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Will IR Staff Stick? An Exploration of Institutional Researchers'

Intention to Remain in or Leave Their Jobs

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Abstract

The study explored the factors that relate to the likelihood of institutional researchers (IRs) to plan to leave their jobs. Learning more about the effects on IR job turnover can serve to improve the employment experience of IR practitioners, the profession of IR, and, indirectly, higher education. 1,264 IRs responded to a national survey comprised of antecedents of intention to quit one's job that had a high degree of construct validity within job turnover theories. Data were tested against a theoretical model developed from the Industrial-Organizational Psychology and IR literature. Perceived organizational support was the strongest predictor of intent to quit. Open-ended responses also suggested that workload, challenge, lack of advancement opportunities, and compensation affect IRs intention to quit. Suggestions for supporting IRs and elevating the role of IR on campuses are included.

key words: institutional research, job turnover, intention to quit, perceived organizational support, job embeddedness, job satisfaction

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Contemporary American higher education is facing a seemingly ever-growing set of pressures concerning effectiveness and accountability (Association of American Colleges and Universities and the Council for Higher Education Accreditation, 2008; National Association of State Universities and Land-Grant Colleges, 2006; United States Department of Education, 2006). Institutional research (IR) can help institutions respond to these pressures (Hutchings & Shulman, 2006; Kuh & Associates, 2005; Morest & Jenkins, 2007; Terkla, 2008). However, there is a projected labor shortage in the United States in the years ahead, especially among employees in knowledge-driven industries (Albright & Cluff, 2005; Stevens, 2006) and particularly due to the upcoming retirements of large numbers of employees from the baby boom generation (Frank, Finnegan, & Taylor, 2004; "Turning Boomers," 2006). These trends make the ability to pinpoint which workers are likely to leave their jobs and what organizational characteristics contribute to retaining them extremely important (Barrick & Zimmerman, 2005).

No systematic research about job turnover in IR has been carried out (R. Swing, personal communication, June 3, 2008; F. Volkwein, personal communication, June 4, 2008), but anecdotal evidence suggests that it is similar to that of other professional/technical industries, making the issue of turnover highly salient and research necessary. Though no such research exists, there is a growing literature on understanding and improving the effectiveness of IR and its practitioners (Knight, in press; Knight, 2003; Augustine, 2001; Delaney, 1997, 2000, 2001; Hurst, Matier, & Sidle, 1998; Knight, Moore, & Coperthwaite, 1997; Lohman, 1998; Terenzini, 1993, 1995; Volkwein, 1999).

Because it is so important to IR professionals to feel that they are effective in their work, we posit that the factors delineated in this literature will influence their decision to stay in or quit their job. Consequently, this study draws on the IR effectiveness literature and the general literature on employee turnover to investigate the reasons institutional researchers contemplate leaving their jobs. Learning more about the factors that affect job turnover can serve to improve the employment experience of institutional researchers, the profession, and, indirectly, higher education.

Research on Employee Turnover

There is a well-developed literature about correlates of employee turnover (Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000; Hom & Griffeth, 1995). Using the categories of correlates of employee turnover specified by Mobley (1982), we can conclude that turnover is more likely in a robust economy with low unemployment rates (external economy). More frequent turnover occurs in lower-paying industries and perhaps when work group sizes are larger and skill levels are lower, when routinization and task repetitiveness are high, and when supervisory consideration, integration, and communication are low and centralization is high (organizational variables). While age and job tenure have been negatively associated with turnover and relationships between turnover and other demographic variables (e.g., sex, education, personality, interests, aptitude and ability, source of referral for the job, professionalism, performance, and absenteeism) have been ambiguous in most of the literature, a recent, large-scale study (Hom, Roberson, & Ellis, 2008) suggests that tenure is related to turnover in a curvilinear fashion, that women quit more frequently than men, and that persons of color may quit more frequently than Caucasians (individual non-work variables). Finally, turnover is

negatively related to overall job satisfaction as well as satisfaction with specific aspects of employees' jobs such as satisfaction with pay, opportunities for promotion, job content, coworkers, supervision, and working conditions; negatively associated with organizational commitment; and positively associated with the expectation of finding alternative and intention to quit (individual, work-related variables). Elangovan, (2001, p. 159) notes that "there is considerable support for the notion that intention to quit is probably the most important and immediate antecedent of turnover decisions." For this reason as well as ease of logistics, much of the contemporary research on employee turnover focuses upon intention to quit rather than actual turnover.

