Lawton, 1995). In the job search literature, this dimension has been termed as reversibility (Leana & Feldman, 1991; Gowan et al., 1999) or situational control (Wanberg, 1997). Albeit bearing different names, these variables have been assessed similarly using items which pertain to the expectation to gain reemployment.
Using cross-sectional data, Wanberg (1997) found that reemployment expectations moderated the relationship between proactive job search and mental health among job seekers. More specifically, proactive job search was negatively correlated to mental health only for those who expected not to find a job if they looked for one. It is likely that those who have high expectations of becoming reemployed will experience less stress when they get actively involved in job search activities, compared to those who have low expectations of reemployment. Hence, we posit that reemployment expectation will moderate the relationship between job search and stress.

*Hypothesis 2: Reemployment expectation will moderate the relationship between job search effort and next-day stress. When reemployment expectation is high, the relationship between job search effort and stress will weaker than when reemployment expectation is low.*

To examine mechanisms of the causal linkage between job search effort and next-day stress, we also propose one possible mediating factor, namely, negative search experience. Uncertainties about the future and possible rejections are part of the job search experience (Barber, Daly, Giannantonio, & Phillips, 1994; Stumpf, Colarelli, & Hartman, 1983). Because of the dynamic nature of job markets, when unemployed individuals engage in more job seeking activities, they have a greater chance of facing setbacks and rejections. Caplan, Vinokur, Price and van Ryn (1989) suggested that these negative job search experiences can lead to severe psychological consequences. Given the above reasons, we purport that daily job search would increase the experienced stress through negative search experience. Hence, we hypothesize:

*Hypothesis 3: Negative search experience will mediate the relationship between job search and the next-day stress.*
Reversed Causal Model

Aside from the direct causal model, we also empirically examined a reversed causal model: the impact of stress on job search efforts. Coping has been widely viewed as a response to the emotion experienced by an individual during a stressful encounter (Folkman & Lazarus, 1988). Hobfoll (1988) suggested that stress-related emotions such as anxiety and depression may have a functional significance of alarming people to take action to prevent the loss of valuable resources. This argument implies that higher levels of stress could motivate people to look for a job harder. Kessler, Turner and House (1989) reported that psychological distress indices, including anxiety, depression, somatization and physical health, were all positively correlated to the future reemployment probability of unemployed individuals. In a two-wave longitudinal survey of graduating college students, Crossley and Stanton (2005) found that the distress levels of job seekers were positively related to their reported job search success six weeks later. Even though these two studies did not include job search measures, it was suggested by these authors that psychological distress may be associated with heightened job search efforts, which then leads to employment success. A recent study (Clark, 2003) using seven waves of the British Household Panel Survey found that those who were more psychologically hurt by unemployment were more likely to look for a new job and consequently found a job in the succeeding period. Clark (2003) also argued that psychological distress during unemployment (indicated by GHQ-12 score in that study) can serve as a proxy indicator for the utility of employment. Based on this literature, we hypothesize a reversed causal model:

Hypothesis 4: Job seeker stress will be positively related to job-search effort the following day.
However, there are limits to the extent to which psychological stress is adaptive. Evidence has shown that anxiety-related thoughts may impede people’s normal functioning (Folkman & Lazarus, 1988). In a longitudinal study on changes in job search behaviors, Barber, Daly, Giannantonio and Phillips (1994) proposed an “emotional model” and argued that individuals will decrease their job search efforts over time because of the accumulated stress during job search. They argued that heightened stress will trigger negative reactions such as withdrawal and avoidance (Barber et al., 1994). Job seekers may become discouraged and less motivated to engage in job search activities because negative encounters could have detrimental effects on their self-efficacy and self esteem. The above “emotional model” is similar to the “scarred model” in economics (McFadyen & Thomas, 1997), which suggests that the prolonged unemployment may lead to loss of motivation and morale of job seekers. Both these models imply that if people are too stressed, they might not be able to carry out their job search activities well. We propose that the effects of psychological stress on job search effort can be depicted by a reversed U-shaped graph: job search effort will increase along with psychological distress but only up to a certain point; and then a decreasing pattern will be observed. Thus, for the reversed causal model, we conjecture the following:

Hypothesis 5. Stress will have a nonlinear influence on job search effort the following day such that stress will be associated with greater job search effort but the relationship will be reversed when stress level is too high.

