

Predictive Validity of a Multidisciplinary Model of Reemployment Success

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The authors propose a multidisciplinary model of the predictors of reemployment and test its predictive validity for explaining reemployment success. Predictor variables from the fields of economics, sociology, and psychology are incorporated into the model. Reemployment success is conceptualized as a construct consisting of unemployment insurance exhaustion and reemployment speed, and for reemployed persons, job improvement, job–organization fit, and intention to leave the new job. Direct, mediated, and moderated relationships were hypothesized and tested, clarifying the role of the variables in the reemployment process and outcome. The authors' proposal and examination of a multidisciplinary model of reemployment success contributes to a literature that has not tended to adequately cross disciplinary boundaries.

Job loss and layoffs are not uncommon in the United States, even during relatively good economic times. On average, 5.7 million individuals were unemployed in the United States in each month of 2000. Approximately 32% of the individuals eligible for unemployment insurance (UI) did not find a job before they exhausted their benefits (U.S. Department of Labor, 2001). Once unemployed, it takes the average individual about 3 months to find new employment. In 2001, the unemployment situation worsened: The national unemployment rate in October 2001 climbed to 5.4%, the highest rate in almost 5 years. Reducing the time to become reemployed is important for the emotional health of unemployed individuals (Murphy & Athanasou, 1999) and is obviously important for the financial health of the unemployed individuals, their families, and the nation.

The Minnesota Department of Economic Security (MDES) is responsible for the administration of the Unemployment Insurance Program and Job Service Program in Minnesota. These responsibilities have led MDES to seek out ways to shorten the time of unemployment for each person, thereby reducing costs to individuals, their families, and the government. With these goals in mind, MDES initiated a study in early 2000 to examine the characteristics of UI recipients that are likely to exhaust their UI. The results

of this project, reported here, contribute both theoretical and applied knowledge about the predictors of UI exhaustion, as well as a broader set of reemployment success criteria including reemployment speed and quality of reemployment.

Context of Project

MDES has had a system in place since January 1996 to identify UI recipients who are likely to exhaust their UI. The system is intended to identify recipients who may need extra services or help with their job searches. The first step of Minnesota's process is to assess if a recipient has been permanently laid off from his or her employer. Individuals on partial or temporary layoff are considered still attached to an employer and are not considered at risk to exhaust their unemployment benefits before returning to their previous employment. Individuals remaining after this first screen undergo a profiling process that involves a prediction of the likelihood of their exhausting their UI. Several variables—specifically, education, residency in the nonmetro versus metro area, primary occupation (by using the first digit of the Dictionary of Occupational Titles [DOT] occupational code), Standard Industry Code (SIC) of the last employer, and number of employers in the base period (Berglund & Hammida, 1995)¹—are included in the equation. Unfortunately, this model, because of its limited number of variables, was only marginally useful in accurately predicting who would exhaust their UI. MDES officials therefore funded the present investigation to examine more fully the predictors of UI

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This research was supported in part through a Department of Labor grant to the State of Minnesota. We are indebted to Jim Hegman from the Minnesota Department of Economic Security for his enthusiasm and help in coordinating this statewide project. We also thank Angelo Kinicki, Jim Hegman, and Paul Sackett for their helpful comments on an earlier version of this article.

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¹ Base period is defined as the first four of the last five completed calendar quarters prior to the applicant's benefit year. A state's worker profiling system is not permitted to target individuals in protected groups such as age, race, ethnic group, national origin, gender, disability, religion, political affiliation, or citizenship (U.S. Department of Labor, 1999). This study includes age, race, and gender and reference to disability in one item in the pursuit of an academic understanding of the variables predictive of reemployment success.

exhaustion and predictors of other reemployment success indicators (i.e., reemployment speed and reemployment quality).

Theoretical Model and Hypotheses

Conceptual Model of Predictors of Reemployment Success

Our first step was a comprehensive review of empirical and theoretical work predicting UI exhaustion, reemployment speed, and reemployment quality. We found relevant work primarily in the fields of economics, psychology, and sociology. As we reviewed the literature, we noted a striking lack of integration of ideas across disciplines. For example, the economics literature tends to focus on economic predictors (e.g., labor market and UI variables) of reemployment success. The sociological literature has some overlap with the economics literature and even less with psychology, tending instead to focus on demographic variables, discrimination, job mobility, and social networks. The psychological literature tends to focus on job-seeker perceptions, personality, and self-reported behavior as predictors of reemployment success, often examining the predictors of job-search intensity rather than reemployment success. We found no studies or reviews of reemployment success that combined all three types of relevant predictors (psychological, economic, and sociological) into a coherent framework or model.

Our next step thus involved developing a multidisciplinary model of the primary variable groups relevant to reemployment success to provide a framework for our study. The model was based on our findings of the literature search and was supplemented with multiple focus groups and interviews of job seekers and Minnesota WorkForce Center staff (conducted statewide and transcribed) aimed at understanding competencies that are needed to perform well in the job search, problems encountered in the job search, and reasons individuals might encounter lengthy durations of unemployment.

Our preliminary multidisciplinary model of the proximal variable groups relevant to reemployment success is shown in Figure 1.² The model features seven major categories of predictors of reemployment success: (a) labor market demand (the labor market's need for employees in general as well as in specific occupational and industrial specialties); (b) job-seeker human capital (the ability, experience, and personality characteristics the job-seeker brings to the job); (c) job-seeker social capital (job-seeker social networks); (d) job-seeker reemployment constraints (factors that might limit an individuals' reemployment probability, such as illness or disability); (e) job seekers' economic need to work; (f) job seekers' job-search intensity, clarity, and quality; and (g) employer discrimination. We describe these variable groups and hypothesize their relations to reemployment success in the following sections.

Conceptual Model of Reemployment Success: Criterion Components

Although most existing research conceptualizes reemployment success as reemployment speed, other criteria are important as well. Economists, for example, include UI exhaustion and changes in wages from the previous job to the new job. Psychologists sometimes examine reemployment quality, including job satisfaction, job improvement, and intention to leave the new job (Wan-

berg, Kanfer, & Rotundo, 1999). Leana and Feldman (1995) and Kinicki, Prussia, and McKee-Ryan (2000), for example, argued for the need to supplement reemployment speed outcomes with quality of reemployment outcomes in unemployment research. Contributing to the recognition of the importance of quality of reemployment criteria are studies that show that individuals employed in lower quality jobs experience lower levels of mental health (Wanberg, 1995) and are more likely to seek new jobs (Wanberg et al., 1999).

We conceptualized reemployment success as consisting of five components. The first two components (or indicators), *reemployment speed* and *UI exhaustion*, relate to the duration of individuals' unemployment and whether the individual found employment before his or her UI benefits ran out. Reemployment speed and UI exhaustion, although correlated, are conceptually distinct. UI recipients are eligible for up to 26 weeks of regular unemployment benefits, but recipients may continue to be unemployed beyond the time they exhaust their benefits. Furthermore, recipients do not have to claim (or may not be eligible for) benefits every week they are unemployed, making it possible for an individual to be unemployed indefinitely without exhausting his or her benefits.

Our second two indicators portray the quality of the job seeker's new job. *Job improvement* represents a comparison of the new job to the job before unemployment in terms of several job characteristics (e.g., wages, benefits, working hours, nearness to home, job security, career opportunities). The construct of job improvement encompasses wage changes examined in the economic literature while recognizing other aspects of the job as important. *Job-organization fit* was used to portray the extent to which the new job and organization measured up to the type of job and organization the job seeker had hoped to find.

Our last indicator of reemployment success was an assessment of reemployed individuals' intentions to leave their new jobs (intention to turnover). This last indicator allowed us to examine the extent to which low reemployment quality may lead to higher desire on the part of reemployed individuals to leave their new jobs.

² The model depicts variable groups that we conceptualize as being the most proximally relevant to reemployment success. We acknowledge there are additional variables likely to exert distal or indirect influences on reemployment success. For example, several variables, such as job-search confidence, social support, and employment commitment have been shown to predict higher levels of job-search intensity (Kanfer & Hulin, 1985; Mallinckrodt & Fretz, 1988; Rowley & Feather, 1987). As another example, there is an extensive literature on the predictors of educational attainment (Sandefur & Wells, 1999). Because of the massive number of variables relevant to the unemployment and reemployment experience, we focused on those variables that we could theoretically argue to have the most proximal and direct relationships with reemployment. For example, although a variable such as occupation (in our model) can be argued to have a direct influence on reemployment speed, a variable such as social support (not in our model) likely operates indirectly through other variables such as influencing job-search intensity. We acknowledge the need for a theoretical review to discuss and conceptualize the many relevant variables and hypothesized relationships in this domain. We put forth our model as a preliminary conceptualization.



Figure 1. Conceptual model of primary variable groups associated with reemployment success.

Hypothesized Relationships Between Predictors and Reemployment Success Criteria

Labor market demand. Reemployment success depends, at least in part, on the labor market's need for employees, both in general and for specific occupational and industrial specialties. There is a greater market demand for some occupations and industries over others (Fallick, 1993), and higher national, regional, and seasonal unemployment rates are associated with lower reemployment speed (see, e.g., Dynarski & Sheffrin, 1990).

Our study incorporated controls for regional area, along with job-seeker DOT code (U.S. Department of Labor, 1991) and SIC (Executive Office of the President, Office of Management and Budget, 1991) of last job as indicators of job-seeker occupation or field. Although useful, these classifications are also very coarse. For example, many diverse jobs fit under the occupational category "professional, technical, managerial," (U.S. Department of Labor, 1991) some in higher demand than others. Furthermore, individuals may be able to use their skills in other occupational areas or industries or to relocate (Fallick, 1993; Goss, Paul, & Wilhite, 1994). Although exploratory, we speculated that self-report, psychological measures might provide useful information about labor market demand. We postulated that individuals would be able to indicate whether they are in a skill area that is in high demand versus low demand and that self-reported labor market demand might provide a useful supplement to the coarseness of region, occupation, and industry codes. Leana and Feldman (1994), for example, speculated that individuals who perceive the labor market as poor may be more likely to panic and take jobs significantly below the pay and skill levels of their last jobs.

Indeed, Leana and Feldman (1995) found that steelworkers who perceived the labor market as poor were likely to be unemployed longer and to find jobs they reported as unsatisfactory than were steelworkers who did not perceive the labor market as poor. We propose the following:

Hypothesis 1: Controlling for job-seeker occupation, job-seeker industry, and region of the state, higher self-reported labor market demand will be predictive of increased job-seeker reemployment success.

We did not hypothesize the direction of the relationship for specific occupations, industries, and regions (e.g., which occupations, industries, and regions we expect will demonstrate the highest reemployment success) because historical data that can be used to generate predictions are typically at least 1 year old, and large layoffs, plant closings, and new business start-ups create a dynamic environment for the supply and demand of specific occupations, industries, and regions, especially within a data set collected within a shorter time frame.

