

# Effectiveness of Job Search Interventions: A Meta-Analytic Review

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The current meta-analytic review examined the effectiveness of job search interventions in facilitating job search success (i.e., obtaining employment). Major theoretical perspectives on job search interventions, including behavioral learning theory, theory of planned behavior, social cognitive theory, and coping theory, were reviewed and integrated to derive a taxonomy of critical job search intervention components. Summarizing the data from 47 experimentally or quasi-experimentally evaluated job search interventions, we found that the odds of obtaining employment were 2.67 times higher for job seekers participating in job search interventions compared to job seekers in the control group, who did not participate in such intervention programs. Our moderator analysis also suggested that job search interventions that contained certain components, including teaching job search skills, improving self-presentation, boosting self-efficacy, encouraging proactivity, promoting goal setting, and enlisting social support, were more effective than interventions that did not include such components. More important, job search interventions effectively promoted employment only when both skill development and motivation enhancement were included. In addition, we found that job search interventions were more effective in helping younger and older (vs. middle-aged) job seekers, short-term (vs. long-term) unemployed job seekers, and job seekers with special needs and conditions (vs. job seekers in general) to find employment. Furthermore, meta-analytic path analysis revealed that increased job search skills, job search self-efficacy, and job search behaviors partially mediated the positive effect of job search interventions on obtaining employment. Theoretical and practical implications and future research directions are discussed.

*Keywords:* job search training interventions, self-regulation, employment outcomes, self-efficacy, job search behaviors

Previous research has shown that unemployment can severely compromise the financial and psychological health of individuals and their families (e.g., Jahoda, 1982; Wanberg, 2012). According to recent data released by the U.S. Census Bureau, poverty nearly triples among families with a parent unemployed six months or longer, rising from 12.0% pre-unemployment to 35.3% post-unemployment (Zedlewski & Nichols, 2012). The heightened financial strain experienced by the unemployed could further lead to

impaired mental health (Price, Choi, & Vinokur, 2002). As shown by several meta-analyses (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009; Roelfs, Shor, Davidson, & Schwartz, 2011), unemployment may lead to depression, anxiety, low self-esteem, marital dissatisfaction, and even an increased risk of death. However, job search, the most direct way to counter unemployment, is no easy task, especially under adverse economic conditions. Given the high unemployment rate in many parts of the world (e.g., United States, Greece, France, and Spain; Organization for Economic Co-operation and Development, 2013; U.S. Bureau of Labor Statistics, 2013), it is not surprising that researchers and practitioners worldwide have paid increasing attention to interventions designed to help individuals find jobs (e.g., Saks, 2005; Wanberg, 2012).

A job search intervention, whether it occurs in the form of the JOBS Intervention Project (e.g., Brenninkmeijer & Blonk, 2012; Caplan, Vinokur, Price, & van Ryn, 1989),<sup>1</sup> the Job Club (e.g.,

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<sup>1</sup> The JOBS intervention project, developed by Michigan Prevention Research Center, involved the design and evaluation of a preventive intervention aimed at providing job-seeking skills and confidence to use these skills to promote reemployment and to combat feelings of anxiety and depression among the unemployed.

Azrin, Flores, & Kaplan, 1975; Rife & Belcher, 1994),<sup>2</sup> stress management training (e.g., Maysent & Spera, 1995; Spera, Buhrfeind, & Pennebaker, 1994), or some derivative of these methods, is a training program designed to help job seekers look for employment or secure employment faster. In recent years, because of the changing context of work and the normalization of unemployment due to recurrent layoffs (Wanberg, 2012), job search intervention studies have proliferated (Audhoe, Hoving, Sluiter, & Frings-Dresen, 2010; Kluge, Rother, & Puerta, 2012; Mattera, 2006). However, there is a lack of integration in this literature (Brown et al., 2003; Hanisch, 1999). For instance, more recent intervention programs (e.g., Reynolds, Barry, & Gabhainn, 2010; Yanar, Budworth, & Latham, 2009) often replicate a previous intervention (e.g., the JOBS intervention project or the verbal self-guidance training) rather than incorporate the merits, let alone synergies, of multiple intervention approaches.

In particular, there exist three significant gaps in previous research on job search interventions. First, a critical and comprehensive review of the theoretical perspectives in job search intervention research is lacking. Although several well-established theories (e.g., theory of planned behavior and social cognitive theory) have been applied to prominent job search intervention programs (e.g., Latham & Budworth, 2006; van Ryn & Vinokur, 1992), comparisons and integrations among these perspectives have not yet been conducted. Such theoretical synthesis not only is important for building an overarching framework to guide the research on job search interventions but also is critical for understanding job search interventions' similarities with and implications for other types of interventions in the general psychology literature (e.g., Brownlee, Leventhal, & Leventhal, 2000; Sitzmann & Ely, 2011).

Second, despite large variations in the effectiveness of job search interventions, there have been few attempts to explain these variations across studies. Although the majority of job search intervention studies demonstrated that the odds of obtaining employment were significantly higher for the intervention group than for the control group (e.g., Spera et al., 1994; Rife & Belcher, 1994; Yanar et al., 2009), a fair amount of published and unpublished studies reported no clear benefits from participating in job search intervention programs (e.g., Creed, Machin, & Hicks, 1999; Davy, Anderson, & DiMarco, 1995; Gustafson, 1995; Harris et al., 2002; Shirom, Vinokur, & Price, 2008; Vidales, 1987). Such variability in observed effect sizes may cast doubt on the generalizability and usefulness of job search intervention programs. However, there has not been a quantitative review to date that examines the overall effectiveness of job search interventions. Moreover, factors associated with intervention design and participants' characteristics that may improve or hinder intervention effectiveness remain poorly understood.

Third, although in the general job search literature, mechanisms that lead to finding employment are well developed and tested (e.g., Saks, 2005; Van Hooft, Wanberg, & Van Hove, 2013), we still have limited understanding on how several job search/reemployment predictors can be changed, what their effects are, and to what extent an intervention needs to focus on one predictor at a time or on multiple predictors simultaneously. It is important to note that, in addition to obtaining employment, previous job search intervention studies have included other outcomes that theoretically and/or empirically explain the effect of the intervention on obtaining employment (e.g., Koen, Klehe, & Van Vianen, 2013;

Noordzij, Van Hooft, Van Mierlo, Van Dam, & Born, 2013; Vinokur & Schul, 1997). Accordingly, it is important to integrate such findings and investigate several process variables including job search skills (e.g., McClure, 1972), job search self-efficacy (one's confidence in performing tasks that are important in the job search process; Caplan et al., 1989), and job search activities (e.g., Azrin & Philip, 1979) as potential mechanisms via which job search interventions lead to higher probability of employment.

Synthesizing previous studies, the current meta-analytic review aims to contribute to the job search intervention literature in the following ways. First, we provide a critical review of the major theoretical perspectives used in job search intervention research. Drawing on recent work conceptualizing job search as a type of self-regulation (e.g., Kanfer, Wanberg, & Kantrowitz, 2001; Saks, 2005; Van Hooft et al., 2013), we integrate previous theoretical perspectives and propose a taxonomy of critical components of job search interventions. This taxonomy, focusing on both skill development and motivation enhancement, synthesizes various theories and practices that are important to help job seekers obtain employment. Second, we provide a quantitative review of the overall effect of job search interventions on obtaining employment using meta-analysis. This technique, combining the results of prior published and unpublished research, allows us to examine whether the inconsistent findings in the literature (i.e., the odds of finding employment in the experimental group versus the control group ranged widely) were results of random sampling error or, rather, important study characteristics. In particular, we evaluate the effectiveness of various job search intervention components as an explanation of the heterogeneity observed in the overall effectiveness of job search intervention programs. Third, we examine important sample characteristics (e.g., job seekers' age, length of unemployment, and job seekers' special needs and conditions in obtaining employment) as boundary conditions for the effectiveness of job search interventions. By doing so, we provide insights regarding how job seekers' characteristics may interact with the job search intervention effort in influencing the job search outcome. This analysis can also shed light on the generalizability of previous findings regarding the effectiveness of job search interventions. Fourth, estimating a meta-analytic path model, we test job search skills, job search self-efficacy, and job search behaviors as the underlying mechanisms of the effect of job search interventions on participants' employment status. Examining these potential mediating mechanisms can help us further delineate and articulate the theoretical linkages between job search interventions and obtaining employment. Finally, we provide a critique of the research methods in the job search intervention literature and discuss several important areas for future research on job search interventions.

<sup>2</sup> The Job Club was developed in the 1970s as a job preparation tool. Its procedure was formalized in the *Job Club Counselor's Manual* (Azrin & Besalel, 1980). The Job Club intervention used a group-based behavioral approach to teach job search skills among participants. Job search effort was also reinforced through social support and vicarious learning experiences.

## Theoretical Perspectives and Hypotheses

### Major Theoretical Perspectives on Job Search Interventions

Studies using experimental designs to systematically evaluate job search interventions started to appear in the applied psychology and career management literature in the early 1970s (e.g., Azrin et al., 1975; Barbee & Keil, 1973; McClure, 1972; Salipante & Goodman, 1976). In reviewing this literature, we identified four major theoretical perspectives used to guide the design of job search interventions. These theoretical perspectives differ in their focal variables as well as theoretical mechanisms applied to understanding job search interventions.

**Behavioral learning theory.** Previous job search research (e.g., Blau, 1994; Wanberg, Kanfer, & Banas, 2000) recognized that successful job search consists of a set of behaviors (e.g., vacancy search, networking, résumé writing, and interviewing), the acquisition of which can be greatly facilitated using principles derived from behavioral learning theories (e.g., Baer, Wolf, & Risley, 1968; Skinner, 1938). Specifically, behavioral learning theory suggests that attempts to modify behaviors are more effective when the desired behavior is reinforced by and performed under the supervision of trainers/counselors, rather than learned through less direct instructions (e.g., a manual). In addition, timely feedback is critical in facilitating behavioral change and skill acquisition. Research suggests that feedback can help individuals focus their attention on feedback-standard gaps, which sustains effort in reducing such gaps (Kluger & DeNisi, 1996). Furthermore, behavioral learning theory emphasizes the role of social reinforcement in nourishing the desired behavior (Bandura & McDonald, 1963). With one's social environment providing support and encouragement, behavioral change is more likely to be observed.

Guided by such behavioral principles, job search interventions can target specific job search behaviors to increase the likelihood of obtaining employment. For example, several job search intervention programs (e.g., Azrin & Philip, 1979; Azrin, Philip, Thienes-Hontos, & Besalel, 1980) ask job seekers to perform job search behaviors (e.g., identifying vacancies and making cold calls) under the supervision of career counselors. Job seekers are guided and encouraged while they make inquiries about a wide variety of jobs for which they might be qualified. Résumés are constructed and then reviewed by counselors while the job seekers are in classrooms. During face-to-face interactions with trainers/counselors, feedback is provided to facilitate job search skill acquisition and behavior retention. For example, during mock interviews, counselors provide instructions and feedback to improve body language and expressions during the interview. Finally, mutual support and job leads exchange among job seekers are encouraged (e.g., Jones & Azrin, 1973). Such help giving is then reciprocated and reinforced by fellow job seekers, improving the group's likelihood to obtain employment.

**Theory of planned behavior.** The theory of planned behavior (Ajzen & Fishbein, 1980) has been used to predict job search behaviors and job search success (e.g., Song, Wanberg, Niu, & Xie, 2006; Van Hooft, Born, Taris, van der Flier, & Blonk, 2004; van Ryn & Vinokur, 1992). This theory places intention to perform the behavior as the most proximal predictor of

behavioral performance. Further, according to this theory, behavioral intention is entirely predicted by attitude toward the behavior, subjective norm, and perceptions of personal control regarding performing such behavior. In the job search context, attitude toward behavior is reflected by a job seeker's cognitive or affective evaluation about putting effort into his or her job search. For example, one individual may think it is useless or even foolish to submit a résumé online, whereas another might believe it is quite beneficial and efficient to find a job this way. Subjective norm refers to the extent to which unemployed individuals believe those close to them expect them to exert effort toward finding a job. Finally, perceived behavior control has been operationalized as job search self-efficacy, an individual's confidence in performing job search behaviors well. The theory of planned behavior suggests that when attitude and subjective norm are more positive and when perceived behavior control is high, intention to perform the behavior is also high, which leads to more effort exerted on such behavior.

In designing job search interventions, several studies have applied the theory of planned behavior (e.g., Corbiere et al., 2011; van Ryn & Vinokur, 1992). For instance, instructions are provided to help job seekers realize that it is wise, beneficial, and useful (as opposed to foolish, harmful, and useless) to try hard in the next 4 months to get a job (i.e., changing the attitude toward job search, Azrin & Philip, 1979; van Ryn & Vinokur, 1992). Trainings designed specifically to improve perceived behavioral control regarding performing job search have also been shown to increase the intensity of job search behaviors (van Ryn & Vinokur, 1992). Furthermore, getting family members and friends on board with the job search is critical to the success of job seekers' pursue of employment (Song et al., 2006). For example, by sending letters to job seekers' significant others, job search interventions can improve the subjective norm of job seeking, leading to more frequent job search behaviors.

**Social cognitive theory.** Bandura's (1991) social cognitive theory explains human psychosocial functioning in terms of the interaction among behavior, cognitive and other personal factors, and environmental events. These three factors interact as determinants of each other in a process known as triadic reciprocal causation (Bandura, 1986). One implication of this is that the strength of environmental influences (e.g., intervention effect) may depend on individual (i.e., trainee) characteristics, a point we return to in a later section.

Social cognitive theory recognizes the importance of goal setting. Bandura (1991) suggested that goal setting enlists evaluative self-reactions (i.e., self-satisfaction) that mobilize efforts toward goal attainment. Knowledge of goal progress alters one's subsequent behavior to the extent that it activates self-reactive influences in the form of personal goal setting and self-evaluative reactions. Therefore, job search interventions that help job seekers set career goals and job search goals should help lead to employment. Moreover, previous research (Latham, 2001) suggests that in setting these goals, it is important to ensure job seekers' outcome expectancy; namely, seeing the relationship between what one is doing (e.g., networking) and the outcome one can expect (e.g., employment). Doing so is also likely to increase job seekers' commitment to their job search goal.

In addition to placing emphasis on goal setting and outcome expectancy, social cognitive theory emphasizes self-efficacy as the key mechanism to human agency effect (Bandura, 1986, 1991; Latham, 2001). Self-efficacy refers to people's confidence in their ability to perform specific activities. It influences how people think, feel, and act. Higher self-efficacy can lead individuals to set higher goals and become more committed to those goals, subsequently motivating them not to give up after failures and setbacks. Thus, according to this theory, boosting self-efficacy should be an important element in job search interventions (Eden & Aviram, 1993). There are four sources of a person's beliefs about whether he or she can perform a given action or task: successfully performing the task in the past, vicariously learning from observing others successfully performing it, being persuaded or convinced that he or she can do it, and reducing the negative physiological state associated with fear arousal. Accordingly, learning job seeking through observing, modeling, and practicing effective job search behaviors might lead to increase in job search self-efficacy, which further motivates job seekers to exert more effort in job search. In addition, boosting self-efficacy through verbal persuasion techniques should improve motivation to engage in job search.

**Coping theory.** The coping theory (Lazarus, 1991; Lazarus & Folkman, 1984) suggests that individuals facing environmental demands that tax or exceed their resources will appraise the situation as harm/loss, threat, or challenge (i.e., primary appraisal) and choose different coping strategies aimed at resolving the stressful situation (i.e., secondary appraisal). This process has significant implications to job seekers' well-being and reemployment. When job loss and unemployment is perceived as a loss or threat, individuals' psychological well-being is likely to suffer, causing anxiety, depression, or physical symptoms. Individuals who experience lowered psychological well-being are more likely to focus on coping with the negative consequences, which can reduce motivation and persistence at tasks that can potentially resolve the problem. In addition, this might lead individuals to choose escape-oriented coping strategy (i.e., avoidance strategies focused on escaping or denying the situation; e.g., alcohol use; Liu, Wang, Zhan, & Shi, 2009) rather than control-oriented coping strategy (i.e., proactive strategies aimed at resolving the situation), contributing to procrastination that might prolong unemployment. Furthermore, this theory suggests that social support helps reduce maladaptive coping (Wang et al., 2013; Wang, Liu, Zhan, & Shi, 2010) and is an important resource for coping with job loss (Latack, Kinicki, & Prussia, 1995; Rife & Belcher, 1993).