To examine mechanisms of the causal linkage between stress and next-day job search, we also propose one potential mediator, specifically job-search intentions. Behavioral intention models, exemplified by the theory of reasoned action (Ajzen & Fishbein, 1980) and the theory of planned behavior (Ajzen, 1986), show that an individual’s intention to perform a given behavior
is the immediate determinant of the behavior. Intention is regarded as a summary of motivational factors which indicate how hard an individual wants to try and how much effort he/she wants to exert on initiating and engaging in this behavior (Ajzen & Fishbein, 1980). For behaviors under volitional control, intentions are supposed to mediate the effects of other cognitive, affective, and contextual factors in predicting behaviors (Westaby, 2005), and previous studies have supported the mediating effect of job search intention on relationships between attitudinal and normative variables and job search behavior (e.g., Song, Wanberg, Niu & Xie, 2006; Wanberg, Glomb, Song, & Thoreson, 2005). We conjecture that job search intention can mediate the relationship between stress and job search as well. In a conceptual paper on affective experience and work motivation, Seo, Feldman Barrett, and Bartunek (2004) suggest that affect can be considered a distal motivational process which may influence behavioral outcomes through proximal motivational processes such as expectancy, utility and progress judgments. Unpleasant affect can trigger defensive action through negative outcome expectancy and negative utility judgments for these outcomes. Similarly, stress may prime unemployed individuals to think that they have a lower chance of finding a job and worry about negative consequences of a prolonged unemployment. These heightened discrepancy appraisal of loss or threat (Latack, Kinicki, and Prussia, 1995) may compel individuals to set stronger job search intention and more actively engage in job search activities to reverse the unemployment situation. Hence, we hypothesize:

Hypothesis 6: Job search intention will mediate the relationship between end-of-day stress and job search effort the following day.

Common Factor Model

Lastly, we examine the possibility that the relationship between job search and stress is spurious due to a common correlation with a third variable. It has been suggested that the
association between job search and stress can be attributed to a third factor such as economic hardship (Price, van Ryn, & Vinokur, 1992; Vinokur, Price, & Caplan, 1996; Whelan, 1992; Vuori & Vesalainen, 1999) or employment commitment (Smari, Arason, Hafsteisson, & Ingimarsson, 1997). Economic hardship and employment commitment were found to be positively related to both psychological stress and job search effort (Kanfer, Wanberg, & Kantrowitz, 2001; MyKee-Ryan et al., 2005; Rantakeisu & Jönsson, 2003). Nordenmark and Strandh (1999) suggested that employment fulfills an individual’s psychological need by providing social identity and also satisfies an individual’s economic need by providing the main economic resource in the modern society. Both psychological and economic needs are critical in understanding the well-being of the unemployed. They also suggested that these two factors stimulate job search activity. Under this explanation, unfulfilled needs due to job loss will increase an individual’s stress level on one hand and increase an individual’s job search effort on the other. A positive association between job search effort and stress will thus be observed.

Since employment commitment indicates personal values attached to employment, this construct should be relatively stable and less likely fluctuate from day to day. On the contrary, financial concerns are arguably more apt to change on a daily basis. New expenses or discussions about financial outlook may lead to a variety of spikes in financial concern. In our repeated measures context, we examined the role of financial concerns as a possible third variable explanation for the association between job search effort and stress. We propose the following hypothesis based on the common factor model:

*Hypothesis 7. The association between job search effort and stress will be accounted for by financial strain.*

Method
Sample and Procedures

The study involved 100 unemployed job seekers from nine community centers in Shenyang, an industrialized city located northeast of China. The study was part of a larger effort to examine the daily family dynamics of unemployed job seekers, their employed spouses, and children. Community center employees assisted in recruiting and surveying participants. To qualify as participants for the current study, individuals must be unemployed, have been actively looking for a job in the past two weeks, and have the intention to look for a job in the next two weeks. Unemployed individuals who met the criteria were invited to go to their respective community centers to attend the orientation on the purposes and procedures of the study. Two researchers and fourteen applied psychology graduate students from a local university led these sessions with the assistance of employment center workers. Among the 100 participants, 74 were females. Their mean age was 41.99 with the range from 29 to 54. Most of them had high school education (81%). Only 15% had postgraduate education. Their average unemployment duration was 2.32 years.