The richness of the literature concerning correlates and antecedents of employee turnover has permitted several theoretical structural models of effects on turnover to be tested, only a sample of which are noted here as examples following a comprehensive review of recent literature. The first of these sets of models follows from the work of March and Simon (1958), which posits perceived desirability of turnover and perceived ease of turnover as the major factors affecting actual turnover. Hom, Griffeth, and Sellaro (1984) developed a model conceptually similar to that of March and Simon that suggests that dissatisfaction leads to thoughts of quitting. These thoughts cause employees to weigh the costs and benefits of job seeking and quitting. If they find alternatives, job-seeking employees then compare them with their present employment and then either decide to stay or quit. This model was empirically tested by Shore and Tetrick (1991). Eisenberger, Huntington, Hutchinson, and Sowa (1986) suggested that perceived organizational support (POS) is an antecedent of organizational commitment and, ultimately, employee turnover. This theory was explored empirically by Shore and

Tetrick (1991). Allen, Shore, and Griffeth (2003) developed a model investigating antecedents of perceived organizational support (POS) and the role of POS in predicting voluntary turnover. Eisenberger, Fasolo, & Davis-LaMastro (1990) posited that individuals with high POS would be less likely to seek out and accept jobs in other organizations. Although there is some evidence that POS is negatively related with intentions to quit (e.g., Wayne, Shore, & Liden, 1997), studies of the relationship between POS and turnover behavior (Rhoades, Eisenberger & Armeli, 2001) are minimal, and more research is needed in this area (Griffeth, Hom & Gaertner, 2000).

A large number of studies have explored the model of effects upon turnover that was initially suggested by Mobley (1977) and later refined by Mobley, Griffeth, Hand, and Meglino (1979). This model suggests that a complex array of organizational factors, individual employee characteristics, job-related and labor market expectations, and individual values jointly affect intention to quit, and, ultimately, actual turnover. Examples of empirical testing of the Mobley et al. model include Bannister & Griffeth (1986), Steel (2002), and Steel and Griffeth (1989), who noted the importance of job satisfaction, perceived job alternatives, and intention to search. More recently, a number of theorists and researchers (Lee, Mitchell, Sablinski, Burton, & Holtom, 2004; Mitchell, Lee, Sablinski, & Erez, 2001; Mitchell & Lee, 2001) have built upon Lee and Mitchell's (1974) model of voluntary job turnover to explore the concept of job embeddedness, that is, "the combined forces that keep a person from leaving his or her job (Yao, Lee, Mitchell, Burton, & Sablinski 2004, p. 159). Crossley, Bennet, Jex, and Burnfield (2007) found that job embeddedness interacted with job satisfaction to predict intent to quit.

Williams and Hazer (1986) used a structural equation approach to examine the causal antecedents and consequences of satisfaction and commitment within models of employee departure. They described organizational commitment as comprised of (a) belief in the organization's goals and values, (b) willingness to extend effort on behalf of the organization, and (c) desire to remain in the organization. Farkas and Tetrick (1989) empirically examined their model.

Research on Job Satisfaction and Effectiveness

Among Institutional Researchers

Many of the factors identified in the general research on employee turnover appear in the literature on job satisfaction and practitioners' perceived effectiveness in institutional research. These factors include career development and advancement opportunities (Delaney 2001; Fenstemacher, 1982; Johnson, 1982; Rosser 2004); the relationship between age, job tenure and turnover (Fenstemacher, 1982); routine and repetitive tasks (Delaney, 2001; Johnson, 1982; Volkwein, 1999); overall satisfaction (Austin, 1985; Fenstemacher, 1982; Johnson, 1982; Rosser, 2004); satisfaction with job content and coworkers (Johnson, 1982); job embeddedness (Fenstemacher, 1982; Johnson, 1982); organizational commitment (Fenstemacher, 1982); supervisory consideration and working conditions (Delaney, 2001; Johnson, 1982); expectations of finding job alternatives (Fenstemacher, 1982; Johnson, 1982); and the perception that one's work is recognized and valued by the organization (Fenstemacher, 1982; Huntington and Claggett, 1991; Rosser, 2004; Sanford, 1983).