Based on coping theory, managing stress and enlisting social support are critical for job search intervention programs. Stress symptoms associated with unemployment and job search may take away important resources that could be invested on job search. For example, previous research found that anxiety was negatively related to interview performance (McCarthy & Goffin, 2004). Therefore, teaching coping skills to reduce anxiety may improve the quality of job search behaviors. Meanwhile, enlisting social support (e.g., using social support for concrete aid aimed at boosting financial reserves and networking for job leads) may provide critical coping resources to assist recovery from the devastating experiences of unemployment.

## A Self-Regulation Framework of Critical Components in Job Search Interventions

Although the theoretical perspectives reviewed have been applied to job search interventions, an integrated approach may be more comprehensive and effective in guiding the selection of intervention components and identifying the mechanisms via which job search interventions influence employment outcomes. First, both the theory of planned behavior and the coping theory emphasize the motivational processes underlying job search behaviors, while largely ignoring the competencies required to successfully execute job search. Second, behavioral learning theory focuses on observable actions and fails to recognize the cognitive mechanisms (e.g., boosting self-efficacy or goal setting) via which intervention efforts lead to employment outcomes. Third, although behavioral learning theory emphasizes the environmental influence on job seekers and the theory of planned behavior emphasizes job seekers' behavioral intentions, they do not explicitly discuss how job seeker characteristics may interact with environmental influence in determining job search success. Finally, although social cognitive theory pays special attention to the interactions among personal, environmental, and behavioral factors in leading to successful job search, its applications have mainly focused on developing job seekers' job search goals and self-efficacy, rather than specifying concrete proactive job search behaviors that are likely to lead to employment.

To integrate theories and practices in job search interventions, we follow extant reviews conceptualizing job search as a self-regulatory behavior, driven by an employment goal (Kanfer et al., 2001; Saks, 2005; Van Hooft et al., 2013). This perspective draws similarities between job search and other purposive and volitional actions, such as academic learning, health behaviors, and performance on the job. In engaging in such actions, individuals generally undertake a variety of skillful activities and mobilize a variety of personal resources (e.g., time, effort, and social resources) for the purpose of achieving an important objective (e.g., obtaining employment, maintaining physical health, or receiving a good performance rating). Previous research (e.g., Karoly, 1993; Latham & Locke, 1991; Maier, 1955) has suggested that the effectiveness of human performance and self-regulation is often determined by two types of resources: individuals' task-relevant knowledge/skills (i.e., performance capacity) and task motivation (i.e., task-directed resource allocation). Consistent with this theoretical perspective, the lack of such resources is the main barrier to a successful job search. For example, job seekers often lack skills to identify job leads through various sources and to impress potential employers and persuade them to make an offer (Kanfer & Hulin, 1985; Wegmann, 1979). Moreover, job search requires considerable motivational resources, which are often difficult to sustain at a high level over time. For example, Wanberg, Glomb, Song, and Sorenson (2005) found that both job search self-efficacy and job search intensity decreased over time in a sample of recently unemployed job seekers. This reduction in motivation is likely attributable to repeated setbacks during job search as well as a continual feeling of uncertainty.

Therefore, based on self-regulation frameworks (Kanfer & Gaelick, 1986; Saks, 2005; Van Hooft et al., 2013), job search interventions designed to facilitate self-regulation during job search should focus on improving job search skills and job search

motivation (Caplan, Vinokur, & Price, 1997). For example, two of the most frequently used interventions, the Job Club (e.g., Azrin et al., 1975; Azrin & Philip, 1979; Rife & Belcher, 1994) and the JOBS intervention project (e.g., Caplan et al., 1989; Vinokur, Price, & Schul, 1995; Vuori, Silvonen, Vinokur, & Price, 2002), both included teaching job search skills and interview skills as key components of the interventions, leading to improvement in job search skills and interview performance. In addition, job seekers' motivation may be improved by interventions that encourage goal setting (Staines et al., 2004; Van Hooft & Noordzij, 2009), enhance self-efficacy (e.g., Chen & Lim, 2012; Eden & Aviram, 1993; Shirom et al., 2008), and promote social support (e.g., Foley et al., 2010; Gray, 1983; Reynolds et al., 2010). Previous meta-analytic research (Kanfer et al., 2001) has demonstrated that commitment to employment goal, self-efficacy, and social support are positively related to job search intensity and success. Because most job search intervention programs do focus on improving job search skills and/or motivation, we propose

*Hypothesis 1:* Overall, job search interventions are effective in helping people obtain employment.

Although receiving job search interventions may lead to better odds of obtaining employment, previous research suggests that there might be systematic variations in the effectiveness of job search interventions in terms of helping people obtain employment (Brown et al., 2003). On the one hand, existing studies have included different intervention components (e.g., helping job seekers set up job search goals, using relaxation and stress management techniques to improve job seekers' mental health, enlisting social support for job seekers, and promoting job seekers' health), some of which may be more effective than others in promoting job search success. On the other hand, various studies may have focused on job seekers with different characteristics (e.g., job seekers in general, unemployed youth, long-term unemployed, and job seekers with special needs and conditions), and the interventions implemented in these studies might be customized to better serve some job seekers than others (Hanisch, 1999). Thus, in the following sections, we elaborate on intervention components and job seeker characteristics as potential moderators of the effect of job search interventions on employment. Our approach is consistent with social cognitive theory (Bandura, 1977, 1986, 1991) that suggests that psychological function is regulated by the interplay between contextual and personal influences. It is also consistent with self-regulation frameworks (e.g., Kanfer et al., 2001) that suggest both environmental and personal factors and their interactions influence the effectiveness of self-regulation during job search.

### Critical Components of Job Search Interventions

Integrating previous research, we propose a taxonomy of critical components that provides a foundation for understanding the effectiveness of job search interventions. As shown in Table 1, we identify seven specific intervention components that are frequently seen in programs designed to help unemployed individuals. These components can be categorized as being either skill development focused (i.e., teaching job search skills and improving self-presentation) or motivation enhancement focused (i.e., boosting self-efficacy, encouraging proactivity, promoting goal setting, en-

listing social support, and helping with job search stress management). This categorization is consistent with self-regulation frameworks (Kanfer & Gaelick, 1986; Karoly, 1993; Latham & Locke, 1991), which emphasize that individuals need to possess the ability to complete the task (i.e., job search skills as performance capacity) and the motivation to sustain the effort (i.e., attentional resources allocated to job search). Below, we review these critical components and discuss how they may influence the effectiveness of job search intervention programs.

**Teaching job search skills.** Individuals who are unemployed often lack job search skills (e.g., skills to obtain job leads through telephone directory, newspapers ads, Internet, and social networks), which could result in a lack of effort or effective strategy to obtain employment (Kanfer & Hulin, 1985). Therefore, teaching job search skills is often one of the core components of a successful job search intervention. Specifically, intervention programs could use lecturing, role modeling, video-based demonstration, and supervised job search (e.g., going through business directories and making call inquiries while being closely observed by a counselor) to enhance individuals' job search skills. In doing so, unemployed individuals acquire the necessary knowledge to identify and pursue job leads. For example, Ugland (1977) reported that job search skills training led to a higher likelihood of obtaining employment, which was attributable to more job openings found, more employers contacted, and more applications submitted among job seekers in the intervention group than job seekers in the control group. Therefore, we propose

*Hypothesis 2:* Teaching job search skills moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of teaching job search skills.

**Improving self-presentation.** The ways job seekers present themselves on résumés and during job interviews are likely to influence their chance of being short-listed or hired (e.g., Higgins & Judge, 2004). Consequently, improving job seekers' self-presentation by helping with their dress and grooming, résumé writing, and interview preparation may significantly increase their probability of obtaining employment. Previous studies suggest that job seekers often omit highly relevant personal characteristics from their résumé, or organize their résumé in ways such that employers will not easily discern its positive attributes (e.g., Azrin et al., 1975). As such, reminding job seekers to include experiences that highlight their interpersonal skills, leadership, and motivation as well as introducing self-presentation strategies to job seekers, such as adding competency statements in résumés and cover letters (Bright & Hutton, 2000), may significantly increase their likelihood of obtaining employment. In addition, given the overwhelming reliance on interviews in employee selection (e.g., Macan, 2009; Schmidt & Rader, 1999), job interview performance is critical with respect to highlighting one's capabilities, establishing rapport with potential employers, and distinguishing oneself from other applicants. Past research has demonstrated that training on interview skills and facilitating anxiety reduction during personnel selection could significantly improve individuals' interview performance (e.g., Hall, Gradt, Goetz, & Musu-Gillette, 2011; McCarthy & Goffin, 2004), which ultimately improves their

**Table 1**  
*A Framework of the Critical Components in Job Search Interventions*

Focus	Components	Descriptions	Major theories used in job search interventions			
			Behavioral learning theory	Theory of planned behavior	Social cognitive theory	Coping theory
Skill development	Teaching job search skills	Teaching job search skills such as identifying types of jobs where one's skills may be relevant; using classifieds, newspapers, Internet, and social networking to obtain job leads; and practicing phone calls to obtain job information.	X		X	
	Improving self-presentation	Providing training on presenting one's skills and abilities in a concrete and relevant manner on résumés and applicant blanks; providing dress and grooming instructions; teaching gestures, manners, and things to do during employment interviews; and using exercises to improve preparedness for interviews and other employment tests.	X		X	
	Boosting self-efficacy	Improving job seekers' self-efficacy by using the following experiences: enactive mastery of job search behaviors (e.g., making a convincing self-presentation, solving employment-related problems, and role-playing a job interview), vicarious learning (i.e., modeling of job search activities), and verbal self-guidance (i.e., converting negative self-statements to positive ones).		X	X	
Motivation enhancement	Encouraging proactivity	Encouraging job seekers to widen the variety of positions considered; encouraging job seekers to make "cold calls;" or follow-up calls regarding employment opportunities; offering additional job-related information not requested by the organization; asking an employer who did not have an opening if he or she knows of other employers who might have job openings.	X	X		
	Promoting goal setting	Teaching and encouraging job seekers to set concrete goals regarding desired occupation, job type, or salary level; Teaching and encouraging job seekers to set specific job search behavior goals, such as making a certain amount of phone calls or sending out certain numbers of résumés in the next week.			X	
	Enlisting social support	Facilitating peer support among job seekers; encouraging job seekers to share information on job leads; explaining the needs of job seekers to their family and friends; encouraging family and friends of job seekers to provide emotional support (e.g., encouragement) and tangible support (e.g., arrangements for transportation and allowances).	X	X		X
Stress management	Stress management	Encouraging job seekers to anticipate setbacks and rejections; inoculating job seekers against stress during job search; teaching skills (e.g., relaxation and expressive writing) to cope with adverse situations; promoting job seekers to adopt controllable and unstable perceptions of lack of progress in job search.				X

*Note.* An X denotes a theory that suggests a component as critical for successful job search interventions.

chance of being offered a job. Similarly, [Brown, Hillier, and Warren \(2010\)](#) found that job search interventions that focus on improving interview skills lead to better interview performance. On the basis of these evidences, we propose

*Hypothesis 3:* Improving self-presentation moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of improving self-presentation.

**Boosting self-efficacy.** Self-efficacy (i.e., people's beliefs in their capacity to exercise control over their own functioning and the environment; [Bandura, 1986](#)) plays a crucial role in motivating the unemployed to seek jobs. Meta-analysis reports that job seekers' self-efficacy is positively related to their job search behaviors, number of job offers, and employment status ([Kanfer et al., 2001](#)). [Bandura \(1986\)](#) identified four sources of self-efficacy: enactive attainment, vicarious experience, verbal persuasion, and emotional state, which have been adopted in job search intervention studies to raise self-efficacy. For example, [Eden and Aviram \(1993\)](#) used video clips to show models successfully performing job search behaviors. This was followed by a brief discussion of the behavior modeled and by role-playing in small groups in which each participant rehearsed the modeled behavior and got feedback from the others. In successfully enacting each behavior, the enactment of an actual job search was accentuated.

In addition, verbal self-guidance, where job seekers are trained to convert negative self-statements to positive ones (e.g., from "They are probably looking for someone younger" to "I have years of experiences in sales, which is exactly what they are looking for"), has been used in job search interventions to increase job seekers' self-efficacy and likelihood of employment ([Brown et al., 2010](#); [Millman & Latham, 2001](#); [Yanar et al., 2009](#)). The positive effect of verbal self-guidance training on obtaining employment has also been shown on a sample of Native American job seekers ([Latham & Budworth, 2006](#)).

Social cognitive theory of self-regulation (e.g., [Bandura, 1991](#)) recognizes that self-efficacy beliefs function as an important set of proximal determinants of human regulation. With increased self-efficacy, job seekers are likely to be more successful in their job hunt. First, the more capable people judge themselves to be, the higher the goals they set for themselves (e.g., finish more applications by the end of this week). Second, perceived self-efficacy contributes to the valuation of the activities. In other words, people with higher levels of self-efficacy display higher commitment and enduring interest in activities in which they judge themselves to be efficacious and from which they derive satisfaction by mastering challenges. Third, people who regard themselves as highly efficacious tend to ascribe their (temporary) failure to insufficient effort, whereas those who regard themselves as inefficacious view the cause of their failure as stemming from low ability. Thus, when job seekers enjoy higher levels of self-efficacy, their effort is sustained despite setbacks. Therefore, we propose

*Hypothesis 4:* Boosting self-efficacy moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of boosting self-efficacy.

**Encouraging proactivity.** Job search intervention programs often try to promote a set of proactive problem solving behaviors to facilitate job search. These behaviors involve challenging the status quo rather than passively adapting to present conditions and taking personal initiative in improving the current circumstance ([Crant, 2000](#)). In particular, job seekers are often encouraged to proactively generate a wider range of positions that they may be qualified for, including positions they have never held before (e.g., [Azrin et al., 1975](#); [Brooks, Nackerud, & Risler, 2001](#)). This is because many employers provide on-the-job training, which means that only a minimum of occupation-specific skills are necessary for applying for the job ([Azrin et al., 1975](#)). In addition, participants may be asked to follow examples of successfully employed individuals who considered a range of jobs instead of one type of job. Guided by these exercises, job seekers are likely to engage in proactive job search behaviors ([Staines et al., 2004](#)). It is important to note that this is different from the "shotgun" (nonindividualized, passive, and disengaged) approach on job search, such that job seekers apply for whatever jobs available on the market. Instead, job seekers are asked to carefully evaluate the match between their qualifications and the requirements of a wide variety of jobs ([Liu & Wang, 2012](#)).

Job seekers are also instructed to take personal initiative by engaging in the following actions: call or e-mail to arrange an appointment with an organizational representative to discuss employment opportunities, make "cold calls" or follow-up calls regarding employment opportunities, offer additional job-related information not requested by the organization, ask employers who do not have job openings about other employers who might be hiring, and ask former employers for recommendation letters and personal referrals to other employers (e.g., [Azrin et al., 1975](#); [Foley et al., 2010](#); [Ugland, 1977](#)). As shown in previous research, these job search behaviors, which demonstrate personal proactivity and assertiveness, are significantly related to job search success ([Schmit, Amel, & Ryan, 1993](#)). Therefore, we propose

*Hypothesis 5:* Encouraging proactivity moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of encouraging proactivity.