Subsequently, each participant was asked to complete a daily survey for 14 consecutive days including two weekends. Weekends were included since job search could happen not only during working days but also on weekends (California Job Journal, April 11, 2004). The daily survey included measures of stress, job search experiences and daily stressors. Participants were informed to complete the daily survey at home before going to bed. They were asked to return the completed surveys to their community centers in the next morning and to collect another set of surveys to be completed later in the day. These strict procedures were used to prevent major limitations of paper-and-pencil diary methods, such as unintended forgetfulness and retrospective recall error (Bolger, Davis & Rafaeli, 2003). Such procedures were not very
burdensome for participants since all of them lived within walking distance from their community centers. Researchers also went to the community centers to collect the completed surveys every afternoon. Out of 1,400 sets of surveys sent out, participants submitted 1,379 completed surveys, representing a 98.5% response rate across person and time. They were compensated for their participation (150 RMB or about 19 US dollars per family).

Daily Repeated Measures

*Stress.* Stress was measured by the 6-item Kessler Psychological Distress Scale (K6, Kessler et al., 2002). The K6 scale was developed for the U.S. National Health Interview Survey and has been used in several national health surveys in the United States, Australia, and Canada (Kessler et al., 2002). The original K6 inventory asks participants to report in the past 30 days how often they felt “nervous,” “hopeless,” “restless or fidgety,” “so depressed that nothing could cheer you up,” “that everything was an effort,” and “worthless.” It was also adopted in a stress and coping study (Mroczek & Almeida, 2004) to measure daily psychological distress or negative affect, and the instruction was changed into asking about one’s feelings in the past 24 hours. We used the Chinese version of the K6 provided by authors of the inventory. We asked participants to report the extent to which they experienced each of the feelings in the past 24 hours on a scale of 0 (none of the time) to 4 (all of the time). The alpha coefficient was .81.

*Job search effort.* Job search effort was measured by asking the total time spent (in hours) on job search activities in the past 24 hours.

*Reemployment expectation.* Reemployment expectation was measured using a two-item inventory developed for the current study. The first item asked participants to estimate their chances of finding a job through their job search effort. Participants responded to this question on a scale of 1 (no chance) to 5 (great chance). The second item asked participants to report their
level of optimism on finding a new job in the near future. The scale for this item ranged from 1 (very low optimism) to 5 (very high optimism). The alpha coefficient for this inventory was .63.

Job search intention. Job search intention was assessed using two items from Vinokur & Caplan (1987)—e.g., “How hard do you intend to look for a job tomorrow?” and “How likely will you look hard for a job tomorrow?”. Responses ranged from 1 (no effort) to 5 (a lot of effort) for the first question, and 1 (not at all likely) to 5 (extremely likely) for the second question. This instrument was translated into Chinese and tested by Song et al. (2006). The alpha coefficient for this inventory was .81.

Two variables, negative search experience, and financial strain, were measured by items from the Unemployment Stressor Inventory (Zhang, Sun, Uy, Song, & Shi, 2007). The inventory was developed to assess different stressors associated with unemployment. Items were reworded to fit the diary format of the current study. Negative search experience was measured by two items: “I encountered difficulties today in my job search” and “I feel pressured for not having found a suitable job lead today.”. The alpha coefficient for this inventory was .85. Financial strain was measured using two items: “I feel pressured by all of the family expenditures today” and “I feel the pressure of lack of money to my life today”. The alpha coefficient for this inventory was .88. Although items of negative job search experience and daily financial strain measures were not directly translated from established scales, their meanings were compatible to those frequently used in the unemployment literature (e.g., Warr, 1984). All above items were rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Baseline paper-and-pencil measures

We included the baseline stress level and job search effort to control for between individual effects of these variables on daily outcomes. Employment commitment measured at
Time 1 was also included. As explained in the introduction, employment commitment can be a stable factor that can influence both stress and job search effort. We used the 6-item Kessler Psychological Distress Scale as mentioned above (K6, Kessler et al., 2002) to measure *Time 1 stress*. For this baseline assessment, we asked participants to report their stress level in the previous month. The alpha coefficient was .87.