Effectiveness in IR is defined as "having a tangible effect on decision-making, planning and policy formation" (Knight, in press). The relationship between perceived

effectiveness and employee turnover or job satisfaction is not explicit in the existing IR literature. However, it is reasonable to posit that such a relationship exists, especially to job satisfaction which, as previously cited studies show, influences intention to leave. The ability to influence decisions (Harrington and Chen, 1995; Johnson, 1982; Knight, in press) and be recognized for one's value to the organization (Delaney, 2001, June; Fenstemacher, 1982; Sanford, 1983) is highly salient to institutional researchers. Rosser (2004) found that mid-level administrators who receive recognition for their work were more likely to stay at their job.

The level of one's position appears to be differentially associated with challenges and levels of commitment. Delaney (2001, June) found that minimal opportunity to use one's intelligence, job monotony or lack of variety, and pressure to lower one's standards were highest among research analysts and associates. Additional concerns were receiving credit for their work, having to let others take credit, and finding opportunities to be heard. For managers, the challenges related to excessive work demands. Interviewing a select group of experienced practitioners, Johnson (1982) found that job satisfaction is their most important personal and professional priority followed at some distance by salary. Job satisfaction involved the ability to influence or work with decisions, working with people they respect, and variety in professional responsibilities. In Fenstemacher's study (1982), "early career participants" exhibit a tenuous commitment to an institutional research position, preferring to keep their professional options flexible. "Mid-career" institutional researchers are more strongly committed to a career in higher education but this group is divided between those who are satisfied with their position and role in their institution and those whose frustration level is very high. The difference is due primarily

to individuals' perception of career advancement possibilities. "Late career" professionals are generally satisfied with their role and career, are professionally active and feel their contributions to the organization are recognized, though they acknowledge that financial considerations is one of the factors keeping them in their current position.

Conditions of one's work such as excessive workload, stress on the job, and producing quality work within time constraints (Delaney, 2001, June; Harrington and Chen, 1995; Knight, in press) are sources of frustration for institutional researchers and can lead to work-family conflict (Delaney, 2001, June). Rosser (2004) found that mid-level administrators in higher education have developed a tolerance for these types of working conditions such that they did not influence mid-level administrators' intention to stay or leave. However, the quality of their work life (i.e., discrimination experiences, recognition for competence, career support, external relationships and red tape) did affect these managers' satisfaction and intent to leave.

Inadequate staffing is a challenge cited in several studies (Harrington and Chen, 1995; Huntington and Claggett, 1991) and affects perceived effectiveness (Knight, in press). In their research, Huntington and Claggett (1991) found that the majority of directors were dissatisfied with their ability to do their job due to inadequate staffing, primarily in terms of number and to a lesser degree expertise. Additional obstacles to their effectiveness were reporting demands, lack of time, access to decision-makers, the perceived role of institutional research, access to and quality of information systems, and inadequate staff training.

Some researchers suggest role conflict as a source of job stress or dissatisfaction for institutional researchers although the basis of the conflict differs across studies.

Volkwein (1999) points to the conflict between institutional and professional needs. Stress exists for practitioners who are required to fill the organizational role of reporting and producing accurate numbers and descriptive statistics but desire to fill the professional role associated with their training, i.e., conducting research and analysis. In a study of the relationship between career orientation of institutional research/planning officers and their perceptions of organizational and political environments, Storrar (1981) found that while institutional research and planning officers perceived their roles as high on political responsiveness and high on political advocacy; they preferred a role of policy advocacy with low political responsiveness. Coping with the campus political climate was noted by Harrington and Chen (1995) as one of the most frustrating aspects of IR responsibilities.

Sanford (1983) found stress among institutional researchers as a result of a role that depends heavily on others over whom they have no authority to get their work done. Such dependence can create anxiety and uncertainty. Rosser (2004) found that for mid-level administrators, the more positive the relationships with campus and external constituencies, the more satisfied they are likely to be with their work and the less likely they are to leave. In a 1997 study of IR practitioners' effectiveness, Knight, Moore & Coperthwaite suggest that the perception of effectiveness is a complex construct that contains a mix of individual and organizational characteristics that can result in a mismatch between executives' and practitioners' role and expectations for IR. Such mismatches may influence institutional researchers' perception of their effectiveness, satisfaction and possibly their intentions to stay in or leave their current position or the IR field.