**Promoting goal setting.** Job search has been defined as self-regulatory activities that can be facilitated by a clearly defined job search goal ([Boswell, Zimmerman, & Swider, 2012](#); [Creed, King, Hood, & McKenzie, 2009](#); [Kanfer et al., 2001](#)). This is because job search goals direct individuals' attention, mobilize and sustain individuals' effort, and facilitate strategies on job search. The goal setting theory also contends that goal setting is likely to be effective when the goal is specific, when individuals are committed to reaching the goal, and when they receive feedback on their goal progress ([Locke & Latham, 1990](#)). This notion has been supported by previous research. For example, [Van Hoye and Saks \(2008\)](#) reported that having a clear goal of finding a new job was positively related to six categories of job search behaviors: looking at job ads, visiting job sites, networking, contacting agencies, contacting employers, and submitting applications. Similarly, [Côté, Saks, and Zikic \(2006\)](#) found that job search goal clarity was significantly related to job search intensity, which is positively

related to employment success. Consequently, goal setting as an important motivation-enhancing technique has been used in job search intervention programs (e.g., Braddy & Gray, 1987; Rife & Belcher, 1994). For example, employment counselors may use weekly meetings to review progress made toward the job search goals participants set at previous meetings (e.g., to locate two job leads or follow up on a call to an employer) and set goals to be accomplished by the next meeting. In doing so, counselors help job seekers sustain their attention and effort on job search. Therefore, we propose

*Hypothesis 6:* Promoting goal setting moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of promoting goal setting.

**Enlisting social support.** Previous research has suggested that social support is positively related to job seekers' effort in searching for jobs and obtaining employment (Kanfer et al., 2001). For example, Vinokur and Caplan (1987) found that positive attitudes and expectancies of an individual's spouse regarding the value of job seeking were associated with the attitudes and expectancies of the unemployed individual. Similarly, Rife and Belcher (1993) found that social support provided by family and friends was positively related to individuals' job search intensity. Therefore, Price (1992), as well as McDonald, Erickson, Johnson, and Elder (2007), suggests that job search interventions might be more effective by actively involving family, friends, and acquaintances who can provide support during the job search process. In a number of intervention studies (e.g., Azrin et al., 1980; Gray, 1983; Reynolds et al., 2010), job seekers' peers, family, and friends were encouraged to provide emotional support (e.g., encouragement and assurance) and tangible support (e.g., arrangements for transportation, babysitting, and allowances), offer job leads, or make suggestions (e.g., read through cover letters and résumés and comment on answers to interview questions) to facilitate the job search effort. In addition, employment counselors have used group discussion to facilitate interactions among job seekers in the form of reviewing each other's résumés, sharing job leads, and mutual encouragement (e.g., Braddy & Gray, 1987). Counselors have also sent letters to family members (spouses, siblings, or parents) or friends with whom the job seeker was living, and explained how that person could help the job seeker obtain employment (e.g., Azrin et al., 1975). These techniques to enlist social support may result in more job leads, higher job search self-efficacy, and more intensive job search. Therefore, we propose

*Hypothesis 7:* Enlisting social support moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of enlisting social support.

**Managing stress.** Job search is a very stressful process (McKee-Ryan et al., 2005). Failure to identify possible job leads, uncertainties, setbacks, and rejections are part of the daily routine for many job seekers (e.g., Barber, Daly, Giannantonio, & Phillips, 1994). These experiences tend to drain job seekers' psychological

energy and cause emotional distress (Wanberg, 1997). Over time, stress accumulates, which could severely influence job seekers' physical as well as psychological well-being. Impaired well-being could, in turn, impede job seekers' ability to impress potential employers. To help job seekers manage stress, job search interventions have focused on improving their coping abilities. A variety of such techniques has been used in previous research. The JOBS program (e.g., Vinokur & Schul, 1997), for example, had participants engage in inoculation against setbacks. Specifically, job seekers learned to anticipate setbacks (e.g., not hearing back from many positions applied for or being considered as not having relevant experiences), then plan alternatives or preventive courses of action aimed to overcome such barriers and setbacks (e.g., making follow-up calls to employers or explaining that their skills match job requirements). Similarly, training on setting learning goals (Van Hooft & Noordzij, 2009) and training on attribution (Jackson, Hall, Rowe, & Daniels, 2009) have been used to inoculate job seekers against negative feedback. For example, job seekers are trained to view their setbacks as temporary and helpful in providing useful feedback on their job search strategies and effort. These learning-oriented goals are likely to reduce tension and anxiety during job search (Cianci, Klein, & Seijts, 2010; Vinokur & Schul, 1997).

In addition, expressive writing (Spera et al., 1994), where job seekers were instructed to write about their thoughts and feelings about the layoff and their coping process, has been shown to improve job search outcomes. This intervention method is based on the idea that, instead of inhibiting the negative experiences associated with job loss and job search, self-disclosure could reduce individuals' emotional burden and improve individuals' physical and psychological well-being. By improving adjustment to unemployment, this intervention could help individuals become physically and mentally ready for job search and thus promote job search success. In sum, we submit that job search stress management may be a critical component in job search interventions. Specifically, we propose

*Hypothesis 8:* Managing stress moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions include (vs. do not include) the component of obtaining employment.

It should be noted that Hypotheses 2 through 8 pertain only to specific components of job search interventions. At a broader level, an examination of the psychological foci of the training content may shed light on the ideal overall design of job search interventions. As reviewed previously, the content of job search interventions can be classified into two broad categories: skill-development-focused training and motivation-enhancement-focused training. This classification is consistent with the job search literature, which emphasizes learning appropriate skills to perform job search related tasks (e.g., Creed, Hicks, & Machin, 1998; Creed et al., 1999) and sustaining motivation to persist in job search efforts (e.g., Eden & Aviram, 1993; Spera et al., 1994). We argue that a coupling of skill development-focused and motivation enhancement-focused interventions may create a synergistic effect in promoting employment.



First, the acquisition of job search skills may be facilitated by stronger job search motivation (Colquitt, LePine, & Noe, 2000). For example, when job seekers are more committed to the employment goal, they are likely to be more focused, active, and engaged during training sessions on job search skills. Moreover, tangible support, such as in the forms of child care, allowances for participating in training classes, and transportation arrangements, could improve participation in job search intervention programs (Wanberg, Kanfer & Rotundo, 1999). Therefore, including a motivation-enhancing component in a job search intervention program could lead to better learning experiences and outcomes for job seekers.

Second, stronger job search motivation could also facilitate the transfer of job search skills (i.e., the use of trained knowledge and skills in the actual job search process). For example, efforts to boost job seekers' self-esteem and confidence may increase the frequency of job search behaviors, which leads to more job interviews and employment opportunities (e.g., Chen & Lim, 2012). Additionally, training on job seekers' proactivity may lead to more job leads found and more applications submitted, providing more opportunities for job seekers to take advantage of their interview skills. Furthermore, stress management training could buffer the negative impact of setbacks on job search motivation, thus sustaining job search behaviors. In sum, motivation enhancement training helps job seekers to capitalize on the knowledge and skills learned during the intervention.

Third, a combination of skill training and motivation training in job search interventions could significantly improve the perceived employability of job seekers, which is critical in obtaining employment (Koen, Klehe, & Van Vianen, 2012; Smith, 2010). For example, training that focuses on job seekers' interview skills is likely to lead to improvement in social skills, which is a critical component of employability from an employer's perspective (Hogan, Chamorro-Premuzic, & Kaiser, 2013). Further, motivation-focused training could lead to more positive emotions during interactions with potential employers, which could be interpreted as being friendly and fun to work with, thus increasing the likelihood of receiving further consideration or even job offers. On the basis of these arguments, we propose

*Hypothesis 9:* Training content moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) when job search interventions incorporate both skill development and motivation enhancement (vs. focus on either skill development or motivation enhancement).

### Sample Characteristics as Moderators

The general training literature has emphasized that trainee characteristics may influence training effectiveness (e.g., Colquitt et al., 2000). The job search literature also recognizes that the characteristics and needs of unemployed individuals may influence the extent to which they benefit from job search interventions (Saks, 2005; Solberg, Good, & Nord, 1994; Wanberg, Zhang, & Diehn, 2010). Drawing on an individual differences perspective, we develop hypotheses on how unemployed job seekers' age, special needs and conditions, and length of unemployment may impact the effectiveness of job search interventions.

**Age.** Building on previous research, we expect that job search interventions are more beneficial for younger job seekers (age  $\leq 35$ ) and older job seekers (age  $> 50$ ) than for middle-aged job seekers ( $35 < \text{age} \leq 50$ ). This is because job search interventions tend to better match the particular training needs of younger and older job seekers (e.g., Saks, 2005). Specifically, younger job seekers often lack experiences or necessary skills in conducting job search (Eby & Buch, 1995). They are also often unclear about their career goals or job search goals (Werbel, 2000) and are likely to experience high levels of stress during job search (e.g., Wanberg et al., 2010). Therefore, most job search interventions that develop job search skills, improve job search motivation, and help individuals cope with unemployment-related as well as job-search-related stress address the needs of young job seekers very well. Older job seekers, on the other hand, are often relatively more distant to the contemporary hiring process (e.g., online applications and selection interviews). Therefore, job search skills training (e.g., using technology to facilitate finding job leads) may be particularly helpful for older job seekers. In addition, older job seekers may face negative employer stereotypes and even age discrimination as they search for employment (Wang & Shultz, 2010; Wang, Zhan, Liu, & Shultz, 2008). Thus, job search stress management and interview skills training are very helpful in countering the potential frustration and ageism older job seekers may face in their job search. Further, because older job seekers tend to have low levels of job search self-efficacy and high levels of social isolation (Rife & Belcher, 1993), improving their job search motivation may be particularly effective in sustaining their job search effort. Hence, we propose

*Hypothesis 10:* Job seekers' age moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) for younger job seekers and older job (vs. middle-aged job seekers).

**Special needs and conditions.** An important concern in the job search intervention literature is whether these procedures can be applied to job seekers with special needs and conditions that could cause difficulty in obtaining employment (Azrin & Philip, 1979; Mueller, 2007). For example, in career counseling literature, job seekers with previous injuries and chronic health problems that limit their ability to work (e.g., Li-Tsang, Li, Lam, Hui, & Chan, 2008; Schuring, Burdorf, Voorham, der Weduwe, & Mackenbach, 2009), job seekers with mental disabilities (e.g., Ax, 1983; Keith, 1976), and job seekers who are in substance abuse treatment (e.g., Foley et al., 2010; Hall, Loeb, Coyne, & Cooper, 1981; Hall, Loeb, LeVois, & Cooper, 1981) are typically considered as "job handicapped" and hard to place for employment (Bolles & Brown, 2001). Nevertheless, we believe that these job seekers could significantly benefit from participating in job search interventions, maybe even more so than job seekers in general.<sup>3</sup>

On the one hand, research suggests that there is a reciprocal relationship between factors that contribute to job search difficulties (e.g., physical symptoms, mental disorders, and substance

<sup>3</sup> It is important to note that in job search interventions that focus on job seekers with special needs and conditions, treatment regarding their special needs and conditions are also provided to participants in both the experimental group and the control group.

abuse) and unemployment. For example, a recent review has shown that unemployment could lead to impaired physical health as well as drinking problems (Wanberg, 2012). In addition, these symptoms may further contribute to prolonged unemployment (e.g., Sverko, Galic, Sersic, & Galesic, 2008). Therefore, without appropriate interventions, job seekers with special needs and conditions might be caught in a vicious cycle in which their job search difficulties and unemployment mutually reinforce one another. However, job search interventions can introduce important motivational resources, such as enhanced self-efficacy and social support. These resources are critical in breaking down the vicious cycle and jumpstarting the pursuit for employment. On the other hand, one of the most important barriers for job seekers with special needs and conditions is employers' potential concern regarding their employability due to their health conditions or life history (e.g., substance abuse; Keith, 1976). In other words, the stigma against job seekers with special needs and conditions may overshadow their marketable occupational skills. Job search interventions can help mitigate employers' concern and reduce stigmatization by improving job seekers' job search skills and interview skills. For example, Hall, Loeb, and Norton (1977) taught participants how to handle interview questions related to their drug problems. Specifically, job seekers learned to emphasize their drug problems as historical and point out their current participation in treatment and other recent positive accomplishments during the job interview. In sum, job search interventions may be especially helpful to the "job handicapped." Thus, we propose

*Hypothesis 11:* Job seekers' special needs and conditions moderate the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) for job seekers with special needs and conditions (vs. job seekers in general).

**Duration of unemployment.** The duration of unemployment (i.e., number of days unemployed) plays an important role in the job search process (Barber et al., 1994). Previous research has suggested that job search interventions may be less effective for those who have been unemployed for an extended period of time (Reynolds et al., 2010; Vuori et al., 2002). This is because long-term unemployment may indicate low levels of human capital and social capital that are difficult to overcome in a few training sessions provided by intervention programs. First, long-term unemployed individuals often tend to have lower levels of writing and reading ability (van den Berg & van der Veer, 1992), lower levels of education, and lower levels of self-control of emotions (Kokko, Pulkkinen, & Puustinen, 2000), all of which are critical human capitals for obtaining employment (Fugate, Kinicki, & Ashforth, 2004; Kanfer et al., 2001; Wanberg et al., 1999). Therefore, before employability is ensured (e.g., through occupational skills courses), job search interventions may not be very useful for this group of individuals. Second, prolonged unemployment may cause a decline in support from family, friends, and acquaintances (Atkinson, Liem, & Liem, 1986). On the one hand, a lack of money for family activities and entertainment with friends, as well as the loss of social status, may make it more difficult for long-term unemployed individuals to maintain social contacts. On the other hand, due to impaired self-esteem, long-term unemployed individuals tend to isolate themselves from friends and family.

Therefore, there may be fewer social resources to draw on even with the help of the intervention program. Third, long-term unemployed individuals may become habituated to ongoing unemployment and develop lifestyles that further reduce their chances of reemployment (van den Berg & van der Veer, 1992). For example, maladaptive attitudes and behaviors, such as cynicism toward professional help and less physical exercise, have been associated with long-term unemployment (Olafsson & Svensson, 1986). Given these characteristics of the long-term unemployed, it may be more difficult for them to benefit from job search interventions. Thus, we propose

*Hypothesis 12:* Job seekers' duration of unemployment moderates the effect of job search interventions on obtaining employment, such that the effect is greater (vs. smaller) for short-term unemployed individuals (vs. long-term unemployed individuals).

### A Path Model Linking Job Search Interventions to Obtaining Employment

To provide a quantitative review of the potential mechanisms underlying successful job search interventions, we draw on the general training literature (e.g., Colquitt et al., 2000). In their meta-analysis of training effectiveness, Colquitt et al. (2000) suggest that training improves both skill acquisition and task-related self-efficacy, and these two learning outcomes in turn lead to the use of more training content on the job (i.e., training transfer), which further leads to better job performance. Applying this framework to the context of job search, we posit that job search interventions may improve job search skills, elevate job search self-efficacy, and increase job search behaviors, eventually leading to job search success (i.e., obtaining employment).

Specifically, job search skills, as measured by job search knowledge tests scores (e.g., Bergquist, 1982; Keith, 1976) or mock interview performance (e.g., Brown et al., 2010; Shantz & Latham, 2012), are often assessed to capture the immediate benefits of job search interventions. For example, in Keith (1976), job seekers in the experimental group learned job search skills. They were then evaluated using an achievement test to measure the knowledge level of what to do and say in the job hunting process. The results showed that job seekers in the experimental group scored significantly higher in the test than those in the control group. Similarly, Shantz and Latham (2012) taught interview skills to job seekers. The study reported that, after the training concluded, intervention participants performed significantly better in a structured employment interview than control participants. With increased job search skills, job seekers are more likely to locate job leads that match their knowledge, skills, and abilities, and impress potential employers, thus improving the probability of employment success (Hall, Loeb, Coyne, & Cooper, 1981; Keith, 1976; Van Hooft et al., 2013). Therefore, we propose

*Hypothesis 13a:* The positive effect of job search interventions on participants' employment status is at least partially mediated by the improvement in job search skills.