Job-seeker human capital. Reemployment success also depends on an individual's human capital, that is, the ability, experience, personality, and other individual difference characteristics of the job seeker. In general, higher levels of education are associated with faster reemployment rates (see, e.g., Kanfer, Wanberg, & Kantrowitz, 2001), but a curvilinear effect may be most appropriate. For example, Kettunen (1997) found education to positively predict reemployment speed up to about 13.5 years of education, with individuals with master's or doctoral degrees having slower speed of reemployment because of difficulties with finding very

specific placements. Tenure with the last employer is often used in the economic literature as a proxy for firm-specific human capital (Fallick, 1993). Compared with individuals who are with the same employer for only a few years, individuals with the same employer for several years may find it harder to become employed in a different industry.

Although useful, education and tenure measures are not comprehensive in representing the amount of human capital. Individuals may find that over a number of years, their skills have become obsolete (e.g., as in the car mechanic who is not familiar with computerized diagnostic equipment) and that they need additional training. Alternatively, despite a high level of tenure within an organization, an individual may have been proactive at taking computer courses and other training opportunities, thereby enhancing their skill level and marketability. In our study, we operationalized human capital with level of education, tenure at last job, and a self-report assessment of skill and qualifications that incorporates elements of skill obsolescence, work qualifications, and need for additional training. On the basis of this literature, we propose the following:

Hypothesis 2: Education will have a curvilinear relationship with the reemployment success outcomes, positively predicting reemployment success at lower levels of education and negatively predicting reemployment success for individuals with higher levels of education.

Hypothesis 3: Shorter tenure with last employer and higher self-reported skills and qualifications will be associated with higher reemployment success.

Human capital also includes personality traits that make an individual valuable to an organization (e.g., Fitz-enz, 2000). Reemployment success depends, at least in part, on personality aspects of a job seeker's human capital. Conscientiousness has received significant attention in the field of industrial/organizational psychology as a characteristic highly valued by employers. Individuals with a high level of conscientiousness are dependable (e.g., careful, thorough, responsible, organized, efficient, and planful) and have a high will to achieve (e.g., high achievement orientation and perseverance; Goldberg, 1990, 1992). Individuals high in conscientiousness are likely to present themselves to employers as dependable and motivated through references, organized application packets, or examples they provide in interviews. Kanfer et al. (2001) found that the average corrected correlation between conscientiousness and unemployment duration across four studies with a combined sample size of 2,609 was $-.12$. Previous research provides less guidance regarding potential associations between conscientiousness and our two indicators of reemployment quality (job seeker job-organization fit and job improvement), although it might be argued that the planful nature of conscientious individuals would work in favor of their finding a job of high quality. With regard to intention to leave the new job, research indicates that individuals high in conscientiousness are less likely to leave their jobs than are individuals low in conscientiousness (corrected $r = -.12$ in a combined sample of 2,759; Barrick & Mount, 1991). We propose the following:

Hypothesis 4: Higher levels of conscientiousness will be predictive of reemployment success.

Job-seeker social capital. Social capital, in the context of job search, has been conceptualized as having a social network (e.g., friends, relatives, acquaintances) that may influence a job seeker's reemployment by providing information and by helping the job seeker to identify or secure job opportunities (Granovetter, 1995; Sprengers, Tazelaar, & Flap, 1988). The social contact, for example, may provide information to the job seeker about job openings, application procedures, or company culture. Alternatively, the social contact may refer the job seeker to another individual (e.g., a friend of a friend) who might be able to help him or her or may even exert a significant influence on the hiring decision, directly leading to a job offer for the job seeker (see, e.g., De Graaf & Flap, 1988; Montgomery, 1992). Research has shown that individuals with more social capital experience faster reemployment but not necessarily higher quality reemployment (Sprengers et al., 1988). On the basis of this literature, we propose the following:

Hypothesis 5: Individuals who report having more access to social networks will be reemployed faster and will be less likely to exhaust their unemployment insurance.

Reemployment constraints. This class of predictors refers to situational factors in the environment or demands on the part of the job seeker that might limit or restrict an individual's reemployment. Many situational factors (e.g., lack of a reliable vehicle, child-care problems, or having a disability or illness) may become obstacles to an individual's employment (see, e.g., Allan, 1990; Brooks & Buckner, 1996; K. M. Harris, 1996). Self-imposed or reported constraints on the part of job seekers (e.g., "It will be hard to find a job with the pay I want" or "The hours I can work rarely match the hours employers want") can also slow reemployment (Warren, 1997). To the extent that these constraints limit a person's employment options, we further expect that the person is less likely to find a job that meets his or her criteria. We propose the following:

Hypothesis 6: Higher reemployment constraints will be predictive of lower reemployment success.

Economic need to work. Individuals vary widely in regard to the financial obligations and resources that they have while they are unemployed (Kinicki et al., 2000; McKeen-Ryan & Kinicki, 2002). Research suggests that the fewer financial resources individuals have, the faster their reemployment speed. Arulampalam and Stewart (1995) found that a 10% decrease in income from unemployment benefits and spousal earnings was associated with a 1%-4% increase in the weekly probability of becoming employed. Kanfer et al. (2001) reported that the average corrected correlation between perceived financial hardship and unemployment duration across four studies was $-.12$.

Financial hardship may also be linked to reemployment quality. Individuals may be more likely to take the first job they are offered when they have a higher financial need to work; they may not have the luxury of waiting for the optimal job to come along. Supporting this possibility, Leana and Feldman (1995) found that unemployed individuals who had reported having more children and higher weekly income needs had lower levels of satisfaction with their new jobs than did individuals with fewer children and lower income requirements.

We operationalized economic need to work with four variables. UI wage-replacement ratio was used as an indicator of the extent to which individuals' weekly UI amount replaced the wages they earned on average during the 52-week period used to calculate their UI allotment.³ Whether individuals had a spouse working and children under the age of 18 years was also assessed as information relevant to levels of financial obligation. Finally, because these indicators are not fully reflective of an individual's perceived economic need to work, we supplemented this information with a self-report scale that asked individuals to indicate how important financially it was for them to find a job within the next 2 months and how difficult it was for them to live on their total household income (including unemployment benefits and income from other persons). We propose the following:

Hypothesis 7: Higher economic need to work (as indicated by a lower wage-replacement ratio, not having a working spouse, having more children, and having a higher perceived financial need to work) will be predictive of lower UI exhaustion and higher reemployment speed but lower reemployment quality.

We further develop our expectations regarding economic-need-to-work variables with Hypothesis 8. Specifically, we note that, although having more children is indicative of a higher financial burden, the associated link with reemployment speed may be different for men and women. Despite more egalitarian attitudes and increasing participation of men in family life, women still identify more with family than with paid employment; the reverse is true for men (Bielby, 1992). The opportunity to spend time at home with children may lead women to be more likely to experience longer durations of unemployment than would men (Sheehan & Tomlinson, 1998). Thus, we expected women who have more children to experience slower reemployment speed and higher UI exhaustion and men, because of their traditional breadwinner role, to experience faster reemployment speed and lower UI exhaustion. We propose the following:

Hypothesis 8: Holding other financial concerns constant (e.g., by way of the other economic need to work variables), gender will moderate the relationship between the number of children under age 18 years and reemployment speed and UI exhaustion. Specifically, we expect to observe a positive relationship between the number of children and reemployment speed among men and a negative relationship between the number of children and reemployment speed among women.

Job-search intensity, clarity, and quality. Extensive data indicate that higher *job-search intensity* (spending more time and effort on the job-search process) is related to faster reemployment. For example, Kanfer et al. (2001) reported average corrected correlations of .21 ($k = 21$ studies) for the relationship between job-search intensity and later employment status and $-.12$ ($k = 9$ studies) for the relationship between job-search intensity and total unemployment duration. On the basis of this research, we propose the following:

Hypothesis 9: Higher job-search intensity will be predictive of faster reemployment and lower UI exhaustion.

The relationship between job-search intensity and reemployment quality is less clear than the relationship between job-search intensity and reemployment speed and has been studied less often. Schwab, Rynes, and Aldag (1987) suggested two competing possibilities with respect to search intensity and reemployment quality: Stronger search intensity may (a) allow individuals to identify more job options and choose the best alternative or (b) deter reemployment quality if the individual who searches intensely settles on the first job offered. Indeed, studies that have examined the relationship between job-search intensity and reemployment quality have found conflicting results (see, e.g., Wanberg, 1997, vs. Wanberg et al., 1999). We propose that economic hardship may moderate the relationship between job-search intensity and reemployment quality. Specifically, the relationship between job-search intensity and reemployment quality for individuals with higher economic hardship is likely to be minimal because individuals with high economic needs are likely to settle on one of the first jobs offered to them. In contrast, a positive relationship between job-search intensity and reemployment quality is more likely among individuals with lower economic hardship. Individuals with lower economic hardship are more likely to have the financial luxury of seeking out their best employment option.

Hypothesis 10: Economic need to work will moderate the relationship between job-search intensity and reemployment quality. Specifically, job-search intensity will be positively associated with reemployment quality for individuals with lower economic need to work, whereas job-search intensity will be only weakly related to reemployment quality for individuals with higher economic need to work.

What is also important, but rarely recognized in the unemployment literature, is the extent to which unemployed job seekers have clear job-search objectives, defined here as *job-search clarity* or having a clear idea of the type of career, work, or job desired. The indecision or uncertainty felt by individuals who do not have clear job-search objectives may stem from a lack of self-understanding (low awareness of personal work interests, goals, and values), a lack of information about the work world and opportunities available, psychological conflicts (e.g., conflict of work goals with family life), or a general difficulty making decisions and choices (Callanan & Greenhaus, 1990). Individuals who are not sure about the job they are interested in, or who are contemplating a career change, may take longer to find work. They may spend more time

³ State UI programs generally seek to provide a weekly benefit amount equal to approximately 50% of an individual's average weekly wage during a base period—usually the first four of the last five completed calendar quarters. All states cap the maximum weekly benefit amount at some level determined by state law (in Minnesota, at the time of this study, the cap was \$410 per week; Minnesota Department of Economic Security, 2001). As a consequence, if an individual's base period earnings are relatively high or not consistent (e.g., they earn much more in one quarter than in another), such formulas can yield benefit amounts that are much lower or higher than 50% of individuals' average weekly wages. In our sample, wage replacement ratios ranged from 0.09 for a recipient who usually earned about \$4,300 per week to 1.58 for a recipient who had more inconsistent earnings. There is insufficient space in this article to fully describe the formulas used to calculate UI entitlements or to explain why they have been chosen.

in career exploration and contemplation and may not target their resumes or applications very effectively to employers. Furthermore, individuals who have less clear objectives may be reemployed in jobs they find less satisfactory. Without a clear goal in mind, they may be more apt to take the first job offered to them or to take jobs that do not fit their interests. We propose the following:

Hypothesis 11: Clear job-search objectives will be related to higher quality of reemployment.