*Time 1 job search effort* was measured by a 12-item Chinese job search effort inventory (Song et al. 2006), which was translated and adapted from Wanberg, Kanfer and Rotundo (1999). Individuals were asked about the extent (1=never to 5=very frequently) to which they had engaged in a variety of job-search activities (e.g., “sent out applications” and “telephoned a prospective employer”) in the last two weeks. The Chinese version of the inventory was revised to reflect the unique search activities in China (e.g., read ads in bulletin board) and the psychometric properties of the inventory were satisfactory (Song et al., 2006). The alpha coefficient of the inventory in the current study was .81.

The *employment commitment* was measured by an eight-item inventory developed by Warr and Jackson (1987). The inventory assesses the degree of commitment towards the paid employment for those who don’t have a job (e.g., having a job is very important to me.) Translation/back-translation procedures were followed to convert the inventory into Chinese. One item was also modified for appropriate use in China. Respondents rated each item on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient of this inventory was .76.

**Results**

Table 1 displays the means, standard deviations, correlations, and reliability coefficients of the study variables (averaged across time waves). The average daily job search effort and
average daily stress across 14 days were not significantly correlated \((r=.01, ns)\). Tables 2 to 4 show the results of the hypothesis testing. Because our data consisted of multiple observations of individuals over time, a mixed model (also known as the Hierarchical Linear Model or Multilevel Random Coefficient Model) was used to test all hypotheses. Mixed models are appropriate for handling the correlated data structure of the repeated-measure data. For all mixed models, only the intercept was assumed random. Since the aim of our study is to disclose within individual variation of job search and stress over time, all time varying predictors were individual-mean centered (i.e., the average score of the individual over the research period is subtracted from each momentary report to partial out individual mean effects from the momentary assessment. Hofmann, 1997). The xtmixed command in Stata version 9 was used to run mixed regression models (see Rabe-Hesketh & Skrondal, 2005, for an introduction to this command). Among the 1379 returned surveys, the sample sizes (person × day) of regressions ranged from 1008 to 1364, due to missing data for some questions (mainly job search effort with 249 missing data points).

In Hypothesis 1, we posited a positive relationship between job search effort and next-day stress. Model 1 in Table 2 indicates a significant positive relationship between job search and next-day stress \((\beta = .11, p<.05)\). Thus, Hypothesis 1 was supported.

In Hypothesis 2, we proposed that reemployment expectation will moderate the relationship between job search effort and next-day stress. We included a main effect of reemployment expectation and its interaction with job search effort in Model 2. As demonstrated in Table 2, the main effect of reemployment expectation was significant and negative \((\beta = -.16, p<.01)\). The interaction term was negative, which is consistent with Hypothesis 2. However, the coefficient was not significant \((\beta = -.07, ns)\). Hence, Hypothesis 2 was not supported.
To test Hypothesis 3 in which mediating effect of negative search experience was proposed, the mediating regression procedure suggested by Baron and Kenny (1986) was followed. First, we regressed next-day stress on negative search experience (Model 3 in Table 2). Negative search experience was significantly correlated with next-day stress ($\beta = .15$, $p < .01$). We then regressed negative search experience on job search effort (Model 4 in Table 2), and this was also significant ($\beta = .16$, $p < .01$). In the last step, we included both negative search experience and job search effort in the model of next-day stress (Model 5 in Table 2). The coefficient estimation of negative search experience was significant ($\beta = .20$, $p < .01$). The coefficient estimation of job search effort was not significant in this regression ($\beta = .07$, $ns$). These regression models suggest that negative job search experience completely mediated the relationship between job search effort and next-day stress. Thus, Hypothesis 3 was fully supported.