In addition to improving skills, job search interventions promote job search self-efficacy through mastery experience and behavioral modeling. When specific job search behaviors are described, mod-

eled, and performed with encouragement and feedback from career counselors, individuals are likely to feel confident in their ability to perform these behaviors successfully (Bandura, 1977; Eden & Aviram, 1993). Indeed, increased job search self-efficacy is often observed immediately after participating in job search interventions (Brown et al., 2010; Yanar et al., 2009). Given the impact of self-efficacy to motivate individuals and influence subsequent behavior (e.g., Bandura, 1977), it is likely that heightened job search self-efficacy as a result of job search interventions will lead to more job search behaviors (Kanfer et al., 2001).<sup>4</sup> For instance, van Ryn and Vinokur (1992) suggest that job search interventions increase participants' job search behaviors through improving their job search self-efficacy. Further, Kanfer et al.'s (2001) model of job search depicts job search behavior as a key variable linking antecedents (e.g., biographical variables, self-evaluations, and social context) and employment outcomes (e.g., number of job offers and search duration). Due to improved motivation, participants of job search interventions may engage in job search more frequently (e.g., Yanar et al., 2009) and spend more time looking for jobs (e.g., Van Hooft & Noordzij, 2009). These behaviors could lead to more job leads, more job offers, and higher likelihood of employment (Kanfer et al., 2001). Taken these possibilities together, we propose

*Hypothesis 13b:* Job search interventions elevate job search self-efficacy, which in turn increases job search behaviors, eventually leading to obtaining employment.

## Method

### Pool of Primary Studies

Multiple methods were used to identify studies for inclusion in our meta-analysis. First, we conducted electronic search for published and unpublished studies and dissertations on the topic of job search/employment intervention in four databases: PsycINFO, EBSCO Academic Complete, ProQuest Dissertations and Theses, and Google Scholar. The following keywords were used: *job search training*, *job search intervention*, *job search workshop*, *employment counseling*, and *occupational rehabilitation training*. Second, we conducted a manual search of online conference programs (Society for Industrial and Organizational Psychology and Academy of Management) and relevant journals in the past two decades.<sup>5</sup> Third, we compared our reference list with the reference lists of existing reviews of job search interventions (i.e., Audhoo et al., 2010; Mattera, 2006; Saks, 2005). Fourth, we sent out calls for unpublished or soon-to-be published work through different listserv communities, including the Society for Occupational Health Psychology and the Academy of Management's Organizational Behavior Division, Human Resource Division, and Careers Division. The end date for the literature search was May 1, 2013.

A study had to meet three criteria to be included in this meta-analysis. First, it must have used an experimental design or a quasi-experimental design with a control group, because this type of study is able to rule out important alternative explanations of the intervention effect, such as the maturation of job seekers over time and the change in job market conditions. Thus, by using this inclusion criterion, the primary studies included in this meta-analysis carry good internal validities (Lamontagne, Keegel,

Louie, Ostry, & Landsbergis, 2007; Richardson & Rothstein, 2008). Second, the study had to report the differences (i.e., odds ratio or Cohen's *d*, or enough data to compute the effect sizes such as means, standard deviations, *t* statistic, and chi-square) between the intervention group (i.e., the experimental group) and the control group on at least one of the following outcomes: job search success (i.e., employment status changed from unemployed to employed),<sup>6</sup> job search skills, job search self-efficacy, and job search behaviors. Third, the studies had to be written in English. The search yielded 60 studies from 59 manuscripts (overall  $N = 10,954$ ) that met these criteria. Among these, 47 studies (overall  $N = 9,575$ ) reported an effect size regarding job search success. The summary of the studies and samples used in the meta-analysis is found in the Appendix.

### Coding of Effect Sizes and Study Characteristics

The effect sizes, intervention components, and sample characteristics of all 60 primary studies were coded independently by the first and the second authors, resulting in a pairwise agreement exceeding 95%. Cases in which initial coding of the two raters differed were resolved by discussion.

**Coding of effect sizes.** The essential information extracted from the primary studies include the number of participants who became employed and the number of participants who stayed unemployed in the intervention group and in the control group. These were used to calculate the odds ratio (OR); specifically, the odds of obtaining employment for the intervention/experimental group relative to the odds of obtaining employment for the control group (Haddock, Rindskopf, & Shadish, 1998). Fleiss and Berlin (2009) noted that OR is a preferred effect size index for an experiment with a dichotomous outcome variable. If the OR is equal to one, the odds are the same for both groups, which indicates that the intervention is not effective. In addition, to estimate the meta-analytic path model, we either recorded or calculated correlations among job search interventions, job search skills, job search self-efficacy, job search behaviors, and participants' job search success (i.e., whether the job seeker obtained employment) based on available information (e.g., the means and standard deviations). Finally, coefficient alphas for job search

<sup>4</sup> Our conceptualization of job search behavior as the intensity/frequency of job search behavior is consistent with the current empirical literature. However, recent research depicts job search behavior as a multidimensional construct, including aspects such as job search methods, job search quality, and procrastination (Van Hooft et al., 2013). Thus, we address this potential concept deficiency in the Discussion section.

<sup>5</sup> The list of journals searched included *Academy of Management Journal*, *Journal of Applied Psychology*, *Journal of Employment Counseling*, *Journal of Occupational and Organizational Psychology*, *Journal of Occupational Health Psychology*, *Journal of Occupational Rehabilitation*, *Journal of Organizational Behavior*, *Journal of Vocational Behavior*, *Organization Science*, *Organizational Behavior and Human Decision Processes*, *Personnel Psychology*, and *Rehabilitation Counseling Bulletin*.

<sup>6</sup> Employment is defined as full-time employment. Some career intervention studies included participants who were already employed before participating in the intervention (e.g., Butler, Chiauzzi, Thum, & Budman, 2004; Dennis, Karantzios, McDougal, French, & Hubbard, 1993; Hunt & Azrin, 1973; Koivisto, Vuori, & Nykyri, 2007). Because in these studies the numbers of participants whose employment statuses changed from "unemployed" to "employed" were not available, these studies were not included in the current meta-analysis.

skills, job search self-efficacy, and job search behaviors were also recorded to correct for measurement unreliability. In what follows, we describe each study characteristic coded. Specific examples can be found in Table 1.<sup>7</sup>

**Teaching job search skills.** A program was coded as having a component of teaching job search skills if skills necessary for job seeking, such as identifying types of jobs where one's skills may be relevant, or using classifieds, newspapers, Internet, and social networking to obtain job leads, were taught during the intervention.

**Improving self-presentation.** A program was coded as having an improving self-presentation component if it fit any of the three descriptions below: providing training on presenting one's skills and abilities in a concrete and relevant manner in résumés and job interviews; providing dress and grooming instructions; and using exercises to improve preparedness for interviews and other employment tests.

**Boosting self-efficacy.** A program was coded as having a boosting self-efficacy component if it focused on any of the job search experiences below: enactive mastery of job search behaviors (e.g., making a convincing self-presentation, solving employment-related problems, and role-playing a job interview), vicarious learning (i.e., modeling of job search activities), and verbal self-guidance (i.e., converting negative self-statements to positive ones).

**Encouraging proactivity.** A program was coded as having an encouraging proactivity component if it fit any of the descriptions below: job seekers were encouraged to widen the variety of positions considered and consider many other types of positions (some of which may be above the qualification of the job seeker); job seekers were given examples of other positions for which they would qualify and were made to realize that many employers will provide on-the-job training and, thus, they should not be afraid to apply for the job; job seekers were encouraged to engage in the following behaviors: calling to arrange an appointment with an organizational representative to discuss employment opportunities, making "cold calls" or follow-up calls regarding employment opportunities, offering additional job-related information not requested by the organization, and asking an employer who did not have an opening if he or she knew of other employers who might have job openings.

**Promoting goal setting.** A program was coded as having a promoting goal setting component if participants learned how to set concrete occupational goals (desired job type and income level) or job search goals (e.g., number of cold calls, number of résumés to hand out) and were encouraged to monitor their progress on these goals regularly.

**Enlisting social support.** A program was coded as having an enlisting social support component if the peers (e.g., individuals participating in the same training programs), family, and friends of participants were encouraged to provide emotional support (e.g., encouragement) and tangible support (arrangements for transportation and allowances), offer job leads, and make suggestions to the job seekers. For example, letters were sent from employment counselors to family members (spouses, siblings, or parents) or friends with whom the job seeker was living, and such letters explained how that person could help the job seeker obtain employment.

**Managing stress.** A program was coded as having a managing stress component if participants were encouraged to anticipate situations in which setbacks and rejections were likely and were taught skills needed to cope with these adverse situations; or participants were encouraged to adopt controllable and unstable perceptions of failure (e.g., lack of effort and poor strategy), which may promote expectations that existing negative circumstances can be changed; or participants were taught relaxation techniques and used expressive writing techniques to cope with stress.

**Training content.** Interventions were broadly coded as focusing either on improving job search related skills and knowledge (i.e., skill-development-focused training; e.g., teaching how to identify job leads, how to prepare résumés, and practicing job interviews) or on improving job search motivations (i.e., motivation-enhancement-focused training; e.g., self-efficacy enhancement, setting goals, soliciting social support, and stress management), or as being dual focused.

**Age.** Based on previous research using chronological age to categorize job seekers (e.g., Jackson & Warr, 1984; Kulik, 2000), samples were coded as younger job seekers when the mean age of the participants was below or equal to 35, or the majority ( $\geq 90\%$ ) of the participants were below 35 years old. Samples were coded as middle-aged job seekers when the mean age of the participants was above 35 and below or equal to 50. Samples were coded as older job seekers when the mean age of the participants was above 50 years old.

**Special needs and conditions.** Samples were coded as job seekers with special needs and conditions when study participants had severe injuries (e.g., musculoskeletal injuries) or physical handicaps that limited their ability to work, mental disabilities, severe reading problems, alcohol problems, or history of substance abuse (Azrin & Philip, 1979; Bergquist, 1982; Foley et al., 2010).

**Long-term unemployed.** We used 6 months as the cutoff for long-term unemployment. This convention is commonly used both by the government (U.S. Bureau of Labor Statistics, 2013) and academics (e.g., McKee-Ryan et al., 2005; Paul & Moser, 2009) to mark the transition to long-term unemployment. Samples were coded as long-term unemployed when the majority of the participants had been unemployed for over 6 months or the average length of unemployment among participants was longer than 6 months.

## Meta-Analytical Procedures

Meta-analytic techniques and SPSS macros developed by Lipsey and Wilson (2001) were used to test Hypotheses 1 to 12. The statistical analyses were conducted on the natural log of the OR (Fleiss & Berlin, 2009; Lipsey & Wilson, 2001), but when presenting the results, the log OR was transformed back into OR, for ease of interpretation. When the homogeneity test ( $Q$  test) was significant, a random-effect model was used to estimate the effect of job search interventions on employment, because heterogeneity among the effect sizes was found. The  $Q$  test is analogous to the  $F$  test in analysis of variance and can be interpreted accordingly. Heterogeneity means that there may be unknown variables accounting for the differences across studies, and a random effect

<sup>7</sup> Studies coded as including these components may provide only a subset of what is in the definition.

model allows for the examination of those variables without restricting the error term. When the  $Q$  test was not significant, a fixed-effect model was used so that the error term did not vary. Intervention components and sample characteristics were used as categorical moderators of the effect size. Accordingly, a between-group  $Q_B$  statistic is calculated; it has an approximate chi-square distribution with  $J - 1$  degrees of freedom, where  $J$  is the number of groups. A significant  $Q_B$  statistic indicates that effect sizes differ across different levels of the moderators.

**Path model.** To enable a test for the proposed path model, we constructed a meta-analytically derived correlation matrix (see Viswesvaran & Ones, 1995) consisting of five focal variables: job search intervention, post-intervention job search skills, post-intervention job search self-efficacy, post-intervention job search behaviors, and post-intervention employment status.<sup>8</sup> For all effects involving psychological scales (i.e., job search self-efficacy and job search behavior), we applied Hunter and Schmidt's (2004) random-effect meta-analytic techniques, correcting for measurement error using the artifact distribution approach as scale reliability information was available sporadically. For the effect of job search intervention on employment status, we transformed the meta-analyzed OR to phi coefficient (see Bonett, 2007).

### Publication Bias Analysis

The standard practice for reporting meta-analysis results includes exploring potential publication bias, which typically occurs when publically available literature is not representative of all studies on the relationship of interest (Rothstein, Sutton, & Borenstein, 2005). Thus, we tried to detect potential publication bias in four ways. First, we examine publication status (journal publications vs. dissertations and book chapters) as a moderator of the effectiveness of the interventions. Second, we calculated the correlation between the sample size and the effect size to test whether the effect sizes of single studies are related to their sampling error. Third, we conducted meta-regression analysis following recommendations of recent literature on meta-analytic methods (Stanley, 2008). This analysis directly examines the magnitude and direction of publication bias. Fourth, we conducted a file drawer analysis (Rosenthal, 1991) to assess the number of studies with null findings that, if existing in file drawers, would bring down the effect to become nonsignificant.

### Supplementary Analysis

Following recommendations by previous meta-analytic study (e.g., Freund & Kasten, 2012), we explored whether several aspects of the sample and study characteristics influenced the effectiveness of the job search interventions in supplementary analyses. When a potential moderator is dichotomous (e.g., whether an intervention assigned participants randomly), the analytical procedure outlined previously is used. Alternatively, when a potential moderator is continuous (e.g., percentage of women participants in the study), regression-based moderator testing is used (Steel & Kammeyer-Mueller, 2002). For example, we used the percentage of women participants in the study as an independent variable, in a weighted least squares multiple regression, to predict the OR. If percentage of women is a significant predictor of the odds ratio, this would suggest that gender moderated the relationship between

intervention and participants' employment status. In addition, we examined the potential interaction effect between intervention components and sample characteristics using regression-based moderator testing. The additional moderators examined in supplementary analysis are listed as follows.

**Random assignment.** Several studies included in our meta-analysis used a convenient control group rather than assigning participants randomly. For example, job seekers who met the same eligibility criteria for the intervention as the experimental participants but chose not to attend the intervention (e.g., Creed, Blossome, & Johnston, 2001; Maysent & Spera, 1995) and job seekers in a waiting list for interventions (e.g., Harry & Tiggemann, 1992; Reynolds et al., 2010) served as participants in the control group. Although in these studies, participants in both the intervention group and the control group were often drawn from the same population or database and had similar demographic and occupational characteristics, we tested whether the study employed random assignment of participants as a potential moderator of the effectiveness of job search interventions.

**Type of control group.** Studies included in this meta-analysis have used either a no-treatment control group (e.g., Eden & Aviram, 1993; Millman & Latham, 2001) or a comparison control group (e.g., Braddy & Gray, 1987; Vuori et al., 2002). Participants in a no-treatment control group were often in a waiting list and were not given job search training during the experiment. Participants in a comparison control group often received standard and minimal job search assistance, such as in the form of an information booklet (e.g., Gustafson, 1995; Shirom et al., 2008; Vinokur et al., 1995), regular career counseling services (e.g., Azrin et al., 1980; Davy et al., 1995), or workshops on understanding personality and communication skills (e.g., Jackson et al., 2009; Van Hoof & Noordzij, 2009). To examine whether the choice of control group used influenced the effect sizes, we tested the type of control group as a potential moderator.