Job-search behavior has multiple influences on reemployment success. Kanfer et al. (2001) built on motivation and self-regulation theories (e.g., Bandura, 1989; Kanfer & Kanfer, 1991) and job-loss coping research (Latack, Kinicki, & Prussia, 1995) to define job-search behavior as a "purposive, volitional pattern of action that begins with the identification and commitment to pursuing an employment goal" (p. 838). According to Kanfer et al., job search requires individuals to self-manage and organize their behaviors. Kanfer et al. noted that job-search behavior may change in direction or intensity because of feedback from the environment.

This conceptualization of job search as a behavior that is self-motivated and influenced by the environment suggests the theoretical usefulness of conceptualizing job-search intensity as a partial mediator of the other predictors in the model on the outcomes of UI exhaustion and reemployment speed. Specifically, the other variable categories shown in Figure 1 may exert their impact on UI exhaustion and reemployment speed at least partially through their influence on the job-search intensity of the job seeker. If the labor market demand for employees is low, or if a person knows that his or her education and experience are deficient, motivation to seek a job may be reduced (or increased), and job-search intensity may be lower (or higher). Similarly, a person with reemployment constraints could feel frustrated or defeated and experience lower motivation to search, whereas economic need for work or social capital could energize job-search intensity.

We do not conceptualize job-search intensity as a complete mediator of the other variable categories shown in Figure 1 but as a partial mediator. Specifically, the other variable categories (labor market demand, job-seeker human capital, job-seeker social capital, reemployment constraints, and economic need to work) are not conceptualized to influence UI exhaustion and reemployment speed completely through their influence on job-search behavior. Instead, these other variable components are each conceptualized to have their own direct impact on reemployment success, as outlined in the previous hypotheses. Economic need to work, for example, can affect reemployment speed directly as well as indirectly. We propose the following:

Hypothesis 12: Job-search intensity will partially mediate the relationships between the predictor variables and UI exhaustion and reemployment speed.

Last, it is also important to mention that a person's job-search quality and presentation to the employer is critical. A person who turns in carefully constructed resumes and job applications and presents him- or herself with ease in a job interview is more

likely to be hired than someone who turns in poorly crafted communications and is ineffectual in his or her interviews. Job-applicant nonverbal skills in the interview, such as smiling and direct eye contact, have been associated with more favorable interview outcomes (Howard & Ferris, 1996; Tesler & Sushelsky, 1978). Job-applicant vocal characteristics, such as pitch, pitch variability, speech rate, pauses, and amplitude variability, have also been shown to affect interviewer judgments (DeGroot & Motowidlo, 1999). Job-seeker physical appearance also affects interview outcomes (Snyder, Berscheid, & Matwychuk, 1988). We acknowledge the critical role that this aspect of the job search can play in the reemployment process although we were unable to assess job-search quality and presentation to employers in our study.

Employer discrimination. Discrimination against job seekers on the basis of non-job-related factors, such as age, race, disability, gender, and sexual orientation, may also occur, reducing reemployment success (see, e.g., Crow, Fok, & Hartman, 1995; Finkelstein, Burke, & Raju, 1995; Moss & Tilly, 2001; Spalter-Roth & Deitch, 1999). The assessment of whether discrimination has occurred on the part of employers is difficult. Our study included age, race, and gender as control variables in our analyses, and disability was examined as a potential constraint reducing reemployment success (i.e., in our reemployment-constraints scale). However, even if our results were to show that one of these factors (e.g., age, race, disability, or gender) was associated with slower reemployment speed, we could not infer that slower reemployment was due to discrimination. For example, if age is negatively associated with reemployment speed, it is possible that this is partially due to discrimination effects. However, older individuals may, on average, possess other characteristics associated with longer durations of unemployment that may not be fully controlled by other variables in our model. Thus, although we were unable to test for effects of possible discrimination, we acknowledge that employer discrimination may impact job-seeker reemployment success.

Hypothesized Relationships Between Reemployment Success and New Job Attitudes and Behavior

Once reemployed, quality of reemployment as indicated by job seeker job improvement and job-organization fit are likely to influence job-seeker attitudes and behavior at the new job. Although a wide realm of attitudes and behavior in the new job are relevant and interesting (see, e.g., Hulin's, 1991, discussion of employee withdrawal behavior), we examined job seekers' intentions to leave their new job. We propose the following:

Hypothesis 13: Quality of reemployment is negatively related to intentions to leave the new job. More specifically, the better the job compares with the last job and the better the job-organization fit, the less likely the reemployed person is to intend to leave the new job.

Summary of Predicted Relationships

Figure 2 visually portrays the relationships between the variable categories and reemployment success that we examined in the

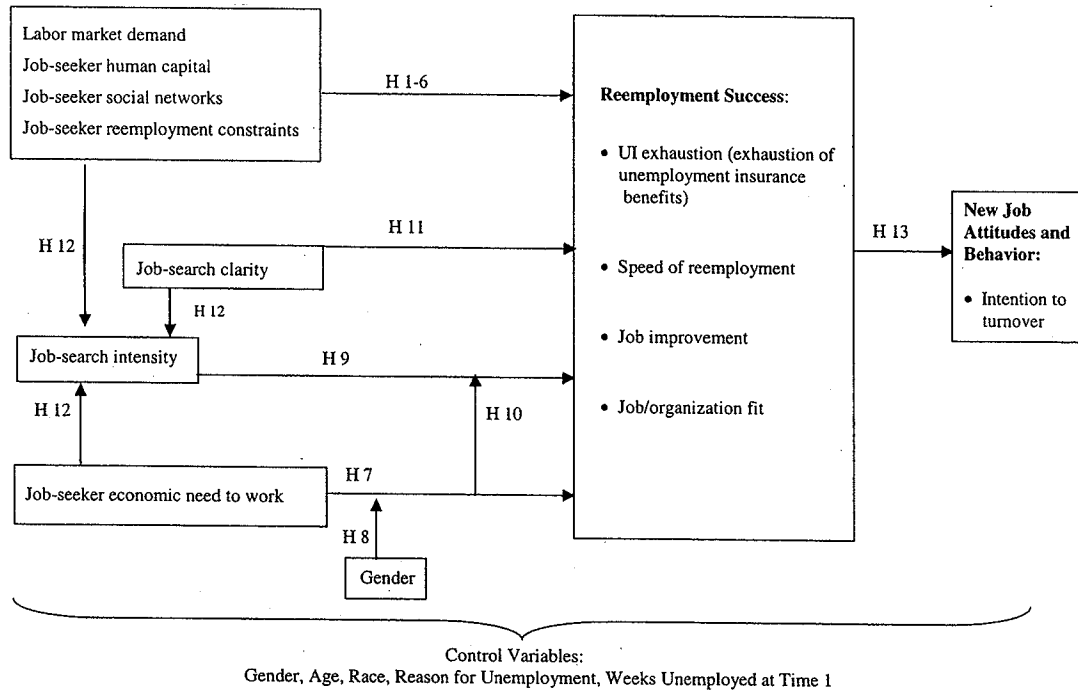


Figure 2. Visual illustration of hypothesized relationships. H = hypothesis.

current study. Figure 2 is meant as a hypothesis map and should not be confused with a proposed structural model.⁴

Method

Participants

The participants in this study were unemployed at Time 1 and were recruited from 48 WorkForce Center sites across the state of Minnesota. The participants were UI recipients who were recently separated from their last employer and who were attending a required reemployment assistance orientation session. The orientation session described WorkForce Center services available to them.

During the 2-month period that data were collected (March and April 2000), 2,681 individuals attended the mandatory orientations. At the end of each orientation, individuals were asked if they would be willing to complete a survey. A total of 2,390 people returned completed surveys, for a response rate of 89%. This participant pool was then screened for several eligibility criteria for the study. A total of 283 of the respondents were to be recalled by their last employer, 19 were not receiving unemployment insurance, and 197 were receiving less than 26 weeks of UI, making them ineligible for the study because of the MDES focus at that time on full-duration UI recipients permanently separated from their employer.⁵ An additional 73 respondents were eliminated from the study for not filling out two or more pages of the survey or for refusing or neglecting to provide us with their name, address, or social security number (thus eliminating our ability to obtain their MDES records or to send them a follow-up survey). Finally, 22 respondents were removed because they had been unemployed for less than 2 weeks (e.g., some of our questions, such as those assessing job-search intensity, would not be meaningful if a person had only been unemployed for 1 day), and 21 were removed because of a negative answer to the following validity and reading skill check question placed in the survey: "I have answered all of the questions thoughtfully and honestly."

Of the remaining 1,775 participants, 935 were male and 840 were female. Individuals ranged in age from 17 to 78 years ($M = 41.4$, $SD = 10.5$). The ethnicity of the respondents was 90.3% White, 1.2%

Hispanic, 4.9% African American, 0.8% Native American, 1.9% Asian American, and 0.8% other ethnic background. The average education level was 13.9 years ($SD = 1.9$). The average income level was \$36,990 per year ($SD = \$21,567$). At Time 1 of this study, the participants had been unemployed for an average of 8 weeks ($SD = 8.6$) and a mode of 4 weeks.

⁴ Structural equation modeling was not used to analyze the study data for three primary reasons. First, as described in the Results section, we have substantially different sample sizes available for analysis for each of our outcome variables ($n = 1,765$, 100% of the Time 1 sample, for the outcome variable of UI exhaustion; $n = 959$, representing data from all of our Time 2 survey respondents, for the outcome variable reemployment and reemployment speed; and $n = 765$, representing data from our Time 2 survey respondents that were reemployed, for our reemployment quality outcomes), reducing the plausibility of analyzing the model as a whole. Second, our variable categories are best conceptualized as theoretically meaningful variable groupings rather than as latent variables (variables within each category are not necessarily correlated). Finally, the complexity of our model, involving several control variables, dummy variables, and interactions, as well as a hazard model that includes as its outcome the occurrence and speed of an event (reemployment and reemployment speed) made structural equation modeling less appealing and usable as a data analytic strategy.

⁵ Minnesota's UI program provides that the maximum amount of benefits an individual may receive is equal to the lesser of one third of the individual's base period wages or 26 times the individual's weekly benefit amount. Individuals eligible for less than 26 weeks of UI tend to be intermittent workers or new entrants into the workforce who have a brief or inconsistent work history. At the time this study was conducted, MDES emphasized providing services to individuals with full duration (26 week) claims. Since that time, MDES has undertaken research that has shown that individuals with shorter duration claims differ characteristically from applicants with full duration claims and may merit special attention (Ham-mida, 2000).

Participants came from a variety of occupations, including professional, technical, and managerial (44.7%); clerical and sales (25.5%); service (5.0%); machine trades (5.3%); benchwork (3.8%); structural work (4.2%); and others (including agricultural and processing; 11.6%). All standard industry categories were represented, including manufacturing (23.1%); transportation, communication, electric, gas, and sanitary (4.2%); wholesale and retail trade (24.3%); finance, insurance, and real estate (9.7%); service (business or other; 17.7%); educational, health, and social services (15.3%); public administration (2.1%); and miscellaneous (including agricultural, mining, construction; 3.6%).