For Hypothesis 4, we posited that end-of-day stress will be positively related to job search effort the following day. Results in the first model in Table 3 showed significant positive beta coefficients for the relationship between daily stress and next-day job search effort ($\beta = .08$, $p < .01$), thus lending support for Hypothesis 4. In the second model, the square term for daily stress was included to represent the nonlinear effect of stress. There is no indication that there exists a nonlinear effect of stress ($\beta = .00$, $ns$). Thus, Hypothesis 5 was not supported.

For Hypothesis 6, we proposed that job search intention will mediate the relationship between stress and the next-day job search effort. The job search intention was significant in the second model ($\beta = .11$, $p < .01$). However, the inclusion of intention in the model resulted in a minimal decrease in the effect size of stress ($\beta = .07$, $p < .01$). Also the third model indicates that daily intention was not significantly related to daily stress ($\beta = .02$, $ns$). Thus, Hypothesis 6 was not supported.
In the last hypothesis, we posited that the relationship between job search and stress is spurious, and it can be explained by a third variable—financial strain. We included financial strain in both models of job search and stress. Results in Table 4 demonstrate that financial strain was significantly correlated with the next-day stress ($\beta = .22, p < .01$) but not with the next-day job search ($\beta = .02, ns$). The inclusion of financial strain did not decrease the effect sizes of neither job search ($\beta = .10, p < .05$) nor stress ($\beta = .08, p < .01$). Thus Hypothesis 7 was not supported.

Discussion

Using the daily repeated measure design, we examined the dynamic relationship between job search and stress. Three models—the direct causal model, the reversed causal model and the common factor model—were proposed and empirically tested in this study. Results offered support for both the direct causal model and the reversed causal model. The common factor model was not supported. Additional potential moderating and mediating variables supplementing the direct and reversed causal models were also tested.

In testing the direct causal model, we found that job search effort was positively related to next-day stress. This suggests that job search activities can be a source of stress for the job seeker, which is consistent with the argument that job search can be a potential stressor for unemployed individuals (Fielden & Davidson, 1999; Waters, 2000). Results of the mediating regression analyses support the assumption that negative job search experience mediates the relationship between job search effort and the next-day stress.

Job search has been conceptualized and tested as a coping behavior that directly addresses the cause of the stress for the unemployed. Meta-analytic evidence supported a positive relationship between job search and reemployment (Kanfer et al., 2001), and reemployment has often been associated with improved well-being. However, the current study
demonstrated the negative side-effect of job search effort in the short run: more job search effort may increase the chances of negative encounters such as rejections and these negative job search experiences will heighten the distress levels of job seekers. Job search guidance books (e.g., Minnesota Department of Economic Security, 2001) often advise job seekers to put consistent effort in job search and treat job search as a full time endeavor. However, few have provided tips on how to deal with negative encounters in job search and how to handle psychological stress induced by job search. Findings from our study imply that practical suggestions must be given to job seekers on how to deal with negative job search experiences, as failure to do so would be detrimental to the unemployed individuals’ well-being. Caplan et al. (1989) reported positive impacts of a group-discussion-based intervention program, including training of resistance towards setbacks during job search, to unemployed job seekers. This program not only helped decrease psychological distress, but also helped increase job search self-efficacy and motivation of unemployed job seekers. Those who participated in training sessions were also more likely reemployed and got better pay than those who did not in follow up surveys conducted one and four months later. Although this study could not confirm which components of the program (i.e., job search skills, motivation, inoculation against setbacks and social support) account most for the positive interventional results, it still suggests the potential benefits of having training on how to handle negative job search experience on top of interventions targeted at enhancing job search skills and motivation.

As for the reversed causal model, findings demonstrate that stress experienced at the end of the day is associated with higher levels of job search effort the following day. This suggests that stress may have a short-term motivating effect on job search efforts. Heightened stress experience may trigger individuals to engage in adaptive behaviors. In the unemployment
situation, job search is the behavior that is commonly viewed as adaptive as it involves directly tackling the issue at hand. Our finding is contradictory to the “emotional model” of job search proposed by Barber and colleagues (1994), which suggests a negative relationship between job search and stress. Based on our results, daily stress led to an increase in the following day’s job search effort, and this relationship was observed even when the stress levels were high. It is possible that the debilitating effect of stress on job search does not manifest itself on a day-to-day basis, and a longer period may be required for the negative effect of stress on job search to unfold. The mediating effect of job search intention on this relationship was not supported: stress was not significantly related to job search intention and the influence of stress on job search was independent of the effect of intention. This suggests that the influence of stress on the next-day job search is not through a rational and planned channel. It is possible that job search activities triggered by stress are relatively haphazard and less systematic. Since we did not have measures of quality and willfulness of job search in the current study, this remains a speculation. Future studies can examine both planful and nonplanful processes that drive job search effort and compare their respective influences on reemployment outcomes.