Very little research exists on institutional researchers' movement between institutions or in and out of the field. Harrington and Chen's study of Southern Association for Institutional Research (SAIR) members (1995) found that one in five were seeking a different position. Of those IR practitioners who were planning to leave their job, 80% held a position below Director. Additionally, although the authors state that the SAIR respondents in this study are "apparently satisfied in their current position," only 14.8% originally aspired to work in IR. Delaney (2001, June) noted that nationally, one-third of institutional researchers have been in the field five years or less. Forty percent have worked in IR for 11 or more years. Such numbers contain many implications for staff recruitment, retention and promotion.

The purpose of the current study is to explore the factors that relate to the likelihood of institutional researchers to plan to leave their jobs by testing a theoretical model developed from the literature outlined above.

Method

Participants

The study population was comprised of all institutional research professionals from the United States and Canada¹ appearing in the Association for Institutional Research member database as of September 10, 2008. Email addresses of AIR members whose titles (e.g., faculty member, graduate assistants) suggested that they were not full-time IR practitioners (1,075) were removed from the 4,503 email addresses supplied by AIR, resulting in a population of 3,728. Survey responses were elicited from this entire population; there was no sampling. Email messages requesting participation in the survey were sent on October 3, 13, and 30, 2008. 1,264 responses were received from

3,557 participants; when corrected for email addresses that were found to be invalid (171), a 36% response rate was obtained. The first survey question asked participants if they were practicing institutional research professionals. The 94 participants who said they were not practicing institutional research professionals were excluded from further analyses.

Representativeness of the participants to the entire AIR member database was explored by comparing known characteristics of these two groups. Females were over-represented in the survey results (62% of the survey participants compared to 56% of the AIR membership). People of color comprised 14% of the survey participants (vs. 16% of the AIR membership). For-profit institutions made up 2% of both the survey participants and the AIR membership. Private, not-for-profit institutions were slightly over-represented (35% of the survey participants vs. 32% of the AIR membership). Public institutions were slightly-under-represented (63% of the survey participants vs. 66% of the AIR membership). Two-year or less than two-year institutions were somewhat over-represented (25% of the survey participants vs. 19% of the AIR membership). Four-year or greater than four-year institutions were somewhat under-represented (75% of the survey participants vs. 81% of the AIR membership). A limitation of the study is that institutional researchers who were not AIR members were not contacted. While the representation of all institutional researchers among the AIR membership is not completely known, evidence suggests that those in two-year and smaller institutions are under-represented by AIR membership and those in four-year and larger institutions are over-represented (R. Swing, personal communication September 10, 2008).

The mean age of participants was 46.1, with a standard deviation of 10.7. The mean years participants reported being in their present jobs was 5.7, with a standard deviation of 5.6. Participants have been at their campus or organization on average for 9.5 years (standard deviation 8.8). The mean total years worked in institutional research was 9.5, with a standard deviation of 7.8. Fifty-nine percent of the participants classified themselves as directors or higher; 12% were assistant or associate directors; 25% were institutional research analysts, coordinators, or the equivalent; and 4% were classified in another way.

Measures

Data were collected by means of a web-based survey developed for the study. Survey items included variables shown in previous literature to significantly relate to employees decisions to voluntarily leave their jobs. These were comprised of demographic items (sex, race/ethnicity, age, time in participants' current IR job, and their total time in IR in any capacity) as well as 12 scales that were determined in the literature to show a high degree of construct validity within the job turnover theories noted above.

The 12 scales included:

Participation in Decision Making

Fairness of Employee Rewards and Recognition

Job Growth Opportunities

Perceived Organizational Support

Job Stressors

Job Stress

Job Satisfaction

Organizational Commitment

Perceived Job Alternatives

Intention to Search

Job Embeddedness

Intention to Quit

The survey ended with an open-ended question that read “Please use the space below to tell us anything else you would like to share about why you might choose to leave your IR job in the future. “

Participation in decision making was measured with Steel and Mento’s (1987) Likert-type scale (1 = strongly disagree to 7 = strongly agree), for which Allen et al. (2003) reported the reliability as .90. Fairness of employee rewards and recognition was measured with two two-item Likert type scale (1 = no fairness to 5=very fair; one scale for comparison with employees in the participants’ work unit and another for comparison with employees in other work units in the same organization) developed by Price and Mueller (1986), who reported its reliabilities for both scales was .85. Job growth opportunities were measured with a five-item Likert-type scale (1 = strongly disagree to 5 = strongly agree) developed by Price and Mueller (1986), for which they estimated the reliability at .92.