Data regarding benefits exhaustion for our 1,775 participants were obtained from MDES data 1 year after the Time 1 data collection. To obtain data regarding reemployment speed and quality, a short follow-up survey was sent to the participants 8 months after the Time 1 data collection. The 8-month follow-up was considered sufficient time to allow for a majority of the respondents to become reemployed (the average length of unemployment for the general UI population in Minnesota averaged 12.5 weeks in 1999, and individuals had already been unemployed prior to the Time 1 data collection) so that we could better examine reemployment speed as an outcome. A \$2 bill was included with each survey as an incentive to respond and as a token of appreciation. A total of 989 of these follow-up surveys (55.7%) were returned. Of the 989 returned, 770 (77.9%) of the respondents were reemployed and thus provided the requested reemployment information; 219 (22.1%) were still unemployed.

The Time 2 respondents ($n = 989$) were compared with the individuals who did not respond at Time 2 ($n = 786$) on several demographic variables assessed at Time 1. Some mean differences were found between respondents and nonrespondents on the variables assessed at Time 1. Respondents were older ($M = 43.1$ years vs. 39.3 years), $t(1773) = 7.87, p < .01$, and more educated ($M = 14.0$ years vs. 13.7 years), $t(1773) = 2.97, p < .01$, than nonrespondents. Respondents were more likely to be female, $\chi^2(1, N = 1,775) = 9.96, p < .01$, and White, $\chi^2(1, N = 1,775) = 29.87, p < .01$ (specifically, 59.6% of the women and 57.8% of the Whites responded at Time 2 compared with 52.2% of the men and 36.0% of the minorities). Our sample included fewer men (53%) and minorities (10%) than represented in the population of UI recipients in Minnesota in 2000 (58% and 20%, respectively).

Time 1 Measures: Reemployment Predictors

MDES has several elements in their database that are collected at the time people apply for UI. We categorized the database elements available from MDES into our conceptual model and found, not unexpectedly, that several constructs could not be measured by using just MDES databases. We therefore needed to use existing measures or develop measures for these constructs and include them in our Time 1 survey. No measures existed for several constructs in our model (e.g., self-reported labor market demand, self-reported skill); thus, new measures needed to be developed for these constructs. In addition, MDES wanted to use items from our study in a future needs-assessment questionnaire for job seekers. They also wanted to avoid possible copyright issues involved with using items developed by other authors. Thus, where measures were available (e.g., job-search intensity), we used the available measures for guidance and wrote new items, improving and simplifying them when possible. We wrote items and response options at a low-reading level to allow administration to individuals with a variety of educational backgrounds. When possible, simple "agree" and "disagree" response formats were used. Short scales were necessary to keep administration time of the survey to less than 30 min. Extensive pilot testing ensured that the final items and terms were clear to participants.

A brief overview of our measurement of each model category follows. The Appendix provides additional detail by listing each model category and the MDES data elements and survey items that we used to operationalize each variable. Coefficient alphas for the self-report multiple item scales are shown in Table 1.

Labor market demand. Three MDES database elements (occupation and industry of each job seeker's last job, the region of the state the job seeker lives in) and one scale from the Time 1 survey (job seeker self-reported labor market demand) were used to assess labor market demand (see the Appendix). Our study participants were all unemployed during the same initial time period; thus, national and seasonal unemployment rates were constant across job seekers. We considered using county unemployment rates instead of region of the state to portray regional labor market demand; however, during discussions with MDES, we learned that county unemployment rate calculations are imperfect estimations and may be misleading, especially for sparsely populated counties (for a good discussion of this problem, see Ansberry, 2001).

Human capital. One indicator of human skill capital was level of education. Education squared was used to add a quadratic term to our analyses to examine our hypothesis that education and reemployment success may have a nonlinear relationship (e.g., we hypothesized a parabolic inverted-U-shaped relationship between these constructs). To reduce the high correlation between education and education squared, we subtracted the mean of education and education squared, respectively, from each variable (Pedhazur, 1982). We also operationalized human capital with one item that asked participants how many years they had been with their last employer (organization-specific capital) and with a self-report assessment of skill and qualifications (see the Appendix).

Conscientiousness was assessed as an indicator of personality capital. We used Goldberg's (1992) adjectives and the NEO Personality Inventory—Revised (Costa & McCrae, 1992), which are often regarded as the standard measures of Big Five personality variables, as our guides in writing items to measure conscientiousness. To assess the construct validity of our conscientiousness scale, we administered the items to 64 master's students in human resources (17 male, 47 female; 77% White; mean age = 24.7 years) and administered the OPQ-32 (Saville & Holdsworth, Ltd., 1999). Results indicated high convergent correlations. Our conscientiousness items correlated .72, .51, and .60 ($p < .01$) with the OPQ conscientiousness, forward-thinking, and detail-conscious scales.

Social capital. Two items that focused on the existence and availability of social networks were used to assess social capital (see the Appendix). The two items asked job seekers whether they knew people or had connections with people who might help them find a job.

Reemployment constraints. Six items were used to assess reemployment constraints (see the Appendix). These constraints were culled from the literature (e.g., Allan, 1990; Brooks & Buckner, 1996) and from results in focus groups that indicated that there were several factors, not often measured in the literature, that seemed to impact job seekers' success in achieving reemployment. A coefficient alpha was not computed for this scale because these items reflect a diverse array of possible constraints and the scale is not meant to be homogeneous.

Economic need to work. We used four separate variables to operationalize economic need to work (see the Appendix). Wage replacement ratio (the ratio of individuals' weekly UI benefit amounts to their prior weekly wages) was provided by MDES as an indicator of how much individuals were receiving in UI in comparison with what they were earning in previous jobs. We also asked individuals to report whether they had a spouse who was currently working (1 = yes, 0 = no) and how many children they had under the age of 18 years. Finally, to capture more fully an individual's economic need to work, we developed a two-item scale assessing perceived economic hardship. We used aspects of typical assessments of this construct (e.g., Vinokur & Caplan, 1987) and used this as our guide.

Job-search intensity and clarity. Job-search intensity was measured by using 10 items generated with close content reference to the behavioral job-search scale developed by Blau (1993) as well as by using information gleaned from focus groups on job-search strategies used (e.g., "Used the Internet to locate job openings"; Internet job search was not reflected in Blau's, 1993, scale). The items asked the person to report how many times they had done 10 different job-search activities in the last 2 weeks.

Table 1
Means, Standard Deviations, Correlations, and Coefficient Alphas for Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Gender (0 = male, 1 = female)	.47	.50	—																	
2. Age	41.41	10.48	-.04	—																
3. Race (0 = minority, 1 = White)	.90	.30	.02	.06	—															
4. Reason unemployed: Quit ^a	.06	.23	.06	.00	.00	—														
5. Reason unemployed: Discharged	.37	.48	-.04	-.11	-.01	-.19	—													
6. Time 1 weeks unemployed	7.98	8.60	.04	.08	-.01	-.03	-.07	—												
7. Occupation: Clerical & sales ^b	.25	.44	.12	-.02	.04	.03	.06	-.03	—											
8. Occupation: Service	.05	.22	.10	.02	-.03	.06	.07	.01	-.13	—										
9. Occupation: Machine trades	.05	.22	-.12	-.04	-.05	.00	-.01	-.05	-.14	-.05	—									
10. Occupation: Benchwork	.04	.19	.01	.03	-.11	-.03	-.05	-.03	-.12	-.05	-.05	—								
11. Occupation: Structural work	.04	.20	-.12	-.03	.01	-.04	.00	.02	-.12	-.05	-.05	-.04	—							
12. Occupation: Others	.12	.32	-.02	-.08	.02	.03	-.04	.00	-.21	-.08	-.09	-.07	-.08	—						
13. Industry: Transportation ^c	.04	.20	-.04	.01	-.01	-.05	.03	.03	.05	-.03	-.05	-.03	.01	.04	—					
14. Industry: Trade/retail	.24	.32	-.09	.04	.04	-.06	-.02	.02	.08	-.08	-.02	-.04	.00	.12	-.08	—				
15. Industry: Finance/insurance	.10	.30	.14	-.02	.01	-.04	.08	.04	.06	-.06	-.07	-.06	-.01	-.10	-.07	-.12	—			
16. Industry: Service	.18	.38	-.02	-.01	-.08	-.01	-.06	.01	-.03	.04	-.01	.01	-.01	-.08	-.10	-.17	-.15	—		
17. Industry: Education/health	.15	.36	.17	.04	.01	.07	-.02	-.03	-.04	.12	-.09	-.07	-.04	-.05	-.09	-.16	-.14	-.20	—	
18. Industry: Public administration	.02	.14	-.01	-.08	.03	.02	-.02	-.02	-.07	.06	.02	-.03	-.01	.03	-.03	-.05	-.05	-.07	-.06	—
19. Industry: Others	.04	.19	-.06	-.04	.05	.05	-.03	-.01	-.05	-.04	.00	-.02	.13	.08	-.04	-.07	-.06	-.09	-.08	-.03
20. Region: Northwest ^d	.10	.30	.01	.00	.06	.08	-.05	-.07	.00	.03	-.02	.03	.09	.14	-.03	.04	-.05	-.10	.01	.00
21. Region: Northeast	.06	.23	.00	-.01	.05	-.04	.01	.02	-.05	.09	.05	-.02	-.03	.03	-.01	-.02	-.05	-.02	.08	.03
22. Region: Central	.12	.33	.06	-.08	.09	.05	.05	-.08	-.02	.04	.02	.03	.03	.03	.02	-.05	-.05	-.03	.00	.04
23. Region: Southeast	.06	.24	-.04	-.01	.06	.01	.02	-.06	.00	.00	.00	-.05	-.01	.07	.01	.00	-.04	.04	-.02	-.02
24. Region: Southwest	.05	.22	-.02	.04	.06	.04	.00	-.03	-.02	.01	.02	.01	-.02	.02	.03	.03	-.04	-.04	.00	.00
25. Self-reported labor market demand	6.28	1.35	-.01	-.11	-.04	.00	.06	-.05	.03	-.03	-.03	-.04	.00	.00	-.01	.04	.02	.00	.00	-.01
26. Education	13.87	1.94	-.10	.07	.04	-.03	-.01	.04	-.03	-.14	-.12	-.15	-.05	-.19	.00	-.03	.05	.03	.16	.02
27. Education ²	196.08	54.28	-.05	.09	-.04	-.02	-.04	.01	-.07	.02	-.02	.02	-.06	.01	-.04	-.05	.00	.05	.08	.01
28. Years at last job	2.96	2.34	.02	.27	.07	.01	-.13	.13	-.02	.00	.00	.02	-.03	.04	.02	.08	-.03	-.11	.02	.07
29. Self-reported skill	9.17	1.16	-.10	.02	.04	-.00	-.03	.01	-.03	-.03	-.04	-.12	.01	-.03	-.01	.00	.04	-.01	.04	.01
30. Conscientiousness	24.85	2.13	.12	.14	.06	.03	-.03	.03	.03	-.03	-.08	-.09	-.04	-.07	-.01	.02	.01	.00	.03	.02
31. Reemployment constraints	7.38	1.01	.07	-.04	-.08	.03	-.02	.02	-.04	.07	-.08	.04	-.02	.03	.00	-.04	-.03	.03	.04	-.02
32. Wage replacement ratio	.51	.11	.19	-.19	-.03	.03	.08	-.06	.12	.13	.08	.08	.05	.11	.00	.00	-.06	-.07	.03	.00
33. Spouse working (0 = no, 1 = yes)	.45	.50	.04	.11	.12	.04	-.07	.01	.04	-.04	-.03	-.04	-.03	.03	.01	-.04	-.05	.05	-.02	-.02
34. Number of children under 18	.80	1.16	.00	-.17	-.07	.04	.04	.00	-.08	.02	.00	.03	.03	.00	.02	-.03	-.02	-.01	.01	-.03
35. Economic hardship	4.78	.99	-.04	-.10	-.04	.01	.10	-.04	.01	.07	-.01	-.01	.01	.02	-.01	.01	.03	.01	-.03	-.03
36. Job-search intensity	26.68	7.25	-.08	-.06	-.05	-.05	.03	.02	.01	-.06	-.08	-.03	-.07	-.14	.01	.01	.01	.07	-.01	-.01
37. Job-search clarity	6.85	1.48	-.09	-.01	.02	-.01	-.06	.03	-.01	-.03	-.05	-.09	.00	.02	.02	.02	-.04	.08	.02	.01
38. UI exhaustion (0 = no, 1 = yes)	.38	.49	.05	.03	-.06	-.05	.01	.05	.03	.02	.04	-.05	-.01	-.01	.02	-.01	.01	-.02	.04	.00
39. Number of weeks unemployed	24.33	15.06	.01	.21	.01	-.03	-.08	.26	.00	-.01	-.04	-.02	-.08	-.02	.01	.04	.02	-.04	.02	.02
40. Job improvement	24.51	4.80	.00	-.12	-.05	.08	.12	-.04	-.01	.04	-.02	-.05	-.02	.00	-.06	-.06	.08	.04	-.02	-.06
41. Job-organization fit	7.34	2.33	.01	-.01	-.01	.02	.01	.00	-.04	-.02	-.02	-.03	-.07	-.02	-.07	-.01	.07	.01	.01	-.06
42. Intention to turnover	7.55	3.82	-.08	-.06	-.08	-.03	.01	.02	.01	.03	.00	-.01	.00	.06	.05	.01	-.05	.01	.00	.03