**Additional sample and study characteristics as moderators.** Furthermore, we recorded the local unemployment rate (as reported in the study or in official websites such as [www.bls.gov](http://www.bls.gov) and [epp.eurostat.ec.europa.eu](http://epp.eurostat.ec.europa.eu)), whether participants were receiving unemployment benefits/payments, the percentage of female participants, the percentage of ethnic minority participants, the mean years of education of participants, the length of the intervention, and the time interval between the intervention and the assessment

<sup>8</sup> Because in the intervention studies, correlations among job search skills, job search self-efficacy, job search behaviors, and employment status were available among only a small set of studies ( $1 \leq ks \leq 4$ ), we searched for additional studies to better estimate the correlations for the path analysis. Using the same search procedure outlined previously, we identified 47 additional studies from 44 manuscripts that are useful. These include one study ( $N = 86$ ) for the correlation between job search skills and job search self-efficacy, one study ( $N = 78$ ) for the correlation between job search skills and job search behaviors, one study ( $N = 75$ ) for the correlation between job search skills and employment status, 36 studies ( $N = 12,412$ ) for the correlation between job search self-efficacy and job search behaviors, 18 studies ( $N = 8,337$ ) for the correlation between job search self-efficacy and employment status, and 20 studies ( $N = 8,502$ ) for the correlation between job search behaviors and employment status. A complete list of these studies is available from the first author. Information from these additional studies as well as the 60 intervention studies was used to estimate the meta-analytic path model.

of employment outcomes. We then examined whether these variables influenced the effectiveness of the job search interventions.

**Additional outcome variables.** Finally, we recoded the effect sizes of job search interventions on additional job search outcomes (i.e., number of interviews, number of job offers, starting salary, and job satisfaction), additional mechanisms (e.g., job search intentions and employment commitment), and participants' mental health and well-being (i.e., depression, psychological well-being, anxiety, life satisfaction).<sup>9</sup>

## Results

### Overall Effect of Job Search Interventions

As shown in Table 2, the overall mean effect size across all studies included in the meta-analysis was significant ( $OR = 2.67$ ,  $p < .01$ ), which suggests that, overall, job search interventions lead to a better chance of obtaining employment. Thus, Hypothesis 1 was supported. Specifically, the odds of finding employment were 2.67 times higher for job seekers participating in job search interventions compared to job seekers in the control group, who did not participate in such intervention programs. We checked for heterogeneity of the effect size in two ways. First, we used the traditional chi-square statistic to test the hypothesis that all the observed heterogeneity was due to sampling error variance. The  $Q$  value was highly significant, ( $Q = 215.63$ ,  $p < .01$ ), indicating that there was more heterogeneity of effects than could be accounted for by sampling error. Second, we used the  $I^2$  statistic:  $I^2 = [(Q - df)/Q] \times 100\%$ , where  $Q$  is the chi-square statistic and  $df$  is its degree of freedom (Higgins, Thompson, Deeks, & Altman, 2003).  $I^2$  represents the amount of variability across studies that is attributable to between-study differences rather than to sampling error variability. In this case, the  $I^2$  statistic suggests that 78.7% of the total variance is due to between-study variance, or heterogeneity, rather than to sampling error. Therefore, testing of potential moderators is warranted (Hunter & Schmidt, 2004; Lipsey & Wilson, 2001). Next, we tested our hypothesized effects of critical job search intervention components.

### Moderating Effects of Critical Job Search Intervention Components

Hypothesis 2 predicts that teaching job search skills is a critical component of successful job search interventions. This hypothesis was supported,  $Q_B(1) = 5.64$ ,  $p < .05$ . Job search interventions that included teaching job search skills ( $OR = 3.32$ ,  $p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not teach job search skills ( $OR = 1.62$ ,  $p > .05$ ). Specifically, the odds for obtaining employment were 3.32 times higher for job seekers participating in a job search intervention that included teaching job search skills than for job seekers in the control group. In contrast, when teaching job search skills was not included in the intervention, the odds of obtaining employment in the intervention group were not statistically different from the odds of obtaining employment in the control group.

Hypothesis 3 predicts that improving self-presentation is a critical component of successful job search interventions. This hypothesis was supported,  $Q_B(1) = 6.34$ ,  $p < .05$ . Job search interventions that included the component of improving self-presentation ( $OR = 3.40$ ,

$p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not include such a component ( $OR = 1.61$ ,  $p > .05$ ). When improving self-presentation was included in the intervention, the odds of obtaining employment were 3.40 times higher for job seekers in the intervention group than job seekers in the control group. In contrast, when improving self-presentation was not included in the intervention, the odds of obtaining employment were not statistically different for job seekers in the intervention group and job seekers in the control group.

Hypothesis 4 predicts that boosting self-efficacy is a critical component of job search interventions. This hypothesis was supported,  $Q_B(1) = 4.39$ ,  $p < .01$ . Job search interventions that included boosting self-efficacy ( $OR = 3.25$ ,  $p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not include such component ( $OR = 1.73$ ,  $p < .05$ ). When boosting self-efficacy was included in the intervention, the odds of obtaining employment were 3.25 times higher for job seekers in the intervention group than job seekers in the control group. However, when boosting self-efficacy was not included in the intervention, the odds of obtaining employment were only 1.73 times higher for job seekers in the intervention group than job seekers in the control group.

Hypothesis 5 predicts that encouraging proactivity is a critical component of job search interventions. This hypothesis was supported,  $Q_B(1) = 9.21$ ,  $p < .01$ . Job search interventions that included encouraging proactivity ( $OR = 5.88$ ,  $p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not include encouraging proactivity ( $OR = 2.18$ ,  $p < .01$ ). When encouraging proactivity was included in the intervention, the odds of obtaining employment were 5.88 times higher for job seekers in the intervention group than job seekers in the control group. However, when encouraging proactivity was not included in the intervention, the odds of obtaining employment were only 2.18 times higher for job seekers in the intervention group than job seekers in the control group.

Hypothesis 6 predicts that promoting goal setting is a critical component of successful job search interventions. This hypothesis was supported,  $Q_B(1) = 7.03$ ,  $p < .01$ . Job search interventions that helped job seekers set goals ( $OR = 4.67$ ,  $p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not help job seekers set goals ( $OR = 2.13$ ,  $p < .01$ ). The odds of obtaining employment were 4.67 times higher for job seekers participating in a job search intervention that included promoting goal setting than job seekers in the control group. The odds of obtaining employment were only 2.13 times higher for job seekers participating in a job search intervention that did not include promoting goal setting than job seekers in the control group.

Hypothesis 7 predicts that enlisting social support is a critical component of successful job search interventions. This hypothesis was supported,  $Q_B(1) = 8.22$ ,  $p < .05$ . Job search interventions that

<sup>9</sup> A sample item to measure job satisfaction is "For most days I love my job." A sample item to measure job search intention is "How much time do you intend to spend on the various job search activities in the next 2 weeks?" A sample item to measure employment commitment is "Having a job is very important to me." A sample item to measure psychological well-being is "Have you been getting edgy and bad tempered?" A sample item to measure depression is "Feeling blue." A sample item to measure anxiety is "I feel nervous."

Table 2  
Overall Meta-Analytic Effect of Job Search Interventions and Intervention Components as Moderators

Component	Moderator analysis		Statistics in subsamples					Heterogeneity $Q$
	$Q$ between ( $df$ )	$Q$ within ( $df$ )	$k$	$N$	OR	95% CI		
						Left	Right	
Overall effect			47	9,575	2.67**	2.06	3.47	215.63**
Teaching job search skills	5.64 (1)*	45.37 (45)						
Without			15	3,880	1.62	0.99	2.67	11.06 (14)
With			32	5,695	3.32**	2.41	4.57	34.31 (31)
Improving self-presentation	6.34 (1)*	44.87 (45)						
Without			15	3,912	1.61	0.99	2.61	9.01 (14)
With			32	5,663	3.40**	2.46	4.69	35.86 (31)
Boosting self-efficacy	4.39 (1)*	46.51 (45)						
Without			16	3,697	1.73*	1.06	2.84	15.51 (15)
With			31	5,878	3.25**	2.36	4.48	31.00 (30)
Encouraging proactivity	9.21 (1)**	46.28 (45)						
Without			37	8,694	2.18**	1.64	2.91	34.71 (36)
With			10	881	5.88**	3.32	10.41	11.57 (9)
Promoting goal setting	7.03 (1)**	45.61 (45)						
Without			31	8,451	2.13**	1.55	2.92	34.01 (30)
With			16	1,124	4.67**	2.87	7.60	11.61 (15)
Enlisting social support	8.22 (1)*	45.41 (45)						
Without			29	6,054	1.95**	1.39	2.74	20.96 (28)
With			18	3,521	4.26**	2.82	6.41	24.45 (17)
Managing stress	3.00 (1)	44.98 (45)						
Without			24	4,813	3.47**	2.34	5.15	33.09 (23)
With			23	4,762	2.12**	1.43	3.14	11.89 (22)
Training content	6.25 (2)*	43.32 (44)						
Skills focused			6	373	2.03	0.90	4.57	4.32 (5)
Motivation focused			9	2,750	1.42	0.76	2.66	4.71 (8)
Dual focused			32	6,552	3.37**	2.49	4.67	34.30 (31)

Note. CI = confidence interval; OR = odds ratio;  $df$  = degrees of freedom.

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

helped job seekers enlist social support ( $OR = 4.26, p < .01$ ) were more effective in helping people obtain employment than job search interventions that did not help job seekers enlist social support ( $OR = 1.95, p < .01$ ). When enlisting social support was included in the intervention, the odds of obtaining employment were 4.26 times higher for job seekers in the intervention group than job seekers in the control group, whereas when enlisting social support was not included in the intervention, the odds of obtaining employment were only 1.95 times higher for job seekers in the intervention group than job seekers in the control group.

Hypothesis 8 predicts that managing stress is a critical component of successful job search interventions. This hypothesis was not supported,  $Q_B(1) = 3.00, p > .05$ , as job search interventions that included managing stress ( $OR = 2.12, p < .01$ ) were not significantly different from job search interventions that did not include the component of managing stress ( $OR = 3.47, p < .01$ ). Because different types of stress management training may have different effects on employment outcomes (Saam, Wodtke, & Hains, 1995; Vinokur & Schul, 1997), we further coded stress management into three categories: inoculation against setbacks during job search (i.e., job seekers learned to anticipate setbacks, then plan alternatives or preventive courses of action aimed to overcome such barriers and setbacks), general mental health promotion (i.e., relaxation, planning pleasant activities, modifying attributional style, and promoting positive thinking), and no stress management training. However, this variable did not moderate the effectiveness of job search interventions on obtaining employment either,  $Q_B(2) = 3.22, p > .05$ .

Hypothesis 9 predicts that the psychological foci of job search interventions influence their effectiveness. This hypothesis was supported,  $Q_B(2) = 6.25, p < .05$ . Overall, training programs that focused on both developing job search skills and enhancing job search motivations were effective in promoting employment ( $OR = 3.37, p < .01$ ). In contrast, training programs that focused strictly on either developing job search skills ( $OR = 2.03, p > .05$ ) or enhancing job search motivation ( $OR = 1.42, p > .05$ ) were not as effective in promoting employment. When both developing job search-related skills and enhancing job search motivations were included in the intervention, the odds of obtaining employment were 3.37 times higher for job seekers in the intervention group than job seekers in the control group. There was no significant difference in odds of obtaining employment between the intervention group and the control group when the interventions focused strictly on either developing job search skills or enhancing job search motivation.

### Moderating Effects of Sample Characteristics

Hypothesis 10 predicts that job seekers' age moderates the effectiveness of job search interventions. This hypothesis was supported,  $Q_B(2) = 16.56, p < .01$ . As shown in Table 3, the effectiveness of job search interventions differed significantly across age groups. Specifically, job search interventions were more effective in promoting employment among younger job seekers ( $OR = 4.05, p < .01$ ) and among older job seekers ( $OR =$

Table 3  
Participant Characteristics as Moderators

Characteristic	Moderator analysis		Statistics in subsamples					
	$Q$ between ( $df$ )	$Q$ within ( $df$ )	$k$	$N$	$OR$	95% CI		Heterogeneity $Q$
						Left	Right	
Age group	16.56 (2)**	48.81 (44)						
Younger			17	1,788	4.05**	2.70	6.07	26.63 (16)*
Middle-aged			26	7,612	1.80**	1.33	2.44	20.37 (25)
Older			4	175	8.80**	3.39	22.86	1.81 (3)
Special needs and conditions	4.84 (1)*	46.59 (45)						
Job seekers in general			35	8,806	2.27**	1.67	3.09	36.23 (34)
The "job handicapped"			12	769	4.60**	2.66	7.95	10.36 (11)
Unemployment duration	6.50 (1)*	44.45 (45)						
Short-term			30	3,935	3.54**	2.52	4.98	33.56 (29)
Long-term			17	5,640	1.72*	1.11	2.66	10.89 (16)

Note. CI = confidence interval; OR = odds ratio;  $df$  = degrees of freedom.  
\*  $p < .05$ . \*\*  $p < .01$ .

8.80,  $p < .01$ ) than middle-aged job seekers ( $OR = 1.80$ ,  $p < .01$ ). For younger job seekers, the odds of obtaining employment were 4.05 times higher in the intervention group than in the control group; for older job seekers, the odds of obtaining employment were 8.80 times higher in the intervention group than in the control group; whereas for middle-aged job seekers, the odds of obtaining employment were only 1.80 times higher in the intervention group than in the control group.

Hypothesis 11 predicts that the job handicapped may benefit more from job search interventions than job seekers in general. This hypothesis was supported,  $Q_B(1) = 4.84$ ,  $p < .05$ . Job search interventions were more effective in promoting employment among the "job handicapped" ( $OR = 4.60$ ,  $p < .01$ ) than job seekers in general ( $OR = 2.27$ ,  $p < .01$ ). For job seekers with special needs and conditions, the odds of obtaining employment were 4.60 times higher in the intervention group than in the control group; whereas for job seekers in general, the odds of obtaining employment were only 2.27 times higher in the intervention group than in the control group.

Hypothesis 12 predicts that job search interventions are more effective in promoting employment for short-term unemployed job seekers than long-term unemployed job seekers,  $Q_B(1) = 6.50$ ,  $p < .05$ . As shown in Table 3, the average effect size for long-term unemployed job seekers ( $OR = 1.72$ ,  $p < .05$ ) was significantly smaller than the average effect size for short-term unemployed job seekers ( $OR = 3.54$ ,  $p < .01$ ), providing support for Hypothesis 12. Specifically, for short-term unemployed job seekers, the odds of obtaining employment were 3.54 times higher in the intervention group than in the control group; for long-term unemployed job seekers, the odds of obtaining employment were only 1.72 times higher in the experimental group than in the control group.

### Meta-Analytic Path Analysis

To examine the proposed path model where job search skills, job search self-efficacy, and job search behavior account for the positive effect of job search interventions on participants' employment status, we obtained the meta-analytic correlations among the five focal variables: intervention (0 = control, 1 = treatment), job search skills, job search self-efficacy, job search behavior,<sup>10</sup> and

employment status (0 = unemployed, 1 = employed). We corrected for scale unreliability for correlations involving job search skills, self-efficacy, and job search behavior. The meta-analytic estimates are presented in Table 4.

As expected, we found that job search interventions increased participants' job search skills ( $\rho = .32$ ,  $p < .01$ ,  $k = 16$ ,  $N = 928$ ), job search self-efficacy ( $\rho = .10$ ,  $p < .05$ ,  $k = 11$ ,  $N = 1,672$ ), and job search behaviors ( $\rho = .20$ ,  $p < .01$ ,  $k = 7$ ,  $N = 494$ ). Also, job search skills ( $\rho = .33$ ,  $p < .01$ ,  $k = 3$ ,  $N = 193$ ), job search self-efficacy ( $\rho = .10$ ,  $p < .01$ ,  $k = 19$ ,  $N = 8,392$ ), and job search behaviors ( $\rho = .18$ ,  $p < .01$ ,  $k = 25$ ,  $N = 9,970$ ) were significantly related to employment status. These positive effects point to the possibility that job search skills, job search self-efficacy, and job search intensity can mediate the effect of job search intervention on participants' subsequent employment status. Following Viswesvaran and Ones (1995), we conducted the path analysis using Mplus 6.0 (Muthén & Muthén, 2010), with the meta-analytic correlation matrix as input and the harmonic mean of all sample sizes in the correlation matrix as the sample size for the path analysis.