A 16-item Likert-type scale (1 = strongly disagree to 7 = strongly agree) developed by Eisenberger, Huntington, Hutchison, and Sowa (1986) was used to measure perceived organizational support; reliability was estimated as .93². Stressors and job stress were borrowed from Firth, Mellor, Moore, and Loquet (2004), whose work was based upon earlier research by Tate, Whatley, and Clugston (1997). Stressors measured

role ambiguity, role conflict, work-overload, and work-family conflict using a 12-item, 5-point scale for which Tate et al. reported the reliability for American samples as .83 for role ambiguity, .88 for role conflict, .61 for work-overload, and .87 for work-family conflict. Job stress was measured by using Parker and DeCotiis' (1983) 13-item scale, for which Elangoven (2001) reported a reliability of .88.

Job satisfaction was measured using an eight-item, five-point Likert scale developed by Firth, et al. (2004) to assess participants' agreement with four statements relating to extrinsic factors (e.g. job security, physical conditions), and four statements relating to intrinsic factors (e.g. the recognition received for work done, the freedom given to do one's best at the job). Reliability was reported as .78 by Firth et al. Tate et al. (1997) reported the reliability for this scale for an American sample as .85. A 9-item version of the Organizational Commitment Questionnaire (OCQ; 1 = strongly disagree to 7 = strongly agree; Mowday, Steers & Porter, 1979) proposed by Bozeman and Perrewe (2001) was used to measure organizational commitment. The reliability was reported by Allen et al. (2003) as .94 and by Bozeman and Perrewe (2001) as .77.

Crossley et al. (2007) provide the following description of their perceived job alternatives, scale, which was adopted for this study and for which they reported the reliability as .69:

Inasmuch as previous research has failed to converge on a single, commonly used measure of perceived job alternatives, the present study used the following three items based on Steel and Griffeth's (1989) review of the job alternatives construct: "I know of several job alternatives that I could apply for," "I have

concrete alternative job offers in hand,” and “It would be easy for me to find another job that pays as well as my present job.”

Intention to search for a new job was measured by a scale developed by Blau (1994). Participants indicated time spent on 12 preparatory search activities, on a scale ranging from 1 = zero times to 5 = at least 10 times. Reliability was reported as .81 for one sample and .83 for a second. Global job embeddedness was measured using the scale developed by Crossley et al. (2007). The seven-item, five-point scale was reported to have a reliability of .89. Intention to quit was measured with a five-item, seven-point scale (Crossley, Grauer, Lin, & Stanton, 2002, as reported in Crossley et al., 2007) for which the reliability was reported as .89.

Pilot testing was carried out with members of the California Central Valley Research and Planning Group and with members of the Ohio Association for Institutional Research and Planning in September 2008. As a result of the pilot, some items were reworded and a few additional items were added to some scales. “I have the opportunity to influence high-level decisions at my campus or organization.” was added to the Participation in Decision Making Scale. “Opportunities for professional development” was added to the Fairness of Rewards and Recognition Scale, one for comparison with other employees in institutional research and once for comparison with other employees outside of institutional research at the same campus or organization. “I have the opportunity to promote my work (through professional conferences, publications, etc.)” was added to the Job Growth Opportunities Scale. “I have begun to think about changing to another field outside of institutional research.” was added to the Perceived Job

Alternatives Scale as a result of the pilot testing, but was not included in the scale as a result of factor analysis.

Procedure

This causal-comparative or quasi-experimental study used the structural equation modeling approach employed by Allen et al. (2003; Crossley et al. (2007); Elangoven (2001); Firth et al. (2004); and Hom & Griffeth (1995). A confirmatory factor analysis was performed to assess the distinctiveness of the scales³. There were two differences in the factor structure of the scales from the results that were shown in the literature. For this study, the Job Stress items grouped into two scales,⁴ one with 9 items and one with 4. Also, the Intent to Search items grouped into two scales for this research, one with 7 items and the other with 5. Descriptive statistics were used to determine the means, standard deviations, reliabilities, and inter-correlations of all the variables (see Table 1).