Note. N ranges from 1,772 to 1,775 for Variables 1–38. N ranges from 770 to 970 for Variables 39–42 in which data are available for Time 2 survey respondents only. Correlations $|\geq .10|$ and higher, corresponding to a small effect size or higher (Cohen, 1988), are in bold. Coefficient alphas, where relevant, are on the diagonal in parentheses. UI = unemployment insurance.

^a Omitted dummy category for unemployment reason is lack of work. ^b Omitted dummy category for occupation is professional, technical, and managerial. ^c Omitted dummy category for industry is manufacturing. ^d Omitted dummy category for region is Twin Cities (Minneapolis–St. Paul) metro area.

Job-search clarity was operationalized with four items (e.g., “I have a clear idea of the type of job that I want to find”) developed with consultation to relevant work, most notably Stumpf, Colarelli, and Hartman (1983).

Control variables. Five control variables (in addition to occupation, industry, and region, which are included under the rubric of labor market demand variables) were used in the study analyses. First, gender, age, and race were controlled for because of research suggesting that women, older individuals, and minorities tend to have longer durations of unemployment (Leana & Feldman, 1992). We also controlled for reason for unemployment: 55.6% indicated that they were unemployed because of a “layoff due to lack of work,” 6.0% quit, and 37.4% were discharged. To the extent that the reason for unemployment is discussed with potential employers, it is possible that these employers may make inferences on the basis of the reasons about the individuals’ human capital or potential as an employee. Finally, we controlled for the number of weeks the individual was unem-

ployed at the time of completing the Time 1 survey. Other variables examined as control variables but not used because of their nonsignificance and failure to change the general results of the models included reservation wage (generally defined as the lowest wage a job seeker is willing to accept; Cremieux, Fortin, Storer, & Van Audenrode, 1995; Gorter & Gorter, 1993), whether the individual had a UI claim in 1998 or 1999, the number of weeks since the UI claim was filed (some people do not file their claim immediately after becoming reemployed), and whether participants were denied UI benefits for 1 or more weeks at some point during the study period.

Measures of Time 2 Outcome Variables

Reemployment speed was assessed by asking reemployed individuals to indicate in the Time 2 questionnaire how long they had been unemployed



19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
.06	—																						
-.01	-.08	—																					
-.01	-.12	-.09	—																				
.05	-.08	-.06	-.09	—																			
.08	-.08	-.06	-.08	-.06	—																		
-.03	-.13	-.09	-.04	-.04	-.10	—																	
-.01	-.13	-.02	-.09	-.04	-.04	.05	—																
-.05	-.04	-.03	-.01	-.06	-.04	.02	.15	—															
-.02	.06	-.01	-.01	-.03	.08	-.10	-.09	.01	—														
.04	.01	-.05	-.03	-.01	-.03	.17	.21	.08	.06	.66	—												
.01	.02	-.05	.01	.02	.00	.00	.16	.04	.02	.21	.75	—											
.04	.02	.03	.04	.01	.02	-.28	-.08	-.01	.04	-.14	-.12	—											
.01	.12	.07	.08	.08	.04	.01	-.34	-.16	-.12	-.16	-.15	.03	—										
.01	.06	-.02	.03	.05	.07	-.05	.04	-.03	.05	-.01	.10	.05	-.05	—									
.05	.02	.01	.10	-.02	.02	-.02	.00	-.03	-.09	-.03	-.01	.11	-.02	.23	—								
.07	-.02	.03	.02	-.02	-.06	-.05	-.02	-.02	-.18	-.06	-.02	.06	.01	-.21	.06	.62	—						
-.03	-.12	-.01	-.01	-.01	-.05	.05	.27	.04	-.16	.13	.17	-.08	-.23	.00	.08	.21	.82	—					
.01	.03	.01	-.05	.03	-.03	.17	.10	.05	-.07	.37	.18	-.13	-.08	.02	.01	-.06	.11	.85	—				
-.06	-.04	.04	-.06	.00	-.04	-.03	-.04	-.01	.10	-.01	-.05	.05	.00	-.02	.00	-.11	-.08	-.03	—				
-.07	-.05	.03	-.07	.00	-.01	-.08	.01	.05	.19	-.08	-.03	.04	-.10	.00	-.09	-.06	-.13	-.04	.54	—			
.00	.00	-.03	.02	-.05	-.03	.12	.08	.11	-.13	.00	-.03	-.13	.01	.00	.01	.00	.05	.07	-.04	-.11	.80	—	
.03	-.01	.01	-.02	.00	-.02	.08	.14	.14	-.03	.08	.01	-.11	-.08	.01	-.02	-.05	.04	.15	-.07	-.03	.60	.84	—
-.01	-.01	-.01	-.05	.02	.01	-.04	-.04	-.09	-.03	-.05	-.02	.14	.06	-.02	.01	.10	.07	-.13	.05	.02	-.55	-.65	.89

before they had found their job. To reduce recall error, we provided a calendar within the survey to assist individuals in responding to this question.

Data regarding participants' UI exhaustion was obtained from MDES 1 year after the start of our Time 1 survey administration for all of our Time 1 participants. UI exhaustion was defined as whether individuals had depleted their UI account balance to \$1 or less (Wanberg, Kanfer, & Banas, 2000). On the basis of this operationalization, 38.3% of our sample ($n = 680$) exhausted their UI and 61.7% did not ($n = 1,095$). Reemployment quality for reemployed participants was assessed in the Time 2 questionnaire. Established measures were used to assess these variables because MDES did not require the use of these measures in their future needs assessment tool. Job improvement was assessed with 11 items adapted from Burke's (1986) study asking individuals to compare their new job with the job they had before they became unemployed on several largely

objective dimensions, such as nearness to home, working hours, wages, and fringe benefits. Job-organization fit was assessed with two items from Saks and Ashforth's (1997) study. Saks and Ashforth presented evidence that their two-item scale was highly correlated with lengthier measures of person-job and person-organization fit. Intention to turnover (e.g., "I often think about quitting") was assessed with a three-item scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983).

Analyses

Prior to the data analyses reported in the Results section, we used mean substitution (Roth, 1994) to calculate scale scores for a small percentage of participants who did not complete one or two items on a scale. Mean substitution was not used on categorical items (e.g., participants' SIC for

last job, whether they have a spouse who is currently working). Instead, missing data were left missing for these items. When data were missing for the variables gender, age, race, or education, MDES database data were used to fill in the accurate values. On average, mean substitution was used for less than 1% of the individuals in our sample. The largest number of mean replacements for any one item was for 3.9% of the sample.

In addition, prior to data analysis, the factor loadings of the seven predictor variables that involved self-report items scored on theoretically homogenous scales (i.e., labor market demand, self-reported skill and qualifications, conscientiousness, job networks, job-search intensity, job-search objectives, and economic hardship) were examined to improve internal consistency estimates and to allow for the removal of items with low factor loadings on the hypothesized scale or with substantial cross-loadings on another scale. A principal component analysis using oblique rotation was used with an a priori specification of seven factors. Only four items had factor loadings on their respective scales of less than .40; these were removed and are marked in the Appendix. The average item loading for the remaining items on their appropriate factors was very good (.64). Cross-loadings of .40 or greater were a concern for four items. One item ("I need more training or education") from the self-reported skill scale had a .42 loading on the self-reported labor market demand scale and was therefore dropped. The three additional items ("Talked to my friends and relatives to get their ideas about possible job leads," "Talked to previous employers or people I used to work with about possible job leads," "Asked for a referral to someone who might have helpful information or advice about my career or industry") were intended for and had loadings of over .40 on the job-search intensity scale but also had loadings of over .40 on the social networks scale, a finding that makes conceptual sense because both sets of items involve social networks. Our decision was to delete our two-item social networks scale on the basis of this overlap rather than to remove three items that are traditionally used in the assessment of job-search intensity from the job-search intensity scale. Confirmatory factor analysis (CFA) fit statistics, conducted on the resulting six-factor model (with the caution that the same sample is being used for the exploratory factor analysis and CFA results) showed respectable fit indices. For the six-factor model, the goodness-of-fit index = .91, standardized root mean squared residual = .049, root mean square error of approximation = .055, and the comparative fit index = .85. The *t* values were also all significant and several competing models including five-, four-, three-, two-, and one-factor models showed inferior fit (LISREL 8.20; Joreskog & Sorbom, 1996).