We did not find supporting evidence for the common factor model, as financial strain, our proposed third variable, did not account for the relationship between job search and stress. The daily financial strain was positively correlated with the next-day stress, but not the job search effort. These findings suggest that daily financial strain may have a detrimental effect on well-being but do not necessarily motivate individuals to engage in proactive job search behaviors on a day to day basis.

Based on the findings from our study, we can infer that the relationship between job search and stress is not unidirectional, but reciprocal. Combining the evidence that support both
direct and reversed models, we seem to observe a vicious cycle: a high level of stress leads to more job search, and more job search leads to an even higher level of stress. Since high levels of stress could have negative effects on the performance of job seekers in job interviews and tests (McCarthy & Goffin, 2004), this may leave negative impressions to prospective employers and consequently decrease their chances of getting a new job. They may even lose heart and as a result quit job search. However, we can also look at this relationship from a more encouraging perspective: more job search leads to high levels of stress, and high levels of stress could possibly motivate individuals to look for a job harder. As more job search effort is associated with higher chances of getting a job (Kanfer et al., 2001), job seekers may eventually pull themselves out of the negative unemployment situation. The model of conservation of resources (Hobfoll, 1988; 1989) highlights the role of personal resources in the coping process. Those with weak resources are less likely to handle stressful events and daily challenges well and are more likely to fall into the vicious cycles which further deplete their resources. On the other hand, those with strong resources are better equipped to deal with stressful events and daily challenges, and are more likely to gain from the coping process (Hobfoll & Lilly, 1993). It is a promising direction for future studies to examine contextual and dispositional resources such as money, family support and self esteem that can explain whether individuals will experience a constructive or destructive job search process.

The study collected information of job search and stress on a daily basis. A relevant question is whether the daily dynamic relationship between job search and stress depicted in the study will still hold if longer time frames (e.g., weeks or months) were used. Job search is a process that unfolds over time (Barber et al., 1994), and it often involves different activities such as information seeking and interviewing which could last for several months. Furthermore, the
literature on unemployment and well-being suggests that the stress levels are not stable during the unemployment period (Brenner, & Levi, 1987). Borgen and Amundson (1987) described the unemployment experience as an “emotional roller coaster”, as the whole cycle of an individual’s reaction to job loss includes several stages: denial, anger, bargaining, depression, acceptance, enthusiasm, stagnation, frustration, and apathy. Individuals may start from the denial stage and just carry on with a positive outlook, but as they come into grips with the painful reality of job loss, their positive emotions may take a dive as they go through the stages of anger, bargaining, and depression. Their positive emotions may go up again as they conduct their job search activities with hope and enthusiasm. If they cannot find a job soon, they may lose hope and experience stagnation and frustration. As unemployment gets prolonged, apathy may set in as people start feeling hopeless about the situation and decide to give up on job search. Barber et al. (1994) also suggested that when job seekers become frustrated with finding a job over time, they tend to rely less on informal sources to find jobs since informal sources require a great deal of social skills and self-confidence. Since the current study only covers a two-week time span of the experiences of unemployed job seekers, we were only able to test short term, day-to-day effects. As suggested by Larson and Almeida (1999), studies that use microscopic time frames can address questions about dynamic relationships different from those using macroscopic time frames. Therefore, it would be meaningful for future studies to examine long term effects between job search and stress over several weeks and months.