Data were screened for missing data, multivariate outliers, linearity, normality, and homoscedasticity using procedures suggested by Mertler and Vannatta (2005). All variables used in the research models have fewer than 5% of missing cases except for Perceived Organizational Support, which had 6.6% missing cases. After 27 cases were identified as multivariate outliers, they were deleted, resulting in a final sample size of 1,143.

A research model of hypothesized structural relationships between the scales described above that was created based upon the literature cited earlier (see Figure 1). Intention to Quit served as the dependent or “downstream” variable. Inclusion of the largest portion of the model variables as well as the hypothesized relationships between them derive from Mobley’s theory (Mobley, 1977; Mobley et al., 1979), as explored by

Bannister and Griffeth (1986), Steel, (2002), and Steel and Griffeth (1989), including Intention to Quit, Job Satisfaction, Perceived Alternatives, Intention to Search, and demographic variables. The inclusion in the model of Perceived Organizational Support, Organizational Commitment, antecedents to POS (Participating in Decision Making, Fairness of Rewards and Recognition, and Job Growth Opportunities), and the hypothesized relationships between them follow from the theories of Hom, Griffeth, and Sellaro (1984) and Eisenberger et al. (1986, 1990), as explored by Allen et al. (2003). The model's inclusion of Job Alternatives and the hypothesized relationships between Job Alternatives and Job Satisfaction, Intention to Search, and Intention to Quit were based upon the theory proposed by Hom et al. (1984) and tested by Hom and Griffeth (1991). The inclusion of Job Stress and Job Stressors and their hypothesized relationships within the research model are based upon Williams and Hazer (1986) and Farkas and Tetrick (1989), as examined by Elangoven (2001) and Firth et al. (2004). The placement of Job Embeddedness in the model was suggested by the theories of Lee et al. (2004), Mitchell et al. (2001), and Mitchell and Lee (2001), as explored by Crossley et al. (2007). Finally, inclusion of the specific demographic and longevity variables were based upon Hom et al. (2008).

The research model was tested against the data obtained from the survey using the AMOS 7.0 program. All measures were treated as observed variables. Due to the difficulty of using the Chi square statistic to determine the goodness of model fit with large samples (Cheung & Rensvold, 2002), the normed fit index (NFI), the comparative fit index (CFI) and the root mean-square error of approximation (RMSEA) were used with recommended interpretation ranges (Browne & Cudeck, 1993; Hu & Bentler, 1999;

MacCallum, Browne, & Sugawara, 1996) to determine fit. Alternative research models were developed based upon critical ratios and modification indices, within the constraints of theory and literature. The adequacy of alternative models was assessed by examining the significance of differences in the models' Chi square to degrees of freedom ratios. Standardized direct, indirect, and total effects and squared multiple correlations for the final model were also computed.

Responses to the open-ended survey item were analyzed by breaking material into small units of observation, developing initial themes or categories within the findings, and considering alternative interpretations that either confirmed the initial themes or led to the creation of new ones.

Results

Table 1 provides means, standard deviations, reliabilities, and inter-correlations of variables in the research model. The preliminary research model was found not to fit the data well ($\chi^2 = 4079$, $df = 206$, $p < .001$, RMSEA = 0.13, RFI = 0.54, CFI = 0.67, TLI = 0.56). Development and comparisons of several versions of the research model revealed that age, gender, race, years worked in participants' present job, and total years worked in institutional research were not significantly related to Intention to Quit, and thus they dropped out of the model. Job Stress from Role Ambiguity was also found to not be significantly related to Job Stress 2.

The second research model that reflects these changes had a significantly improved goodness-of-fit from the initial model, but was still not a good fit in absolute terms ($\chi^2 = 3610$, $df = 121$, $p < .001$, RMSEA = 0.16, RFI = 0.52, CFI = 0.66, TLI = 0.53; p for $\Delta \chi^2 / \Delta df < .001$). Modification indices suggested that allowing correlations

between numerous error terms, and allowing covariances among all of the job stress factors, between all of the job stress factors and Participation in Decision Making, Fairness of Rewards, and Job Growth Opportunities, between Job Alternatives and Fairness of Rewards and Recognition compared to other work units, Job Alternatives and Job Growth Opportunities, Job Embeddedness and Fairness of Rewards and Recognition compared to other work units, between Job Embeddedness and Participation in Decision Making, and between Job Embeddedness and Job Alternatives would improve the fit of the model.