Logistic regression was used for the prediction of UI exhaustion because this outcome variable is dichotomous (0 = no, 1 = yes; Kleinbaum, 1994). Cox regression, known also as a proportional hazards rate model, was used to simultaneously predict whether reemployment occurred and how quickly it occurred (Morita, Lee, & Mowday, 1993). Cox regression users would typically label the outcome variable for this analysis as the *reemployment hazard*. However, for ease of interpretation (because hazard has a negative connotation), we labeled this positively scored outcome incorporating both probability of reemployment and speed of reemployment as *reemployment rate-speed*. A formula proposed by Cox and Snell (1989) was used to get a proxy estimate of the predictive power of the two nonlinear models. Ordinary least squares regression was used for the prediction of the continuous outcome variables: job improvement, job-organization fit, and turnover intention.

Results

Table 1 reports the means, standard deviations, coefficient alphas, and correlations among the variables used in this study. Correlations between the predictor variables were generally low, with many near zero or zero (e.g., the correlation between gender and number of children under age 18 years was .00). The highest predictor-predictor correlation was .41 (the correlation between job-search clarity and self-reported skill; individuals who

reported higher skills and qualifications also tended to have a clearer idea of the type of job or work they wanted to find). Correlations between the criterion variables were high. UI exhaustion and number of weeks unemployed correlated .54. Our two quality-of-reemployment outcomes, job improvement and job-organization fit, correlated .60, and these two variables were correlated with intention to turnover $-.55$ and $-.65$, respectively. Future studies may want to combine the latter three variables into a reemployment quality index; our choice, given that the correlations were not prohibitively high, was to maintain these variables as separate outcomes.

Table 2 shows our examination of the predictors of reemployment success. State-provided data on UI exhaustion were available for all Time 1 study participants ($n = 1,775$). Data on reemployment rate-speed were available for Time 2 survey respondents ($n = 989$). Finally, data on job improvement, job-organization fit, and intention to turnover were available for Time 2 survey respondents that had been reemployed ($n = 770$). Because of missing data on some categorical predictors, for the multivariate analyses $n = 1,765$ for UI exhaustion, $n = 959$ for reemployment rate/speed, and $n = 765$ for job improvement, job-organization fit, and intention to turnover. To simplify the table, the occupational, industry, and region dummy variables are not listed individually. Instead, *yes* indicates that the dummy variable set significantly contributed to the prediction of the outcome variable. Results are described below.

Labor Market Demand

We operationalized labor market demand with variables reflecting job-seeker occupation, industry, region, and self-reported labor market demand. Although industry was not a significant predictor of any of our outcomes, results suggested benchwork occupations were associated with lower UI exhaustion, and structural work occupations were associated with faster reemployment. Individuals in the central, northwest, and southwest regions of Minnesota were less likely to exhaust their UI than individuals in the Twin Cities (Minneapolis-St. Paul) metro area. Reemployed individuals in the central region also reported lower intentions to turnover.

Hypothesis 1, regarding the role of self-reported labor market demand was not supported. Self-reported labor market demand was not a significant predictor of any of the reemployment success outcomes. It is possible that individuals are simply not familiar enough with the labor market to self-report whether there are plenty of jobs open in their field or type of work.

Job-Seeker Human Capital

Hypothesis 2 suggested that education would have a curvilinear relationship with the reemployment success outcomes, positively predicting reemployment success at lower levels of education and negatively predicting reemployment success at higher levels of education. This hypothesis was not supported. A curvilinear relationship between education and job improvement and job-organization fit was observed, although of a different nature from the hypothesized relationship. The data suggest that education is positively related to job improvement and job-organizational fit but that the relationship is strongest for individuals with the highest levels of education.

Table 2
Relationships Between Model Variables and Reemployment Success

Predictor	Logistic	Cox	OLS regression		
	regression: UI exhaustion (<i>b</i>)	regression: Reemployment rate-speed (<i>b</i>)	Job improvement (β)	Job- organization fit (β)	Intention to turnover (β)
Control variables					
Gender (0 = male, 1 = female)	.18	.02	.01	.04	-.09**
Age	.01	-.02**	-.08	-.00	-.09**
Race (0 = minority, 1 = White)	-.42*	.14	-.02	.00	-.08**
Reason unemployed: Quit ^a	-.48	-.02	.09*	.02	.02
Reason unemployed: Discharged	.09	.04	.12**	.02	.02
Time 1 weeks unemployed	.01	-.02**	-.02	.01	.02
Labor market demand ^b					
Occupation	Yes	Yes	No	No	Yes
Industry	No	No	No	No	No
Region	Yes	No	No	No	No
Self-reported labor market demand	-.04	.03	.07	.04	.04
Job-seeker human capital					
Education	-.04	.01	.05	.09*	.02
Education squared	-.01	-.02	.09*	.10**	-.00
Years in the last job	.07**	-.04*	-.06	-.01	-.04
Self-reported skill	.04	.08*	-.07	-.01	.00
Conscientiousness	-.04	.03	-.05	-.04	.01
Reemployment constraints					
Reemployment constraints	.08	-.03	-.10**	-.08	.07*
Economic need to work					
Wage replacement ratio	-.44	.35	.03	-.02	.06
Spouse working (0 = no, 1 = yes)	-.17	.06	.03	.03	.02
Number of children under 18	-.30**	.11	-.01	-.03	-.03
Economic hardship	-.21**	-.01	-.02	-.03	.05
Job-search intensity, clarity					
Job-search intensity	-.01	.02**	.03	.00	.10**
Job-search clarity	-.03	-.00	.06	.12**	-.07*
Hypothesized interactions					
Job-Search Intensity \times Economic Gender \times Children under age 18 years	.35**	-.09	-.07*	-.03	-.02
Reemployment quality					
Job improvement					-.31**
Job-organization fit					-.46**
-2 Log likelihood	2227.95	9028.23			
Cox and Snell R^2	.07**	.12**			
R^2			.11**	.08**	.53**
Adjusted R^2			.07**	.03**	.50**

Note. $N = 1,765$ for unemployment insurance (UI) exhaustion (data available for all Time 1 participants), $n = 959$ for reemployment rate-reemployment speed (data available only for Time 2 survey respondents) and 765 for job improvement, job-organization fit, and intentions to turnover (data available for Time 2 survey respondents who were reemployed). b = unstandardized logistic or Cox regression coefficients. β = standardized OLS beta weights. OLS = ordinary least squares.

^a The omitted reference dummy for reason unemployed is layoff because of lack of work. ^b To simplify the table, the occupational, industry, and region dummy variables are not listed individually. Instead, "yes" indicates that an F test indicates that the dummies significantly contribute to the prediction of the outcome variable. Specific results are described in the text.

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

Hypothesis 3 suggested that shorter tenure with one's previous employer and higher self-reported skill would be related to higher reemployment success. In support of this hypothesis, individuals who had been in their last job for more years were more likely to exhaust their UI and to experience slower reemployment speed. Tenure with previous employer was not related to the reemployment quality outcomes. As expected, individuals reporting a higher level of skill at Time

1 experienced faster reemployment. Self-reported skill was not related to any of the other reemployment success outcomes. The effect sizes of the significant relationships were fairly small. For example, the zero-order correlations between years in last job and UI exhaustion ($r = .10$) and number of weeks unemployed ($r = .19$) were small, as was the correlation between self-reported skill and number of weeks unemployed ($r = -.08$).

Hypothesis 4 was not supported. Conscientiousness was not related to any of the reemployment success outcome variables.

Social Networks

Hypothesis 5, suggesting a relationship between social networks and reemployment rate-speed and UI exhaustion, was not examined; our two-item social networks scale was dropped in the factor analysis process (reported earlier) because of construct overlap between having social networks available (assessed by our social network items) and using them in the job-search process (assessed in our job-search intensity items).

Reemployment Constraints

Hypothesis 6 suggested a relationship between reemployment constraints and reemployment success. Contrary to our expectations, reemployment constraints were not related to higher levels of UI exhaustion or to lower reemployment rate-speed. As expected, however, individuals with higher reemployment constraints were less likely to find jobs that were better than their previous jobs and were more likely to intend to turnover from their new jobs (see Table 2). Reemployment constraints were not related to job-organizational fit.

The constraints assessed were diverse (see the Appendix). Item-level correlations were assessed to examine the possibility that some of the constraints that are more self-imposed in nature (such as "It will be hard to find a job with the pay I want") rather than those that are more situational in nature (e.g., "I have a reliable vehicle or way to get to work or interviews") might have positive, rather than negative, relationships with the reemployment-quality outcomes. Although we hypothesized that as a result of having constraints of any type, individuals will have fewer options open to them and thus will be more likely to end up in employment that does not meet their needs, an item-level analysis of this diverse item pool is useful. For example, it is possible that an individual who sets his or her standards high may end up getting a higher quality job. This supplemental analysis showed that none of the individual constraint items were positively associated with reemployment quality; correlations were negative or near zero. For example, the pay item noted above was correlated $-.15$ with job improvement and $-.12$ with job-organizational fit. In other words, individuals who reported "It will be hard to find a job with the pay I want" were correct in their assessment. It is interesting to note that although the effect size is small, the finding supports something we heard often from job-search counselors in our interviews. Although it is critical for individuals to have goals in their job search, it is apparently very common for individuals to set unrealistic pay goals or to insist on finding a very particular kind of job that is not likely to materialize. An example is a school administrator in a midsized town who was laid off and did not want to relocate. This individual began his job search with many constraints, wanting the same amount of pay and wanting to stay in the same line of work. The job-search counselors noted a continuous need to encourage this individual to examine more options.

Economic Need to Work and Associated Interactions

Hypothesis 7 suggested a relationship between indicators of economic need to work and reemployment success. As expected,

higher perceived economic hardship and having more children under age 18 years were related to lower UI exhaustion. However, in contrast to our expectations, the variables for economic need to work were not related to higher reemployment rate-speed or to any of the reemployment quality outcomes.

Hypothesis 8 suggested an interaction between gender and number of children under age 18 years in the prediction of UI exhaustion and reemployment rate-speed. Supporting our hypothesis for the outcome of UI exhaustion, a negative relationship was found between number of children under age 18 years and UI exhaustion among men ($r = -.10, p < .01, n = 935$), and a positive relationship was found between number of children under age 18 years and UI exhaustion among women ($r = .09, p < .01, n = 840$). The interaction indicates that men with more children under age 18 years are less likely to exhaust their unemployment benefits, whereas women with more children under age 18 years are more likely to exhaust their benefits. It is interesting to note that several people also commented in the open-ended questions of the survey that they had caregiving responsibilities for an older person that constrained their job search and limited their available work hours. Responsibility for an older person (similar to having children under the age of 18 years) may become an increasingly important constraint that affects speed of reemployment, UI exhaustion, and quality of reemployment.

Job-Search Intensity, Clarity, and Associated Interactions

Hypothesis 9 suggested a relationship between job-search intensity, UI exhaustion, and reemployment speed. As expected, job-search intensity was associated with a faster reemployment rate/speed (see Table 2). Contrary to our expectations, however, intensity was not associated with UI exhaustion. Higher job-search intensity was related to higher intentions to turnover.