This study was conducted in China, and the findings should be read with caution when extending to other countries. As suggested by Price, Choi and Lim (2006), although there are some psychological effects of unemployment that are common to both Chinese and Western societies, Chinese culture and historical events, such as the Cultural Revolution, may uniquely
shape unemployment experiences of Chinese job seekers. A recent empirical study (Song et al., 2006) also indicated that unique employment policies in China (e.g., government sponsored extensive job search program for older job seekers) can change job search motivation and effectiveness of unemployed individuals. Furthermore, China only established its labor market recently (Knight & Song, 2005). Most unemployed job seekers lack marketable skills and have relatively few job search experiences. Many of them have to rely on government support to find new jobs in a highly competitive job market. These internal and external situations are experienced by millions of unemployed job seekers in China, but may be different from those in other countries. Nonetheless, our study provides a good starting point for future work which may involve both mature and less mature economies.

One limitation of the study was the under-representation of male job seekers in the sample. A couple of other studies that collected data in the same city also had unemployed samples with similar gender configuration (Zhang et al., 2007; Zhang, Zheng, Sun & Zhao, 2005). Through the discussions with employment workers in the community centers who had assisted the recruiting process, we were informed that unemployed men were more likely to engage in informal employment, thereby disqualifying them from the study. Future studies should explore other recruiting strategies to achieve a gender balanced sample.

Another limitation is the measurement of job search effort. We used the amount of time in a day devoted to job search to represent the job search effort. This measure does not differentiate effects of different job search activities, such as information seeking, interviewing and networking. It is possible that some job search activities are more stressful than others. For example, Barber et al. (1994) suggests that seeking job leads from informal sources are more stressful than from formal sources. Job interviews can be very stressful because the process is
beyond the control of the interviewee and the interviewer is typically a stranger to the interviewee (McCarthy and Goffin, 2004). Future studies can include more refined job search measures to directly compare differential effects of individual job search activities.

Although we tried to launch a comprehensive examination of the job search and stress relationship by testing alternative models and an array of relevant moderators and mediators, our study has not exhausted all possibilities. Future investigations can test other possible models and particularly examine other moderators and mediators. For example, George and Brief (1996) suggest that negative affectivity (NA) can play important roles in the stress and coping processes of the unemployed. Findings in the general stress-coping area (e.g., Bolger & Zuckerman, 1996) showed that those with high NA tend to respond to stressors differently from those with low NA. It is reasonable to expect that job search can lead to different levels of stress for those with high NA versus those with low NA. Other possible moderators or mediators of the job search and stress relationship include job search clarity (Côté, Saks, & Zikic, 2006), coping goals (Latack et al., 1995), and action-state orientation (Song et al., 2006). With larger sample sizes, future studies can also examine how demographic variables, such as gender and unemployment duration, moderate this relationship.

Despite the limitations, the current study was able to shed more light on the dynamic relationship between job search and stress using a more rigorous method that allowed for a within-person examination of the changes in the relationship over time. It is hoped that this study has helped in advancing the wealth of knowledge in the field of job search as well as in the stress and coping research.
References

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Science & Medicine, 25(2), 153-161.