A third research model with these changes had a significantly improved goodness-of-fit from the second model, but once again was not a good fit in absolute terms ($\chi^2 = 984$, $df = 65$, $p < .001$, RMSEA = 0.11, RFI = 0.78, CFI = 0.90, TLI = 0.79; p for $\Delta \chi^2 / \Delta df < .001$). This model also indicated that the relationship between Fairness of Rewards and Recognition as compared to others in the same work unit and Perceived Organizational Support and between Job Stress 2 and Intention to Quit were no longer significant, thus those two variables were dropped from the model. Modification indices suggested that model fit could be improved by having both Job Growth Opportunities and Fairness of Rewards and Recognition compared to those in other work units affect Intent to Search 2, and by having Job Embeddedness affect Organizational Commitment.

A fourth and final research model (see Figure 2) with these changes had a significantly improved goodness-of-fit from the third model, and approached the thresholds for indication of good model fit (the comparative fit index exceeded the threshold; $\chi^2 = 614$, $df = 62$, $p < .001$, RMSEA = 0.09, RFI = 0.85, CFI = 0.94, TLI = 0.87; p for $\Delta \chi^2 / \Delta df < .001$).

Table 2 provides standardized direct, indirect, and total effects and squared multiple correlations. Participation in Decision making had a weak negative indirect effect on Intent to Quit. Fairness of Rewards and Recognition Compared to Workers in Other Units had a weak positive indirect effect on Intention to Quit. Job Growth Opportunities had both weak negative direct effects and weak negative indirect effects on Intention to Quit. Job Embeddedness had a weak negative direct effect plus a very weak negative indirect effect on Intention to Quit. The Job Stressors of Role Ambiguity, Role Conflict, Work Overload, and Work-Family Conflict all had very weak positive indirect effects on Intention to Quit. Perceived Organizational Support had a moderate negative indirect effect on Intention to Quit. Job Alternatives had a weak positive indirect effect on Intention to Quit. Job Stress had a weak positive direct effect on Intention to Quit. Job Satisfaction had a very weak negative direct effect plus a weak negative indirect effect on Intention to Quit. Organizational Commitment had a weak negative direct effect on Intention to Quit. Intent to Search 2 had a weak positive direct effect on Intention to Quit. Intent to Search 1 had a weak positive direct effect on Intention to Quit. The research model did a good job of explaining Perceived Organizational Support, Job Stress 1, Job Satisfaction, and Organizational Commitment (squared multiple correlations of 0.581, 0.680, 0.524, and 0.582, respectively), a moderately good job of explaining Intent to Search 1 and Intent to Quit (0.230 and 0.481, respectively), and a poor job of explaining Intent to Search 2 (0.143).

Twelve themes emerged from analysis of the open-ended survey item, including organizational support, supervisors, ethical concerns, workload, challenge, lack of

advancement opportunities, the intrinsic nature of the work, co-workers, compensation, job embeddedness, work-family conflict, and geographic location.

Discussion and Implications

The purpose of this study was to determine factors that influence IR professionals' intention to leave their job. Because no systematic research on IR employee turnover had been conducted, yet findings from the general literature on employee turnover appear in studies of effectiveness and job satisfaction among institutional researchers, we posited that these factors would affect IR professionals' intent to quit. Most of this study's findings confirm that linkage.

Participation in decision-making (Harrington and Chen, 1995; Johnson, 1982; Knight, in press), fairness of rewards and recognition, and job growth opportunities (Delaney, 2001; Fenstemacher, 1982; Johnson, 1982; Rosser, 2004) affect one's perception of organizational support (Fenstemacher, 1982; Huntington and Claggett, 1991; Rosser, 2004; and Sanford, 1983) which can influence intention to quit through multiple paths (Figure 2). If IR professionals feel they are supported by their organization, they tend to be satisfied with their job. Consequently they are unlikely to search for a new position and to quit. Additionally, if IR professionals feel supported by their organization, they are likely to be committed to that organization (Fenstemacher, 1982) and unlikely to leave their job.