Hypothesis 10 suggested that an economic need to work would moderate the relationship between job-search intensity and the reemployment quality outcomes. One interaction was significant. For individuals who scored on the bottom 2 points of the economic hardship scale (meaning low economic hardship), job-search intensity and job improvement were positively and significantly related ($r = .28, p < .01, n = 90$). There was no relationship ($r = .04, n = 491$) between the two variables for individuals who had scores on the top 2 points of the economic hardship scale (meaning high economic hardship). It seems that individuals with lower levels of economic hardship who reported looking harder for a job at Time 1 were more likely to end up with a better job at Time 2, perhaps because their secure financial situation allowed them to be more choosy in their job search, reducing the need to accept any job offer that came along.

Hypothesis 11 suggested a relationship between job-search clarity and quality of reemployment. As we expected, having clearer objectives at Time 1 was related to higher levels of job-organizational fit and lower levels of intentions to turnover at Time 2. Job-search clarity was not related to higher job improvement.

Tests of Mediation

Hypothesis 12 suggested that job-search intensity would partially mediate the relationships between the other predictor variables and UI exhaustion and reemployment rate/speed. We focused

our study around predictor variables that we expected to have the most proximal and direct relationships with our outcome variables; nonetheless, our predictor variables might exert some of their effect on our outcomes (e.g., partial mediation) because of their relationships with job-search intensity. To qualify as a partial mediator, job-search intensity must first be a significant predictor of the outcome of interest. Because job-search intensity was not a significant predictor of UI exhaustion, it cannot partially mediate the effects of other predictors in this equation. Given that job-search intensity was a significant predictor of reemployment rate/speed, we assessed partial mediation effects in this equation further. For the predictor to qualify for partial mediation through job-search intensity, two additional criteria must hold: (a) The predictor can only be partially mediated if that predictor has a significant relationship with the outcome variable when job-search intensity is not in the equation, and (b) there must be a decrease in the predictor coefficient (but the coefficient should still remain significant or else full mediation is reflected) when job-search intensity is in the equation compared with the coefficient when job-search intensity is not in the equation. Per the recommendation of Alwin and Hauser (1975) for examining partial mediation, we assessed the percentage change in the relevant regression coefficients from the equation with job-search intensity to the equation without job-search intensity. Two partial mediation effects were found. First, job-search intensity partially mediated the effects of years in the last job for reemployment rate-speed; that is, 12% of the effects of years in the last job on reemployment rate-speed is transmitted by way of job-search intensity. Job-search intensity also partially mediated the effects of age on reemployment rate/speed, although the proportion mediated (5%) is in our judgment too small to be meaningful.

We also assessed whether job-search intensity completely mediated the effects of any of the predictor variables on our outcomes as an additional analysis. Following the criteria specified by Baron and Kenny (1986), job-search intensity cannot mediate the effect of any variables in the prediction of UI exhaustion because of the nonsignificance of job search in the UI equation. Focusing on reemployment rate-speed, job-search intensity completely mediates the effect of conscientiousness on reemployment speed. Conscientiousness becomes a significant predictor of reemployment rate-speed when job-search intensity is not in the equation shown in Table 2. Conscientiousness individuals engage in higher job-search intensity ($r = .17$), and higher job-search intensity is related to faster reemployment.

Intentions to Leave the New Job

Finally, as we expected (Hypothesis 13), individuals experiencing lower job quality as indicated by lower job improvement and job-organization fit were more likely to report higher intentions to turnover. Individuals who found poorer quality jobs are more likely to leave the new jobs.

Discussion

Two important theoretical contributions of this study are the multidisciplinary conceptual model of the economic, sociological, and psychological variable groups associated with reemployment success (Figure 1) and the hypothesized roles of and relationships between the predictor variables and reemployment success (Figure

2). Roberts, Hulin, and Rousseau (1978), for example, noted the severe limitations imposed by nonmultidisciplinary approaches in organizational research:

Unfortunately, paradigm adoption has led to fairly rigid boundaries separating what is studied from what is ignored. Such boundaries hamper integration of information from different disciplines; thus, a signal considered of paramount importance in one discipline is often ignored as noise in another. Rather than serving to limit the areas of study to those factors relevant to a particular problem, boundaries reinforce the tendency of researchers and theorists to focus on variables historically studied in their own disciplines and ignore interrelations among problems they study and those studied by others. (pp. 27-28)

McFadyen and Thomas (1997) also lamented the lack of multidisciplinary research on the topic of unemployment. For psychologists investigating reemployment outcomes, our proposed conceptual model increases attention to variables that are regularly used in economics (e.g., occupation, industry, region, and wage replacement ratio) and sociology (e.g., social networks). Similarly, for economists and sociologists studying reemployment outcomes, the model focuses attention on individual behavior and psychological concepts such as goals (e.g., job-search intensity and objectives), perceptions (e.g., perceived economic hardship), and personality (e.g., conscientiousness).

Our study also makes several salient empirical contributions as well. We examined a sizable number of theoretically relevant predictors in one study. The sample was diverse, incorporating individuals from across the state of Minnesota and including individuals from a variety of occupational, industrial, and educational backgrounds. It is important to note that state-provided data elements were used to supplement self-report measures, and the study was longitudinal in nature. What is also significant is our examination of multiple components of reemployment success—UI exhaustion, reemployment speed, job improvement, job-organization fit, and intention to leave the new job. Recent research in the prediction of job performance indicates the benefits of understanding the full criterion space (Borman & Motowidlo, 1993; Campbell, McCloy, Oppler, & Sager, 1993) as well as expanding the number of predictor constructs (Hough & Schneider, 1996; McHenry, Hough, Toquam, Hanson, & Ashworth, 1990; Schneider, Hough, & Dunnette, 1996). We agree with Leana and Feldman (1995) and Kinicki et al. (2000) that reemployment research should assess reemployment quality outcomes, and we concur with Brasher and Chen (1999) that future researchers should further conceptualize, study, and discuss the reemployment-success criterion space.

Despite our inclusion of many theoretically relevant variables, one surprising and interesting result of our study was that the percentage of variance accounted for in the outcome variables was very low. The low percentage of variance accounted for indicates that there is a clear need for continued research and conceptualizing in this area. We expect future investigators will modify, refine, and expand our proposed conceptual model, variables assessed, and hypothesized relationships into an increasingly informative and complex portrayal of the factors and processes related to reemployment success.

First, researchers may benefit from examining additional relevant variables. Despite the many variables included in this study and our careful attempts to include a fuller assessment of variables

than have previous studies, we cannot claim that our study has included all of the relevant variables in this domain. For example, one aspect of human capital that was not included in our study is job-seeker cognitive ability. An assessment of cognitive ability might improve the prediction of reemployment success, especially speed of reemployment. Yet, although including cognitive ability may improve the prediction of speed of reemployment within homogeneous jobs or occupations, in studies like ours involving multiple jobs and occupations, the relationship between cognitive ability and speed of reemployment may be obscured. The role of cognitive ability in understanding reemployment success requires further theorizing and study. We also were unable to operationalize and assess the effects of possible employer discrimination and job seeker job-search quality in our study. It is very difficult to approximate the extent to which the omission of these variables as predictors affects the interpretation of our results. To the extent that an omitted variable (e.g., cognitive ability) is positively correlated with one of the other predictor variables we have measured (such as education), the included variable may appear more important than it truly is in our results (Wooldridge, 2000).

Our focus was on variables that we theoretically conceptualized as the primary predictors of reemployment success. Further delineation of the many variables relevant to the reemployment experience, including several variables that may affect reemployment success through their influence on other variables (i.e., mediated relationships), would be useful. Some variables such as valence of work, internal locus of control, social support, perceived instrumentality of the job search, and job-search self-efficacy, which have been studied extensively as predictors of job-search intensity (van Ryn & Vinokur, 1992; Vinokur & Caplan, 1987), could be more fully discussed and researched in future empirical studies in terms of their direct and indirect relationships with reemployment success.

Future research might additionally examine expanded operationalizations of our model components in the hopes of improving variance accounted for in the outcomes. For example, future research should assess and incorporate the social networks construct more fully. Because of time limitations of survey administration, only two items were included in our survey; these items asked individuals if they knew people or had connections with others who might help them find a job. A more detailed examination of social networks might involve asking the job seekers for more information about their networks. Granovetter (1995) reported that individuals are most likely to find jobs from contacts in their network that they do not know well (e.g., weak ties or friends of friends), and Burt (1992) noted that it is advantageous for people to have connections to others who do not know each other (e.g., information and referrals garnered from individuals in the network are thus not likely to overlap). Lin, Ensel, and Vaughn (1981) noted further that the occupational status of one's contacts may be important.

Future research might also expand the assessment of "performance in one's last job." This variable can potentially impact a person's appeal to a prospective employer, coming through in interviews and through reference checks. We partially assess this construct in our self-reported skill and qualifications scale with items such as "I have a good work history." Although an expanded operationalization that included former employer reports of job performance would be ideal, we recognize both the difficulties of obtaining former employer reports of job performance and the

limitations inherent in references. Substituting self-ratings for supervisory ratings of job performance in a former job is not an especially attractive alternative given that two meta-analytic studies (i.e., Conway & Huffcutt, 1997; M. M. Harris & Schaubroeck, 1988) found that the mean observed correlation between self- and supervisor ratings of job performance was .22 (.35, corrected for all possible artifacts; M. M. Harris & Schaubroeck, 1988; .31, corrected only for unreliability; Conway & Huffcutt, 1997).

The generalizability of our results might also be examined. Despite having complete outcome data for all of our participants on unemployment insurance exhaustion, data for our other outcomes were only available for 55.7% of our sample (individuals who responded to our Time 2 survey). We conducted analyses for the outcome of UI exhaustion (conducted in Table 2 for the full $N = 1,765$) on the more select sample of Time 2 survey respondents only ($n = 989$) to examine possible attrition bias that may have resulted if we would have had UI exhaustion data on our Time 2 survey respondents only. Reassuringly, the overall portrait of significant results as found with the full sample was parallel in the results for the more select sample, including the significance of the interaction term. However, it is notable that in the select sample, four additional variables were significant predictors of UI exhaustion (gender, education squared, self-reported skill, and spouse working). This finding suggests a possible limitation of the results shown in the last four columns of Table 4 because some differences in results may have occurred had we been able to retain all participants in our Time 2 survey. The finding also stresses the importance of researchers obtaining outcome data for the full Time 1 sample in longitudinal studies when possible, as we were able to for our UI exhaustion outcome variable. This, plus the fairly strong economy when the data were collected (unemployment rate in Minnesota was 3.7% when we began our Time 1 data collection) may limit the generalizability of our results.