An initial analysis of the proposed model provided relatively poor fit to the data,  $\chi^2(2) = 22.03$ ,  $p < .01$ , root-mean-square error of approximation (RMSEA) = .13, comparative fit index (CFI) = .93, standardized root-mean-square residual (SRMR) = .05. Modification indices suggested that (a) the intervention might have substantial direct effect on employment status and (b) the direct effect of job search self-efficacy on employment status was not significant. As a result, we tested an alternative model by adding a direct effect from job search intervention to employment status while removing the direct effect from job search self-efficacy to

<sup>10</sup> Job search behavior can be operationalized as job search intensity versus job search effort, with intensity assessing a number of specific job search behaviors and effort capturing an overall perception of job search attempt; the intensity/effort divide can moderate the relationships between job search behavior and other variables (Kanfer et al., 2001). Although we intended to follow this distinction in our analysis, only two intervention studies (Brown et al., 2010; Proudfoot, Guest, Carson, Dunn, & Gray, 1997) investigated job search effort. As a result, we focused on studies that operationalized job search behaviors as intensity in subsequent analyses.



Table 4  
Meta-Analytic Correlation Matrix for the Path Model

Variable	1	2	3	4	5
1. Intervention	—	16 (928)	11 (1,675)	7 (494)	47 (9,575)
2. Job search skills	.32**	—	5 (368)	3 (223)	3 (193)
3. Job search self-efficacy	.10*	.34**	—	39 (12,612)	19 (8,392)
4. Job search behaviors	.20**	.25**	.26**	—	25 (9,970)
5. Employment status	.24**	.33**	.10**	.18**	—

Note. Corrected correlation coefficients presented below the diagonal; number of independent studies and total number of cases—that is,  $k$  ( $N$ )—presented above the diagonal.

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

employment status. The resulting model provided good fit to the data,  $\chi^2(2) = 11.06, p < .01, RMSEA = .09, CFI = .97, SRMR = .03$ . Estimates for the revised model are presented in Figure 1. Overall, 14% of variance in employment status can be explained by the model. We assessed the indirect effects from intervention to employment status and their confidence intervals (CI) using the Sobel (1982) test and the Monte Carlo method to assess mediation (Selig & Preacher, 2008). Results indicated three significant pathways: intervention to job search skills to employment status (indirect effect = .09,  $p < .01, 95\% \text{ CI } [.055, .119]$ ), intervention to job search behavior to employment status (indirect effect = .02,  $p < .05, 95\% \text{ CI } [.002, .032]$ ), and intervention to job search self-efficacy to employment status (indirect effect = .002,  $p < .05, 95\% \text{ CI } [.001, .005]$ ). These results provided support for Hypotheses 13a and 13b. In addition to the indirect paths through job search skills, self-efficacy, and behaviors, job search intervention had a significant direct impact on employment status ( $Y = 0.14, p < .01$ ), suggesting the presence of other possible mediating mechanisms for the effect of job search interventions.

**Publication Bias Analysis**

We evaluated the possible influences of publication bias on the current meta-analysis using three methods outlined previously. First, the effectiveness of the training program did not depend on the studies' publication status,  $Q_B(1) = .01, p > .05$ . The average effect size for journal publications ( $OR = 2.72, p < .01$ ) was not significantly different from the average effect size reported in book chapters and dissertations ( $OR = 2.73, p < .01$ ). Second, neither the correlation between sample size and OR effect size ( $r = -.16,$

$p > .05$ ) nor the correlation between the OR and its standard error ( $r = .28, p > .05$ ) was significant. These results indicate that the effect sizes reported are not related to their measurement precision. Third, we examined the magnitude of publication bias using meta-regression analysis recommended by previous research (Stanley, 2008). Specifically, weighted by the inverse of its standard error, the effect size (i.e.,  $\ln(OR)$  in our study) of each study was regressed on its standard error and all the moderators. We found that the indicator of publication bias was not significant ( $\delta = -.21, SE = .70, p > .05$ ). Finally, the file drawer analysis suggests that, averaging null results, 1,810 studies would be needed to bring down the cumulative significance of the average intervention effect to nonsignificant. Overall, these results indicate that publication bias is not likely to pose a serious threat to the conclusions of the current study.

**Supplementary Analyses**

Following an anonymous reviewer's suggestion, we first reran our analyses without the studies with large effect size or large sample (identified as possible outliers using scree plots). Excluding three studies with large effect size (i.e., Azrin & Philip, 1979; Braddy & Gray, 1987; Latham & Budworth, 2006), the overall mean OR became 2.34 ( $p < .01$ ), slightly smaller than 2.67 reported in our main analysis. Excluding three studies with large sample sizes (i.e., Micklewright & Nagy, 2008; Vinokur et al., 1995; Vuori et al., 2002), the overall mean OR became 3.04 ( $p < .01$ ), slightly larger than the one from the main analysis. In addition, the moderating effects were largely similar when outliers were excluded. These results demonstrate that our findings are generally robust.

We also tested several additional moderators pertaining to research design and sample characteristics. Specifically, whether participants were receiving unemployment benefits/payments did not influence the effectiveness of the intervention,  $Q_B(1) = .48, p > .05$ . The odds ratio of obtaining employment for participants receiving unemployment benefits ( $OR = 2.26, p < .01, k = 10, N = 3,338$ ) was not statistically different from the odds of obtaining employment for participants without unemployment benefits ( $OR = 2.88, p < .01, k = 37, N = 6,237$ ). Whether an intervention employed random assignment of participants did not influence the effectiveness of job search interventions,  $Q_B(1) = 3.35, p > .05$ . Although interventions with random assignment ( $OR = 3.15, p < .01$ ) reported relatively larger average effect size than interventions without random assignment ( $OR = 1.74, p < .05$ ), the difference was not statistically significant. In addition, the type of control

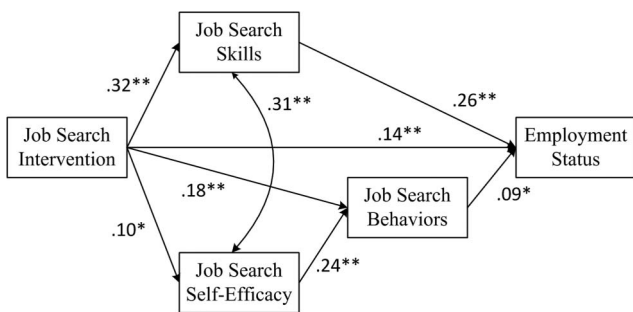


Figure 1. Path model. Coefficients presented were standardized estimates. Harmonic  $N = 607$ . \*  $p < .05$ . \*\*  $p < .01$ .

group used did not influence the effectiveness of job search interventions,  $Q_B(1) = 0.61, p > .05$ . The average effect size for interventions using a no-treatment control group ( $OR = 3.00, p < .01$ ) was not significantly different from the average effect size of interventions using a comparison control group ( $OR = 2.39, p < .01$ ). Finally, using meta-regression analysis predicting  $\ln(OR)$ , we found that local unemployment rate ( $B = -5.41, SE = 5.04, p > .05$ ), percentage of female participants ( $B = -0.01, SE = .01, p > .05$ ), percentage of ethnic minority participants ( $B = -.01, SE = .01, p > .05$ ), mean years of education for participants ( $B = -.03, SE = .10, p > .05$ ), the length of the intervention (hours;  $B = .00, SE = .02, p > .05$ ), and time interval between the intervention and the assessment of employment status (months;  $B = .04, SE = .03, p > .05$ ) did not significantly influence the effectiveness of the interventions. We also tested all possible two-way interactions between two moderator variables using meta-regression. None of these two-way interactions significantly predicted the OR of obtaining employment.

Although relatively fewer job search intervention studies reported outcomes other than employment status, there is some evidence that job search interventions might have a positive effect on additional employment outcomes, process variables, and participants' mental health. Specifically, the effect of job search interventions on participants' starting salary was significant ( $d = .14, p < .01, k = 6, N = 1,897$ ). On average, the starting salary of participants in the intervention group was .14 standard deviations higher than the starting salary of participants in the control group. The effect of job search interventions on participants' job satisfaction was marginally significant ( $d = .23, .05 < p < .10, k = 6, N = 1,093$ ). On average, job satisfaction was .23 standard deviations higher for intervention participants than control participants. Post-intervention, participants in the intervention group reported higher levels of job search intentions than participants in the control group ( $d = .22, p < .01, k = 4, N = 606$ ). On average, job search intentions of participants in the intervention group were .22 standard deviations higher than job search intentions of participants in the control group. The effect of job search interventions on employment commitment was not statistically significant ( $d = .10, p > .05, k = 2, N = 958$ ). The average effect of job search intervention on psychological well-being was not significant ( $d = .48, p > .05, k = 3, N = 1,434$ ). The effect of job search interventions on participants' depression was significant ( $d = .13, p < .01, k = 5, N = 3,063$ ). On average, post-intervention, the depression level reported by participants in the intervention group was .13 standard deviations lower than the depression level reported by participants in the control group. The effect of job search interventions on participants' anxiety was significant ( $d = .46, p < .01, k = 4, N = 234$ ). On average, post-intervention, the anxiety level reported by participants in the intervention group was .48 standard deviations lower than the anxiety level reported by participants in the control group. Overall, despite the small number of studies with mental health outcomes, the evidence does suggest that job search interventions might have some positive impact on job seekers' mental health.

Finally, we could not meta-analyze several outcomes of potential theoretical and practical interest, including number of interviews, number of job offers, post-intervention life satisfaction, and additional indicators of employment quality. Although a small number of studies have examined these outcome variables, the

unavailability of information to compute bivariate relationships between intervention and these outcomes prohibited us from examining the effects of job search interventions on these outcomes.<sup>11</sup>

## Discussion

Most people will go through a job search during their lifetime, and a majority of them will conduct job search multiple times (Kanfer et al., 2001; Saks, 2005). Given the current long-lasting economic crisis, job search seems to be a daunting task for many individuals, including the unemployed, the underemployed, new labor market entrants, and older workers seeking to reenter the workforce. Therefore, research in identifying the most effective strategy to assist job search is sorely needed. In fact, programs designed to facilitate job search have been examined in various psychological subdisciplines, including industrial-organizational psychology (e.g., Caplan et al., 1989; Van Hooft & Noordzij, 2009), social psychology (e.g., Jackson et al., 2009; Shirom et al., 2008), vocational psychology (e.g., Brown et al., 2010; Koen et al., 2012), health psychology (e.g., Harris et al., 2002; Proudfoot, Guest, Carson, Dunn, & Gray, 1997), and clinical/counseling psychology (e.g., Azrin et al., 1975; Joseph & Greenberg, 2001).

Previous reviews have suggested that job search intervention programs may have great potential in facilitating job attainment (Audhoo et al., 2010; Hanisch, 1999; Saks, 2005). However, the extent to which various job search interventions hold this promise has yet to be systematically evaluated. Using meta-analysis, we quantitatively summarized findings of job search intervention experiments. Data from 47 independent samples of 9575 job seekers demonstrated that job search interventions, on average, had a positive impact on participants' employment success. More important, our meta-analysis examined a taxonomy of critical com-

<sup>11</sup> Although several studies (e.g., Creed et al., 1998; Proudfoot et al., 1997) included life satisfaction as an outcome variable of job search interventions, bivariate relationship between intervention and life satisfaction, which is essential to the meta-analysis, is not available. Thus, we were unable to meta-analyze the effect of job search interventions on participants' life satisfaction. Similarly, although several studies (e.g., Brown et al., 2010; Hall, Loeb, Coyne, & Cooper, 1981; Hall, Loeb, LeVois, & Cooper, 1981; Hall, Loeb, & Norton, 1977) included number of interviews as an outcome variable of job search interventions, bivariate relationship between intervention and number of interviews is available in only one study: Brown et al. (2010). Specifically, this study found that the number of interviews received was not significantly different between the intervention participants and the control participants. In terms of number of job offers, two studies (Brown et al., 2010; Davy et al., 1995) examined this variable as an outcome of job search interventions. Effect size can be calculated only from Brown et al. (2010). Specifically, Brown et al. (2010) found that on average the number of job offers obtained by intervention participants ( $M = .54$ ) was not statistically different from the number of job offers obtained by control participants ( $M = .65$ ). Finally, very little information is available regarding indicators of reemployment quality other than starting salary. Azrin et al. (1975) reported that a higher percentage of the intervention participants (vs. the control participants) found professional jobs and a higher percentage of the intervention participants (vs. the control participants) found skilled or semiskilled jobs. Davy et al. (1995) found that the comparability of new jobs found relative to the previous position held was higher in the intervention group than in the control group. Koen et al. (2012) found that the turnover intention was lower, the perceived person-organizational fit was higher, and perceived career success (e.g., satisfaction toward progress on career goals) was higher for participants in the intervention group than participants in the control group.

ponents for job search interventions and evaluated the effectiveness of these components, a research goal that can be achieved only by a quantitative review. Specifically, our results indicate that not all job search interventions are equally effective: interventions that incorporate one of six specific components—namely, teaching job search skills, improving self-presentation, boosting self-efficacy, encouraging proactivity, promoting goal setting, or enlisting social support—are more effective than interventions that do not have one such component. It is important to mention that these effects are qualified by the interaction between skills and motivation components, such that job search interventions effectively promote employment only when both job search skills and motivation are enhanced simultaneously. In addition, we found that job search interventions tend to be more beneficial to job seekers who are either younger or older (vs. middle-aged), have special needs and difficulties in obtaining employment, or have been unemployed for less than 6 months. Furthermore, results from meta-analytic path analysis indicate that job search interventions lead to higher probability of employment by increasing job seekers' job search skills, job search self-efficacy, and job search behaviors.

Inconsistent with our expectations, no support was found for the hypothesis that job search interventions including the component of stress management were more effective than job search interventions that did not include this component. This could be due to three reasons. First, because of improved job search skills and interview skills, participants of job search interventions are likely to make progress in their job search (e.g., identifying more job leads and performing well during job interviews), which may offer the best stress relief for the unemployed. For example, [Wanberg, Zhu, and Van Hooft \(2010\)](#) found that perceived job search progress of the unemployed was associated with lower levels of negative affect. In addition, [Liu \(2011\)](#) showed that perceived job search progress was positively related to job seekers' self-efficacy, which could buffer the negative impact of stress on well-being. Therefore, as long as the job search intervention is effective in leading to job search progress, a stress management component may not be necessary. Second, by improving job seekers' proactivity, goal commitment, and social support, job search interventions may successfully reduce job seekers' vulnerability to stress. For example, proactivity and social support may help reduce the stress level of unemployed individuals ([Cohen & Wills, 1985](#); [Klehe, Zikic, van Vianen, Koen, & Buyken, 2012](#)). In other words, stress management may be implicitly embedded in other critical components of job search intervention, even though intervention programs may not explicitly emphasize such a component. This may explain the fact that, even without provision of stress management-related interventions (e.g., inoculation against setbacks, relaxation, or cognitive-behavioral therapy), job seekers' psychological distress is still likely to decrease after participating in job search interventions (e.g., [Creed, Machin, & Hicks, 1996](#); [Rife & Belcher, 1994](#)). Third, an intervention on just stress management (e.g., a relaxation training), without any component that helps/activates people's job search, might lead to a symptom-focused coping strategy and make people passive or avoidant of job search. Therefore, stress management has to be coupled with some training components that activate people's job search in order to be effective when finding employment is the criterion.

It is also important to note that mediators in our model did not fully account for the relationship between job search intervention and employment status. This corroborates our concerns that job search skills, job search self-efficacy, and job search behavior intensity may not fully capture job search quality ([Van Hooft et al., 2013](#)). For example, job seekers' specific job search goals, procrastination ([Turban, Lee, da Motta Veiga, Haggard, & Wu, 2013](#)), and positive emotions (e.g., [Davy et al., 1995](#); [Turban, Stevens, & Lee, 2009](#)) are additional indicators of job search quality and may contribute to employment success. Moreover, physical functioning (e.g., [Schuring et al., 2009](#)), psychological distress (e.g., [Song, Uy, Zhang, & Shi, 2009](#)), social networks (e.g., [Wanberg et al., 2000](#)), and job-related skills (e.g., interpersonal skills, oral and written communication skills; [Wolf, 1982](#)) are also important predictors of employment success. These variables, although not examined frequently in previous intervention studies, could mediate the effect of job search interventions on participants' employment success.