### Table 1

*Mean, standard deviation and the correlation matrix of study variables*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Time 1 job search effort</td>
<td>30.79</td>
<td>6.87</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Time 1 stress</td>
<td>11.23</td>
<td>4.26</td>
<td>.14</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Time 1 employment commitment</td>
<td>3.98</td>
<td>0.56</td>
<td>.23</td>
<td>.05</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Average daily job search effort</td>
<td>3.01</td>
<td>1.90</td>
<td>.19</td>
<td>.12</td>
<td>.11</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Average daily stress</td>
<td>9.35</td>
<td>2.55</td>
<td>.07</td>
<td>.48</td>
<td>.03</td>
<td>.01</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Average daily reemployment expectation</td>
<td>5.80</td>
<td>1.25</td>
<td>.07</td>
<td>-.02</td>
<td>-.05</td>
<td>.19</td>
<td>-.07</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Average daily negative search experience</td>
<td>6.88</td>
<td>1.44</td>
<td>.09</td>
<td>.34</td>
<td>.30</td>
<td>.25</td>
<td>.50</td>
<td>-.07</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Average daily financial strain</td>
<td>7.86</td>
<td>1.35</td>
<td>.05</td>
<td>.23</td>
<td>.34</td>
<td>.14</td>
<td>.40</td>
<td>.06</td>
<td>.75</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>9. Average daily job search intention</td>
<td>5.86</td>
<td>1.36</td>
<td>.32</td>
<td>.18</td>
<td>.23</td>
<td>.56</td>
<td>.25</td>
<td>.47</td>
<td>.43</td>
<td>.38</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. N=100. Correlation coefficients larger than .19 are significant at the .05 level. Correlation coefficients larger than .25 are significant at the .01 level.
Table 2
*Testing the direct causal model: Relationships between job search effort and next-day stress*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Next-day stress (Model 1)</th>
<th>Next-day stress (Model 2)</th>
<th>Next-day stress (Model 3)</th>
<th>Daily negative search experience (Model 4)</th>
<th>Next-day stress (Model 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b  se</td>
<td>b  se</td>
<td>b  se</td>
<td>b  se</td>
<td>b  se</td>
</tr>
<tr>
<td>Time 1 job search effort</td>
<td>.02 (.04)</td>
<td>.02 (.04)</td>
<td>.03 (.04)</td>
<td>-.00 (.02)</td>
<td>.03 (.04)</td>
</tr>
<tr>
<td>Time 1 employment commitment</td>
<td>.10 (.46)</td>
<td>.14 (.47)</td>
<td>.14 (.45)</td>
<td>.79 (.26)**</td>
<td>.02 (.47)</td>
</tr>
<tr>
<td>Daily job search effort</td>
<td>.11 (.05)*</td>
<td>.12 (.05)*</td>
<td>.16 (.03)**</td>
<td>.07 (.05)</td>
<td></td>
</tr>
<tr>
<td>Daily reemployment expectation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.07 (.05)</td>
</tr>
<tr>
<td>Daily job search effort × Reemployment expectation</td>
<td>-.16 (.06)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily negative search experience</td>
<td></td>
<td></td>
<td></td>
<td>.15 (.05)**</td>
<td>.19 (.05)**</td>
</tr>
</tbody>
</table>

N 1023  1010  1231  1117  1021
-Log likelihood 2291.30  2263.14  2739.58  2008.09  2278.33

* p<0.05; ** p<0.01,
Table 3  
*Testing the reversed causal model: Relationship between daily stress and next-day job search effort*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Next-day job search effort</th>
<th>Daily job search intention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>se</td>
</tr>
<tr>
<td>Time 1 stress</td>
<td>.05</td>
<td>(.04)</td>
</tr>
<tr>
<td>Time 1 employment commitment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily stress</td>
<td>.08</td>
<td>(.02)**</td>
</tr>
<tr>
<td>Daily stress square</td>
<td>.00</td>
<td>(.00)</td>
</tr>
<tr>
<td>Daily job search intention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>1015</td>
<td></td>
</tr>
<tr>
<td>-log likelihood</td>
<td>1875.02</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05; ** p<0.01
Table 4

*Testing the common factor model: Effects of daily financial strain on the relationship between daily job search effort and stress*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Next-day stress</th>
<th></th>
<th>Next-day job search effort</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>se</td>
<td>b</td>
<td>se</td>
</tr>
<tr>
<td>Time 1 job search effort</td>
<td>.02</td>
<td>(.04)</td>
<td>.05</td>
<td>(.04)</td>
</tr>
<tr>
<td>Time 1 stress</td>
<td></td>
<td></td>
<td>.05</td>
<td>(.04)</td>
</tr>
<tr>
<td>Time 1 employment commitment</td>
<td>.15</td>
<td>(.47)</td>
<td>.31</td>
<td>(.33)</td>
</tr>
<tr>
<td>Daily job search effort</td>
<td>.10</td>
<td>(.05)*</td>
<td>.08</td>
<td>(.02)**</td>
</tr>
<tr>
<td>Daily stress</td>
<td></td>
<td></td>
<td>.08</td>
<td>(.02)**</td>
</tr>
<tr>
<td>Daily financial strain</td>
<td>.22</td>
<td>(.06)**</td>
<td>.02</td>
<td>(.04)</td>
</tr>
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<td>N</td>
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<td>1013</td>
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<td>1870.97</td>
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</table>

* p<0.05; ** p<0.01,