Finally, another critical need is for research that assesses salient predictors over time in a time series design. Our study and other investigations in this literature have assessed predictor variables at one point in time. Several variables, such as job-search intensity, job-search clarity, and economic need to work are likely to change over time (see, e.g., Barber, Daly, Giannantonio, & Phillips, 1994; Saks & Ashforth, 2000). Improved accuracy of prediction of reemployment success would likely be generated by repeated assessments of the predictor variables. Although we strongly encourage future investigators to pursue repeat assessments of predictor variables, we acknowledge the difficulties and expense of getting participants to respond to multiple surveys.

We have suggested that future researchers include an even more comprehensive set of variables than we did in our study; yet, it is critical to note the statistical power requirements of examining an increasingly complex model are very high and may not always be feasible. Furthermore, response rates are likely to go down if individuals are asked to complete a long survey, and a large number of variables in an equation increases the chance of observing some variables to be significant because of chance. We see value in the in-depth examination of particular variables (e.g., job-search) as well as more comprehensive big-picture studies involving larger sets of variables.

Our study has valuable applications. First, our conceptual model can be helpful to job seekers and job-search counselors to depict the important variable categories relevant to reemployment success. MDES has used our conceptual model in Figure 1 in training

workshops and presentations to help WorkForce Center staff and government officials conceptualize the diverse array of variables relevant to reemployment success. They have used the model to generate brainstorming sessions that discuss what factors staff can help job seekers with and what factors are outside of their control. In a related project, we also developed a job-seeker needs assessment and feedback tool that was organized around the variable categories, thereby helping job seekers assess and identify their strengths and weaknesses in skills, motivation, and activities involved in obtaining a new job.

The wide realm of variables relevant to reemployment speed and UI exhaustion suggests that MDES and similar organizations in other states may want to use more comprehensive variable sets to identify individuals who are likely to experience longer unemployment. Prior to this investigation, for example, MDES used a small set of variables available from the Minnesota Unemployment Insurance Database (i.e., unemployment insurance recipient's occupation, industry, number of employers in the base period, residence in metro or nonmetro area, and education) in a statistical profiling model to identify individuals likely to exhaust their unemployment insurance. They have since expanded their profiling model to include a wider realm of variables available from their database, including several examined in this study and a small number of others that we did not include for reasons such as statistical power limitations (e.g., MDES has incorporated Occupation \times Industry interaction effects into their model; Hammida, 2000).

Our findings can help identify possible interventions with UI recipients. For example, one finding, which corroborates previous research—that higher job-search intensity is related to faster reemployment—has an obvious application. As Wanberg et al. (1999) pointed out, WorkForce Center staff should communicate to job seekers that job-search intensity does pay off—those individuals who look harder for jobs are more likely to find jobs sooner. Another finding, that is, reemployment in a lower quality job is related to higher intentions to turnover, is the basis of another possible intervention. Hom and Griffeth (1995) discussed the high costs of turnover to both individuals (e.g., transition stress, further career disruption) and to organizations (e.g., productivity losses, impaired service quality, replacement costs, wasted orientation and on-the-job training expenditures). Given the negative relationship between job-search clarity and intentions to turnover, we suggest states and reemployment counselors provide career and job guidance to job seekers who do not have a clear idea of the type of job they want to find. States have historically been most interested in UI exhaustion and reemployment-speed outcomes because of their accountability for and requirement to report dollars spent on UI benefits and average durations of unemployment. Yet, other reemployment outcomes, such as quality of reemployment, are important to individuals, organizations, and states because of costly repeated unemployment episodes among reemployed people who are likely to, and do, leave their new jobs.

Our study examined a multidisciplinary model of reemployment success, and our empirical results add important knowledge in the quest to understand the economic, social, and psychological determinants of reemployment. Despite our efforts, we have just scratched the surface. Future work is needed to modify, refine, and expand the variables relevant to reemployment success and the way in which these variables relate to reemployment success.

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(Appendix follows)

Appendix

Measures Used in Study

Labor Market Demand

MDES

Occupation

Six dummy variables representing the first digit Dictionary of Occupational Titles (U.S. Department of Labor, 1991) occupational code for individuals' last job:
 Professional technical and managerial (omitted reference group dummy)
 Clerical and sales
 Service
 Machine trades
 Benchwork
 Structural work
 Others (miscellaneous plus agricultural and processing)

Industry

Seven dummy variables representing the standard industry code for individuals' last employer:
 Manufacturing (omitted reference dummy)
 Transportation, communication, electric, gas, and sanitary
 Wholesale trade or retail trade
 Finance, insurance, and real estate
 Service
 Educational, health, and social services
 Public administration
 Miscellaneous

Region

Five dummy variables representing the region of Minnesota the individual lives in.
 Twin Cities metro area (omitted reference dummy)
 Northwest Minnesota
 Northeast Minnesota
 Central Minnesota
 Southeast Minnesota
 Southwest Minnesota

Time 1 survey

Self-reported labor market demand

Four items, answered as *agree* or *disagree*. A higher score = higher demand.
 1. There are plenty of jobs open in my field or type of work.
 2. There is little demand for the type of skills I have.
 3. There are not many job openings in my area of work that are reasonably close to my home.
 4. There are few jobs in my field where I live, and I don't want to move or relocate.

Human capital

Time 1 survey

Education

Respondent asked to indicate highest level of education completed, ranging from 1-17+ (college/vocational school).

Years in the last job

How long were you with your last employer? 1 = 0-1 year, 2 = 2-3 years, 3 = 4-5 years, 4 = 6-7 years, 5 = 8-9 years, 6 = 10-11 years, 7 = 12-13 years, 8 = 14-15 years, 9 = 16+ years.

Self-reported skill and qualifications

Seven items, answered as *agree* or *disagree*. A higher score equals more skill.
 1. My level of education is sufficient for getting a job in my area of work.
 2. My skills for doing the type of work I want to do are up to date.
 3. I have a good work history.
 4. An employer would be impressed with my qualifications.
 5. I have good job references.^a
 6. My work qualifications aren't very good.
 7. I need more training or education.^a

Conscientiousness

Twelve items, answered on a scale where 1 = *not at all*, 2 = *somewhat*, and 3 = *very much*. A higher score equals higher conscientiousness.

1. Not responsible^a
2. Messy^a
3. Hardworking
4. Reliable
5. A quitter^a
6. Careless
7. Plan ahead
8. Responsible
9. Persistent
10. Organized
11. Practical
12. Dependable

Appendix (continued)

Social capital

Time 1 survey

Social networks

Two items, answered as *agree* or *disagree*. A higher score equals higher social capital.

1. I know people in my type of work who might help me get a job.^a
2. I have some connections with people that will help me find a job.^a

Reemployment constraints

Time 1 survey

Reemployment constraints

Six items, answered as *agree* or *disagree*. A higher score equals more constraints.

1. I have a reliable vehicle or a way to get to work and interviews.
2. The hours I can work rarely match the hours employers want.
3. Finding affordable child care is a problem for me.
4. I am looking for a very specific type of job.
5. It will be hard to find a job with the pay I want.
6. I have a disability, injury, illness, or health problem that will hurt my chances of getting a job within the next 2 months.

Economic need to work

MDES

Wage-replacement ratio

Weekly unemployment insurance benefit amount divided by weekly income amount.

Time 1 survey

Spouse working

0 = *no*, 1 = *yes*

Number of children under age 18 years

Total number of children under age 18 years living at home.

Self-reported economic hardship

Two items, scored so that a higher score equals higher perceived financial hardship.

1. How difficult is it for you to live on your total household income (including your unemployment benefits and income from other persons) right now? 1 = *not at all difficult* to 3 = *extremely difficult*.
2. How important is it for you, financially, to find a job within the next two months? 1 = *not at all important* to 3 = *very important*.

Job-Search Intensity and Clarity

Time 1 survey

Job-search intensity

Ten items, answered on a scale where 0 = *never* (0 times), 1 = *rarely* (1–3 times), 3 = *sometimes* (4–6 times), 4 = *often* (7–9 times), 5 = *very often* (10+ times). A higher score equals higher job-search intensity.

1. Looked at help wanted/classified ads in the newspaper or in a newsletter.
2. Used the Internet to locate job openings.
3. Talked to my friends or relatives to get their ideas about possible job leads.
4. Talked to previous employers or people I used to work with about possible job leads.
5. Worked on my resumé.
6. Consulted a private employment agency or search firm.
7. Sent a resumé to a possible employer or turned in a job application.
8. Telephoned or visited a possible employer.
9. Tried to learn more about the places where I am applying for work.
10. Asked for a referral to someone who might have helpful information or advice about my career or industry.

Job-search clarity

Four items, answered as *agree* or *disagree*. A higher score equals clear objectives.

1. I have a clear idea of the type of job that I want to find.
2. I need help deciding if I should make a career change.
3. I need help deciding what type of work I would really enjoy.
4. I need help planning a career change.

Outcome Variables

MDES

Unemployment insurance exhaustion (available for all participants)

0 = *individual has not exhausted his or her unemployment insurance* (balance is greater than \$1)
1 = *individual has exhausted his or her unemployment insurance* (balance is \$1 or less)

(Appendix continues)

Appendix (continued)

Outcome Variables (continued)

Time 2 survey	
Reemployment and reemployment speed (available for Time 2 survey respondents)	Reemployment status: Which of the following most accurately describes your current employment status? 0 = I am currently unemployed, 1 = I am currently employed. Reemployment speed: Employed individuals were asked "How long (in weeks) were you unemployed before you found this job? Please estimate as accurately as possible. We have provided a calendar for your assistance."
Job improvement (available for Time 2 survey respondents who were reemployed)	Eleven items, answered on scale where 1 = worse than my old job, 2 = same as my old job, 3 = better than my old job. (Burke, 1986) 1. Supervision 2. Nearness to home 3. Working hours 4. Wages 5. Opportunity to use skills 6. Learning opportunities 7. Job security 8. Type of work 9. Working conditions 10. Fringe benefits 11. Career opportunities
Job-organizational fit (available for Time 2 survey respondents who were reemployed)	Two items, answered on a 5-point scale (1 = strongly disagree to 5 = strongly agree). (Saks & Ashforth, 1997) 1. My new job measures up to the kind of job I was seeking. 2. The company where I now work is the kind of organization I was seeking.
Intention to quit new job (available for Time 2 survey respondents who were reemployed)	Three items, answered on a 5-point scale (e.g., 1 = strongly disagree to 5 = strongly agree). (Cammann et al., 1983) 1. I will probably look for a new job in the next year. 2. I often think about quitting. 3. How likely is it that you will actively look for a job in the next year?

Control Variables

Time 1 survey	
Gender	0 = Male 1 = Female
Age	Individuals asked to report their age in years.
Race	0 = Nonwhite 1 = White
MDES	
Reason for unemployment	Two dummy variables indicating reason for unemployment. Layoff because of lack of work (omitted reference category) Quit Discharged
Time 1 survey	
Weeks unemployed at Time 1	How long individual had been unemployed in weeks prior to competing the Time 1 survey.

Note. MDES = Minnesota Department of Economic Security.

^a Items dropped because of low-factor loadings.

Received July 18, 2001
Revision received February 28, 2002
Accepted February 28, 2002 ■