### Theoretical Implications

Our findings have several important theoretical implications. First, integrating previous research, we proposed and examined a taxonomy of critical components for successful job search interventions. This taxonomy, including two skill-development-focused components and five motivation-enhancement-focused components, was based on self-regulation frameworks ([Kanfer & Gaelick, 1986](#); [Karoly, 1993](#); [Latham & Locke, 1991](#)), which emphasize that individuals need to possess the ability to complete the task and the motivation to sustain the effort (also see [Maier, 1955](#)). The findings from our meta-analysis largely support this taxonomy, corroborating previous theories and research that suggested that lack of skills and lack of motivation to conduct job search were the primary barriers to obtaining employment ([Azrin et al., 1975](#); [Kanfer & Hulin, 1985](#)). Further, our findings revealed that the effective components of this taxonomy are consistent with social cognitive theory's emphasis on person, environment, and behavior in determining functional human adaptation ([Bandura, 1986, 1991](#)). For example, three of the effective components (i.e., teaching job search skills, improving self-presentation, and boosting self-efficacy) may enhance the person aspect of the job search, improving job seekers' ability and cognition. Another two of the effective components (i.e., encouraging proactivity and promoting goal setting) may directly drive functional job search behaviors, leading job seekers to access more job opportunities and sustain the job search effort. Finally, enlisting social support may create a friendly social environment to the job seekers, which may provide both tangible and intangible resources to facilitate job search.

Second, the current findings suggest that not all job seekers receive equal benefits from job search interventions. Therefore, it is important to incorporate participant characteristics into the theoretical model for understanding the effectiveness of job search interventions. Again, this is consistent with social cognitive theory's emphasis on personal factors in influencing the effectiveness of self-regulation ([Bandura, 1986](#)), as well as the self-regulation frameworks' premise that individual differences may serve as important "limiting factor on the voluntary control of action and attention" ([Karoly, 1993](#), p. 42). Extant research tends to examine individual characteristics in relation to psychological well-being during unemployment ([McKee-Ryan et al., 2005](#)) and job search

success (Kanfer et al., 2001). However, these personal factors have not been systematically integrated as boundary conditions for job search intervention models. Our findings suggest that the effectiveness of job search interventions is at least contingent on job seekers' age, length of unemployment, and special needs and conditions. Specifically, younger job seekers, older job seekers, and job seekers with special needs and conditions are considered disadvantaged because they especially lack skills and/or confidence to engage in job search (e.g., Adams & Rau, 2004; Bolles & Brown, 2001; Eby & Buch, 1995). Therefore, they are more likely to benefit from job search interventions that focus on job search skill development and motivation enhancement. Further, our findings highlight the importance of providing timely interventions to job seekers. Because long-term unemployment is often associated with less than optimal emotional states, lifestyles, and social relations that could hinder one's probability to find employment, traditional job search interventions in general are less effective for this population. It is also important to note that, despite job search interventions' great potential in helping younger job seekers, older job seekers, and job seekers with special needs and conditions, relatively less research attention has been focused on such populations (as indicated by the smaller *ks* in Table 2), suggesting ample opportunities for future research.

Third, results from the current meta-analytic path analysis advance the understanding about how job search interventions are related to job search success. From our findings, we surmise that when an individual participates in job search interventions, the person develops better job search skills, experiences higher levels of job search self-efficacy, and increases job search intensity, which all contribute to his or her job search success. In addition, job search skills and job search behavior each has independent mediating effect, consistent with our framework that both procedural knowledge/skills and behavior frequency/motivation play critical roles in coping with unemployment. Uncovering these psychological and behavioral mechanisms helps develop a more complete theoretical understanding of how job search interventions lead to job search success. In particular, if we conceptualize job search interventions as largely driven by the environmental forces, then our path model findings are consistent with the social cognitive theory's premise that environmental factors can influence personal factors (e.g., job search skills and job search self-efficacy) and behaviors (e.g., job search intensity) in leading to successful self-regulation. Meanwhile, it should be noted that our results still suggest a substantial direct effect from job search interventions to employment success, leaving room for additional theory building regarding the effects of job search interventions.

Fourth, aside from the immediate implications to the job search research, the self-regulation framework adopted in the current study has the potential to contribute to the wider psychological literature. Specifically, following this framework, we identified the self-regulatory processes underlying and facilitating job search. In a similar vein, other kinds of behavior-based training/intervention may benefit from incorporating a self-regulatory approach to their theoretical models. For instance, interventions targeting health behaviors have been studied in various areas of psychology and medicine and have engendered several reviews (e.g., Freijy & Kothe, 2013; Kahn-Marshall & Gallant, 2012; Stice, Shaw, & Marti, 2006). Although job search behavior and health behavior appear ostensibly different, the underlying self-regulatory pro-

cesses are analogous in that individuals will need sufficient resources in terms of both the necessary knowledge/skills and the sustained motivation for the desired behavior to happen. Therefore, a self-regulatory framework that focuses on understanding how to improve relevant resources has a good potential to inform and clarify the large and diverse body of literature on health behavior modification (Brownlee et al., 2000).

## Practical Implications

The current meta-analysis also brings significant practical implications. First, in designing job search interventions in the future, practitioners should take advantage of our validated taxonomy of intervention components. Career counselors could also become more effective if they utilize these techniques in their day-to-day practices. In addition, we found support for the synergistic effect of combining skill development-focused and motivation enhancement-focused interventions. This suggests that practitioners should try to incorporate activities serving for both goals into their interventions. In fact, the dual focus on skill development and motivation enhancement is also consistent with the recommendations in the organizational training literature (e.g., Colquitt et al., 2000), which emphasize that skill acquisition and motivation enhancement are key factors that lead to training success.

Second, given that sample characteristics influence intervention effectiveness, future job search interventions should be tailored to the special needs of their target populations. For example, we found that job search interventions are less effective for long-term unemployed job seekers. This may suggest that additions and/or modifications of the traditional job search intervention are necessary when it comes to that group of job seekers. Specifically, long-term unemployed individuals may need not only job search skills training but also occupational skills training (Creed et al., 1998). Also, an intervention that gradually rehabilitates their self-esteem and healthy lifestyle may be an important addition to traditional job search interventions. Furthermore, Hanisch (1999) argued that unemployed individuals and their families will confront unemployment in various ways: some individuals may need assistance with identifying job leads, some may need help to manage their time, some may need emotional support and encouragement, yet some others may need psychological counseling to deal with depression. Given these different needs, effective intervention programs may be those that offer a wide range of workshops or services for individuals and their families to choose from to best fit their needs.

Third, given our finding that enlisting social support from family and friends is a critical component of successful job search interventions and the fact that family members also bear the negative effects of unemployment (e.g., Hanisch, 1999), it might be beneficial to involve the entire family into the intervention. For example, interventions that are aimed at reducing the risk of family dysfunction in the period of job loss, such as lack of social support and presence of social undermining, could be beneficial (Vinokur, Price, & Caplan, 1996). In addition, improving a married couple's skills and self-efficacy in managing the financial issues that arise from unemployment could be beneficial as well (Hanisch, 1999). Thus, we encourage practitioners to design and examine couple- or family-oriented job search interventions (see Howe, Caplan, Fos-

ter, Lockshin, and McGrath, 1995, for recommendations to implement such intervention).

Fourth, besides contributing to the psychology literature, our study has implications for disciplines outside of psychology, such as sociology, economics, criminology, and education. First, unemployment is often a focal phenomenon in research in sociology (McDonald et al., 2007; Roelfs et al., 2011) and economics (e.g., Biewen & Steffes, 2010; Machin & Manning, 1999). Equipped with results of the current review, sociologists and economists may consider the availability of job search intervention at the municipal or state level as a factor that mitigates the impact of unemployment, or they may further incorporate effective job search intervention components as part of social welfare programs to combat unemployment (e.g., Graversen & van Ours, 2008; Hollister, 2011). Second, as unemployment has been associated with high crime rate at both the individual and community levels of analysis (e.g., Fergusson, Lynskey, & Horwood, 1997; Jones, 1995; Kapsucinski, Braithwaite, & Chapman, 1998), criminologists may explore job search interventions as a potential crime-prevention strategy. Finally, amid recent questioning in the popular press whether investment in higher education pays off in quality employment (Casselmann, 2013; Downey, 2013), educators and higher education administrators may want to make job search interventions part of the undergraduate curriculum that facilitates college graduates' smooth transition to the workforce.

### Methodological Issues

In the process of comprehensively reviewing the literature for the present meta-analysis, we also identified several important methodological issues in job search interventions warranting research attention. By highlighting these issues, we seek to provide additional contributions to the job search literature beyond the results of the current meta-analysis.

First, job search intervention studies rarely discuss the optimal time to assess employment as an outcome, despite that time might be an important context under which intervention effectiveness is qualified. On the one hand, after the intervention job seekers need a certain amount of time to apply the newly acquired skills in the job search process. Thus, the effect of job search interventions on employment may emerge and become stronger as that initial period of time elapses. On the other hand, the skills and motivation acquired during training interventions can decay over time (Blume, Ford, Baldwin, & Huang, 2010). Therefore, over a prolonged period of time, the benefits of job search interventions on finding employment may plateau. Although the time interval between the intervention and the assessment of employment did not explain between-study variability in our meta-analysis, there is some—albeit limited—evidence that suggests that intervention effectiveness might depend on such time interval. For example, the *OR* of a 4-month follow-up is 1.03, as reported in Vinokur et al. (1995). However, the 2-year follow-up of the same sample yielded an *OR* of 1.45 (Vinokur, Schul, Vuori, & Price, 2000). Similarly, the 2-year follow-up of the Työhön experiments in Finland (Vuori & Silvonon, 2005), also resulted in larger effects on employment than the 6-month follow-up (Vuori et al., 2002). Time can also be examined in a more substantive manner, such as in survival analysis predicting the duration of unemployment. Regardless of the approach taken, we encourage researchers to explicitly consider

the role of time in affecting a job search intervention's influence on finding employment in future studies.

Second, a number of intervention studies did not have an adequate control or comparison group, thus limiting its internal validity. For example, Allaire, Anderson, and Meenan (1997) investigated the outcomes of a job search program for 141 individuals with arthritis over a 6-month period. Although the number of employed individuals increased from the onset of the program to the 6-month follow-up, competing explanations such as maturation (see Shadish, Cook, & Campbell, 2002) might also explain such change over time.

Third, as shown in the summary row in the Appendix, an encouraging fact about job search intervention research is that most intervention studies employed random assignment, which is essential in establishing causality (Shadish et al., 2002). It is also evident that three critical components of job search interventions, encouraging proactivity, promoting goal setting, and enlisting social support received less attention than other components, despite clear advantages of interventions that included such components. We encourage future interventions not only to include these components but also to investigate best ways to implement them.

Fourth, our review of the job search intervention literature revealed that it was often unclear if the researchers were involved in the delivery of the treatment. Given the potential threat to internal validity due to experimenter bias (Shadish et al., 2002), one might argue that researchers who delivered the intervention might have unconsciously affected the study outcome in subtle ways. However, we could not determine if interventions conducted by the researchers or someone else differed in their effectiveness due to a lack of codable information. Researchers who conduct job search intervention studies in the future should attempt to mitigate such concern by using trained counselors and psychologists who are blind to the goal of the study. At the very least, research reports should be explicit about who conducted the interventions.

Finally, the cost of an intervention is only occasionally discussed. Cost can be a simple estimate of dollar value invested per job seeker. In Ax (1983), such cost was \$126; in Keeler (1987), \$86; and in Proudfoot et al. (1997), £400. Azrin et al. (1980) reported that the cost per placement was around \$115. This information is useful because the more cost-effective intervention has the potential to benefit more job seekers with the same amount of investment. Moreover, cost may also include time investment in the intervention by unemployed individuals. A lengthy training program can take away time that can otherwise be allocated to conducting job search and thus potentially hold back the rate of finding employment for some job seekers, especially those who are already well prepared for job search due to prior experience (e.g., our analysis suggests that length of the intervention did not predict effectiveness).

### Directions for Future Research

Our paper represents a synthesis of the cumulated knowledge on job search interventions across a variety of literature, and as a result enables follow-up studies in many areas. For example, industrial-organizational psychologists may be interested in further assessing indicators of employment quality as outcomes of job search interventions, whereas health and counseling psychologists could investigate the long-term impact of job search interventions

on well-being. Also, a person-centric and configural approach can be used to classify different types of job seekers (Liu, Zhan, & Wang, 2011). In this section, we draw attention to several specific topics that await further investigation.

**Applying goal setting theory.** Although rarely used as the guiding framework in previous job search research, goal setting theory (Latham & Locke, 1991; Locke & Latham, 1990) provides important insights that should be incorporated in the design of job search interventions. First of all, goal setting theory predicts that if the person has the requisite ability, a specific, difficult goal leads to higher performance than simply urging people to do their best. Accordingly, in addition to teaching job search skills, career counselors should help job seekers set up a clearly defined and reasonably high goal (e.g., land a managerial position in the service industry within 4 months) rather than a vague objective (e.g., find a job soon). Second, goal setting theory emphasizes that “for goals to be effective, people need summary feedback that reveals progress in relation to their goals” (Locke & Latham, 2002, p. 708). If job seekers do not know how they are doing, it is difficult for them to adjust their effort level or job seeking strategies to match what the goal requires. Because job seekers often receive little feedback in the jobs search process, it is important for job search interventions to encourage individuals to seek feedback in order to monitor their progress (Van Hooft et al., 2013). Third, goal setting theory suggests that the use of proximal goals can facilitate performance on complex tasks. Van Hooft et al. (2013, p. 11) pointed out that the extent to which job search goal is “embedded in a hierarchically organized system of goals” is an important indicator of job search process quality. It helps in “making the cognitive transition from goal establishment into planning the goal pursuit.” Therefore, job search interventions should help job seekers break down their overall job search goal into specific subgoals (e.g., getting an interview at organization *X* or obtaining a recommendation letter from person *Y* and teaching them to better prioritize these subgoals). Finally, when people are confronted with a task that is highly novel and complex, setting specific challenging learning goals, such as mastery of a certain number of interview techniques, can lead to better performance (Seijts & Latham, 2001; Van Hooft & Noordzij, 2009). Although goal setting techniques have been used in several job search interventions, a more nuanced application of goal setting theory has the potential to maximize the benefit of this intervention approach.

**Validation of the critical components taxonomy.** Given that our results were based on a relatively small sample size, we strongly encourage future job search intervention studies to evaluate the taxonomy of critical components developed in this study, which is not fully covered by any primary job search intervention studies, including the prominent JOBS program and the Job Club. This can provide direct evidence regarding the utility and discriminant validity of our taxonomy, an important addition to the indirect, cumulative evidence we presented here. Furthermore, job search intervention studies with multiple intervention groups are desirable (e.g., Hollandsworth, Dressel, & Stevens, 1977; Van Hooft & Noordzij, 2009), given that these studies can compare and contrast different intervention methods and thus enhance our understanding of the costs and benefits of certain intervention components.

**Additional outcomes of job search interventions.** Among experimentally evaluated job search interventions, process vari-

ables leading to employment (e.g., job seekers’ cognitions, emotions, and resources, types and quality of job search behaviors, number of interviews, and number of job offers; see van Ryn and Vinokur, 1992, and Vinokur and Schul, 1997, for notable exceptions) have rarely been examined. Such lack of studies limits our ability to examine the moderating effects of intervention components and sample characteristics on alternative outcome variables (e.g., job search self-efficacy). In addition, although there is some evidence that the jobs obtained by intervention participants are of better quality than the jobs obtained by control participants, the findings are not conclusive. It also seems unclear whether job search interventions help individuals find jobs that are worth keeping. Accordingly, it is highly recommended for future intervention studies to examine other process variables leading to employment success as well as the quality of the jobs obtained. For example, networking skills training, which is often part of job search skills training (e.g., Millman & Latham, 2001), could lead to a larger social network that is instrumental for job search (Granovetter, 1995). Thus, network size and network status could be examined as potential mechanisms for job search interventions to work (Gray & Braddy, 1988; Koen et al., 2013; Wanberg et al., 2000). Further, it is important for job search intervention studies to conduct long-term follow-ups to collect data on employment quality and stability.

**Additional intervention approaches.** The current study focused on job search interventions designed to improve job search skills and motivation of job seekers. Another form of intervention in the literature is to increase the cost of being unemployed either through reductions of benefits or through mandatory activities that require time from the unemployed workers (Graversen & van Ours, 2008). For example, to receive full unemployment insurance (UI) benefits, unemployed individuals may be required to contact at least two employers per week, verified by the UI staff. Previous research suggests that this threat to lose UI benefits can significantly increase job search behaviors and reduce UI payments (e.g., Klepinger, Johnson, & Joesch, 2002). Future research could examine the relative effectiveness and combined effects of these two different approaches in facilitating/speeding up the acquisition of employment.

**Training needs assessment.** Although our findings suggest that some individuals—younger job seekers, older job seekers, and job seekers with special needs and conditions—benefit more from job search interventions, much is left unaddressed about who is most in need of job search interventions. As one notable exception in the literature, Vinokur et al. (1995) identified high-risk job seekers (i.e., job seekers with a strong need for intervention) as having more depressive symptoms, greater financial strain, and lower assertiveness and demonstrated that these individuals indeed benefited more from their intervention. Conversely, someone who is in a high-demand occupation or who went through a job search intervention in the recent years may not need the entire program. From a training needs assessment perspective (Goldstein & Ford, 2002), examining whether a job search intervention can lead to greater job search success for subpopulations of interest can have significant practical impact.

A thorough examination of individuals’ needs for job search interventions should also consider individual characteristics such as age, gender, ethnicity, education, as well as motivation and job search skill level. For example, someone with low levels of job

search skills and limited prior job search experience is in greater need of intervention than another person who has ample job search experience that developed his or her job search skills along the way. It is also important to identify those most “at risk” of not finding employment. One such risk factor is the bias and stereotype associated with certain occupational and socioeconomic characteristics. For instance, Blacks and Muslims often have to deal with stereotyping in the job search process (Hodson, Dovidio, & Gaertner, 2002; King & Ahmad, 2010), and job seekers in opposite gender-typed occupations such as male nurses and female managers may face greater obstacles in finding jobs (e.g., Eagly & Karau, 2002; Kmec, 2008). With the aid of job search interventions, these individuals may be able to overcome the biases in the recruitment and hiring process to land desired jobs. Another risk factor is adverse life history that limits employment opportunities such as long-term unemployment, mental health problems, intellectual disability, and prior criminal record. Job search interventions can be instrumental in helping individuals with adverse life history to gain meaningful employment as well as reintegrate into society. Furthermore, job seeker characteristics can be linked to participation and attrition rates. If certain groups of job seekers are more likely to drop out, the intervention may need to be redesigned to better accommodate the needs of such job seekers.

**Job seekers having mental health problems.** Research has suggested that unemployment affects mental health by increasing psychological distress and depressive symptoms (McKee-Ryan et al., 2005). Therefore, it is important to identify individuals having mental health problems during job search and examine if targeting such individuals is useful for reemployment success. For example, job seekers with high level of depression were studied extensively in the JOBS program as well as its Finnish version (Vinokur et al., 1995; Vuori et al., 2002). The results of these studies demonstrated clearly that this group of job seekers might benefit more from the intervention (in terms of reemployment status and mental health).

**Job search interventions for new labor market entrants.** Only nine intervention studies (four with effect sizes on employment status) in this meta-analysis focused on student job seekers (e.g., Bergquist, 1982; Jackson et al., 2009; Koen et al., 2012; Latham & Budworth, 2006). Although job search interventions or career counseling is often provided to technical school students or college students, evaluations of these programs have been very limited. Further, little is known about customizing job search interventions based on student type (e.g., high school vs. technical school vs. college students). Given that a large number of new labor market entrants could potentially benefit from job search interventions, it is important to evaluate job search interventions on student populations.

**Technology-mediated job search interventions.** In all primary studies included in this meta-analysis, the intervention was delivered in a face-to-face setting. However, web-based virtual training may be more cost-effective and be preferred by many job seekers due to its flexibility (Robertson, 2003). For example, some job seekers may need assistance identifying job leads online and other job seekers need interview skills training. An online program that allows job seekers to choose from multiple learning modules may best meet the need of various job seekers. This is also consistent with recommendations to give trainees more control to improve training effectiveness (Orvis, Fisher, & Wasserman, 2009). In addition, with the help of technology, career counselors

may build online communities to facilitate interactions and mutual support among job seekers. Therefore, designing and conducting job search interventions online are important directions for future research.

## Conclusion

In this article we proposed a taxonomy of critical components of job search interventions, which emphasized developing job search skills and enhancing job search motivations. Using meta-analytic techniques, we found that job search interventions that focused on both skill development and motivation enhancement were more effective in promoting employment. In addition, we found that younger and older job seekers and job seekers with special needs and conditions benefited more from job search interventions, whereas long-term unemployed job seekers benefited less. Moreover, our meta-analytic path analysis demonstrated that increased job search skills, job search self-efficacy, and job search behaviors helped explain the positive effect of job search interventions on participants' employment status. The present study also suggests that future theory and research on job search interventions give greater considerations to additional theoretical perspectives, additional outcomes, additional intervention approaches, new labor market entrants, and technology-mediated job search interventions.

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(Appendix follows)

**Appendix**  
**Summaries of Studies and Samples Included in the Meta-Analysis**

Study	Sample size	Effect size (OR)	Sample	Age group	Teaching job search skills	Improving self-presentation	Boosting self-efficacy	Encouraging proactivity	Promoting goal setting	Enlisting social support	Managing stress	Random assignment	Types of control	Length of the intervention
<b>Summary<sup>a</sup></b>														
Ax (1983)	22	2.10	Military service veterans receiving psychiatric treatments	Middle-aged	Yes	Yes	Yes	Yes	No	Yes	No	No	Comparison	Two 2-hr formal training sessions
Azrin et al. (1975)	120	7.33	Job seekers referred from a newspaper advertisement and a state employment service agency	Younger	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No treatment	Two half-day formal training sessions
Azrin & Philip (1979)	154	47.95	Job seekers who had job-finding problems, such as physical, emotional, intellectual, and social handicaps	Younger	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Comparison	Two 2.5-hr formal training sessions
Azrin et al. (1980)	216	4.25	Welfare recipients	Younger	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Comparison	Two 3-hr formal training sessions
Bergquist (1982)	32	11.67	Special education students with severe reading problems	Younger	Yes	Yes	No	No	Yes	Yes	No	Yes	No treatment	Eighteen 2.5-hr sessions in 9 weeks
Braddy & Gray (1987)	35	25.50	Unemployed job seekers who were 55 years of age or older	Older	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Comparison	Two-hour sessions held twice a week
Brennikmeijer & Blonk (2012)	82	2.66	Long-term unemployed individuals in the city of Lelystad, Netherlands	Middle-aged	Yes	No	Yes	No	No	Yes	Yes	Yes	No treatment	Five half-day classes
Caplan et al. (1989)	499	1.38	Job seekers recruited from state employment compensation offices	Middle-aged	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Comparison	Eight 3-hr sessions in 2 weeks
Creed et al. (1998)	91	1.35	Long-term unemployed job seekers	Younger	No	Yes	No	No	No	No	No	No	No treatment	Full-time for 4-7 weeks
Creed et al. (1999)	32	0.52	Long-term unemployed youth	Younger	No	No	No	No	No	No	Yes	No	No treatment	Five hours per day for 3 days
Davy et al. (1995)	112	0.53	Unemployed white-collar workers	Middle-aged	Yes	Yes	No	No	No	No	No	No	Comparison	Five days a week for 2-4 weeks
Della-Posta & Drummond (2006)	39	2.55	Job-seeking worker's compensation clients	Middle-aged	No	No	No	No	No	No	Yes	Yes	Comparison	Eight 2-hr sessions
Dunn et al. (1992)	35	2.25	Male veterans in the inpatient chemical dependency treatment program	Middle-aged	No	Yes	Yes	No	No	No	No	No	No treatment	A 2-hour workshop

(Appendix continues)

Appendix (continued)

Study	Sample size	Effect size (OR)	Sample	Age group	Teaching job search skills	Improving self-presentation	Boosting self-efficacy	Encouraging proactivity	Promoting goal setting	Enlisting social support	Managing stress	Random assignment	Types of control	Length of the intervention
Eden & Avitram (1993)	66	1.48	Unemployed vocational workers in Israel	Middle-aged	Yes	No	Yes	No	No	No	No	Yes	No treatment	Eight sessions
Foley et al. (2010)	102	2.10	Unemployed American Indians receiving substance abuse treatment	Middle-aged	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Comparison	Three 4-hr sessions
Gray (1983)	46	10.20	Job seekers 50 years of age or older	Older	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No treatment	Two-hour sessions held twice a week
Gustafson (1995)	16	0.60	Job seekers recruited from a college career center offices	Middle-aged	Yes	Yes	No	No	No	Yes	Yes	Yes	Comparison	Eight 3-hr sessions in 2 weeks
Hall, Loeb, Coyne, & Cooper (1981)	52	5.08	Parolees or probationers who had documented histories of heroin use and were referred to the project from either county probation offices, state parole offices, or the narcotics addict outpatient program	Younger	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No treatment	Approximately 8 hours training over 3 days
Hall, Loeb, Le Vois, & Cooper (1981)	59	2.50	Methodone maintenance clients referred to the project by the counseling staff of methadone maintenance clinics	Younger	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No treatment	Approximately 12 hours training over 4 days
Hall et al. (1977)	41	6.67	Methodone maintenance clients who were referred to the project by the vocational rehabilitation service	Younger	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No treatment	Approximately 13 hours training over 5 days
Harris et al. (2002)	100	1.29	Long-term unemployed job seekers in Sydney, Australia	Younger	No	No	Yes	No	No	No	Yes	Yes	No treatment	Eleven hours training over 2 days
Harry & Tiggenmann (1992)	127	0.60	Long-term unemployed sole parent women	Younger	No	No	Yes	No	Yes	No	No	No	No treatment	Full-time for a duration of 3 weeks and 2 days
Jackson et al. (2009)	46	2.02	Co-operative education students	Younger	No	No	Yes	No	No	No	Yes	Yes	Comparison	An 8-minute training
Joseph & Greenberg (2001)	52	3.60	Unemployed business people recruited from ouplacement firms	Middle-aged	No	Yes	Yes	No	No	No	Yes	Yes	Comparison	Approximately 4 hours training over 7 sessions
Keeler (1987)	124	10.82	Welfare recipients	Younger	Yes	Yes	Yes	No	Yes	Yes	No	No	No treatment	Five days training

(Appendix continues)

## Appendix (continued)

Study	Sample size	Effect size (OR)	Sample	Age group	Teaching job search skills	Improving self-presentation	Boosting self-efficacy	Encouraging proactivity	Promoting goal setting	Enlisting social support	Managing stress	Random assignment	Types of control	Length of the intervention
Keith (1976)	66	4.97	Job seekers handicapped by a physical and/or mental disability	Middle-aged	Yes	Yes	No	No	No	No	No	Yes	No treatment	Approximately 10 hours training in total
Koen et al. (2012)	56	1.52	Students in master's programs	Younger	Yes	Yes	Yes	No	Yes	No	Yes	No	No treatment	One-day training for a total of 8.5 hours
Koen et al. (2013)	897	0.69	Long-term unemployed individuals in Netherlands	Middle-aged	No	No	No	No	No	No	No	No	No treatment	Participants had at least one intervention session
Latham & Budworth (2006)	27	31.00	Native North American students in high school	Younger	No	Yes	Yes	No	Yes	No	Yes	No	No treatment	7.5 hours training
Li-Tsang et al. (2008)	63	3.41	Long-term unemployed rehabilitation clients diagnosed with musculoskeletal injuries including neck, back, or limbs injuries due to work	Middle-aged	Yes	Yes	Yes	No	Yes	No	No	Yes	No treatment	Approximately 4-5 hours of counseling
McClure (1972)	76	3.22	Clients of a state rehabilitation and employment service counselor	Middle-aged	Yes	Yes	No	No	No	No	No	Yes	No treatment	Two 3-hr sessions
Micklewright & Nagy (2008)	2,132	1.07	Unemployment insurance claimants in Hungary	Middle-aged	No	No	No	No	No	No	No	Yes	No treatment	One visit with the employment office every 3 weeks
Millman & Latham (2001)	28	5.73	Long-term unemployed individuals in Toronto, Canada	Middle-aged	No	No	Yes	No	No	No	Yes	No	No treatment	Seven 2-hr sessions over 2.5 weeks
Muller (1992)	28	5.52	Long-term unemployed women	Middle-aged	Yes	Yes	No	Yes	Yes	No	Yes	No	No treatment	One-week training course
Proudfoot et al. (1997)	209	3.32	Long-term unemployed individuals in the United Kingdom	Middle-aged	No	No	Yes	No	Yes	No	Yes	Yes	Comparison	Three hours per week over 7 weeks
Reynolds et al. (2010)	352	4.47	Long-term unemployed individuals in Ireland	Younger	Yes	Yes	Yes	No	No	Yes	Yes	No	No treatment	Five half-day classes
Rife & Belcher (1994)	52	7.50	Unemployed job seekers who were 50 years of age or older	Older	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No treatment	A half-day formal training

(Appendix continues)



Appendix (continued)

Study	Sample size	Effect size (OR)	Sample	Age group	Teaching job search skills	Improving self-presentation	Boosting self-efficacy	Encouraging proactivity	Promoting goal setting	Enlisting social support	Managing stress	Random assignment	Types of control	Length of the intervention
Spera et al. (1994)	42	3.33	Professionals laid off by a large computer and electronics firm	Older	No	No	No	No	No	No	Yes	Yes	No treatment	Five 20-min sessions
Staines et al. (2004)	121	2.74	Long-term unemployed methadone patients	Middle-aged	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Comparison	Participants met counselors up to 3 times a week
Stevens & Tornatzky (1976)	22	7.00	Unemployed job seekers with drug-abuse problems	Middle-aged	Yes	Yes	No	No	No	No	No	Yes	No treatment	Three 3-hr sessions
Ugland (1977)	37	3.97	Ready-to-work rehabilitation clients	Middle-aged	Yes	No	No	Yes	No	No	No	Yes	No treatment	Unknown
Van Hoof & Noordzij (2009)	52	4.17	Unemployed job seekers registered with a re-employment counseling agency in the Netherlands	Middle-aged	Yes	No	No	No	Yes	No	Yes	Yes	Comparison	A 2-3 hr workshop
Vidales (1987)	23	0.42	Long-term unemployed job seekers	Middle-aged	No	No	No	No	No	No	Yes	No	No treatment	Eight 2-hr training sessions over 4 weeks
Vinokur et al. (1995)	1,517	1.03	Unemployed job seekers recruited from state agencies that provide unemployment payments	Middle-aged	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Comparison	Five sessions in 1 week for a total of 20 hours
Vuori et al. (2002)	1,261	1.10	Unemployed job seekers in Finland	Middle-aged	Yes	Yes	Yes	No	No	No	Yes	Yes	Comparison	Five 4-hr sessions
Wolf (1982)	159	4.60	Black unemployed youth seeking work	Younger	Yes	Yes	Yes	No	No	No	No	No	Comparison	Twelve-week program, 35 hours per week
Yanar et al. (2009)	55	2.69	Long-term unemployed women in Turkey	Middle-aged	Yes	Yes	Yes	No	No	No	Yes	Yes	No treatment	Four 90-min sessions over 4 days

<sup>a</sup> The summary row presents the total number of studies that fit to the coded category.

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