Perceived organizational support affects intention to quit in yet another way. IR employees who perceive that they are supported by their organization are less likely to be stressed on the job. Consequently, they are less likely to quit. In the causal model, job stress results from role ambiguity, role conflict, work overload and, especially work-

family conflict, each of which is identified in the IR literature as influencing IR effectiveness (Delaney, 2001; Harrington and Chen, 1995; Knight, in press; Rosser, 2004; Sanford, 1983; Volkwein, 1999). The open-ended responses reinforced work overload, increasing demands, and inadequate staffing as stressors leading IR professionals to consider quitting their job as did lack of challenge and a mismatch between their education and job tasks performed.

Rewards and recognition and job growth opportunities are very important to IR practitioners, showing both an indirect and direct affect on intention to search. Responses to the open-ended question indicated considerable discontent with these factors. Inadequate salary, few opportunities for advancement, and the perception that IR is not valued and is even demeaned were commonly stated. Because so few IR positions exist at most colleges and universities, IR professionals often have to leave their institution if advancement is desired. For managers who want to rise above the Director level, moving out of IR may be necessary. Additionally, starting salaries in public higher education typically are offered at or below the middle of an established range for the position classification and raises are a small percentage and may not occur annually. Consequently, salaries and salary ranges can fail to keep pace with inflation and there is little or no opportunity for individuals to negotiate substantial increases. This is especially true for Analyst classifications. Although not a significant factor in the causal model, descriptive statistics show differences in intention to quit by employee level, with a higher percentage of Analysts (42%) than Directors (32%) intending to leave.

The ability to leave one's job also influences intention to quit. In the causal model, job embeddedness can lead to organizational commitment and intention to stay or

it can lead directly to staying or quitting. The open-ended comments added texture to the more generally stated objective survey questions. Many respondents indicated that they are constrained by circumstances such as nearing retirement, inability to relocate geographically or family considerations and, consequently are unlikely to leave. Some did mention that, after their children are grown, they may consider a change in employment.

Available job alternatives (Fenstermacher, 1982; Johnson, 1982) can lead to an intent to search and then to quit. Generally, technical skills are in high demand and some respondents stated that they can earn a higher salary elsewhere, thus their intention to leave their job. Salary, though little mentioned in the IR literature, was very commonly expressed in the open-ended responses. While a few indicated satisfaction with their salary and benefits, a much larger group expressed discontent.

Given the emphasis on job satisfaction in the general literature on employee turnover (Austin, 1985; Rosser, 2004), it is surprising to find that its effect on intention to quit is so weak. Perhaps this is due to the degree of employee job embeddedness in this study or in higher education in general. Satisfaction is less likely to influence one's decision to leave if one is unable to leave; higher education, with its tenure system and high proportion of dual-career families, may be more likely than other industries to foster job embeddedness.

Or perhaps job satisfaction is overpowered in the causal model by its strong relationship with perceived organizational support, a factor that affects intention to quit in multiple ways. The job satisfaction construct in the survey may include or omit some characteristics that comprise satisfaction for IR professionals that may be less crucial to a

corporate population for whom the survey scales were originally developed. For example, the perceived organizational support items focus on the degree to which the organization appreciates and values the individual, e.g., “the organization strongly considers my goals and values”, or “the organization values my contribution to its well-being.” This seems to be a more environmental or cultural focus than the job satisfaction items which center on specific job characteristics; e.g. physical conditions, salary, autonomy and advancement opportunities. Job satisfaction defined by these characteristics may be not as critical to IR professionals, or to managers, as other factors such as the ability to influence decisions and know that one’s work is valued. In Johnson’s study of a small number of highly successful IR managers (1982), job satisfaction and salary were distinct elements and job satisfaction was the most important goal with salary far behind. This survey’s respondents included a high percentage of managers (55%). To the extent that they are satisfied with their salary, the factors that comprise perceived organizational support may be much more crucial to their satisfaction and intention to quit. Further exploration of the qualities that comprise job satisfaction for institutional researchers at different levels of their career may be useful in developing strategies for hiring and retaining them.

The open-ended question revealed discontent with some factors that may not have been explicit in the survey items and may be characteristic of institutional research or higher education. For instance, the definition and characteristics of IR have been debated since the field’s inception. This lack of a clear professional identity for the field arose as a factor in this survey that contributes to quitting. Respondents often stated that institutional leaders do not know what IR does or they treat it as a dumping ground, somewhere to send tasks no one wants to do or that they don’t know where else to place.

A very similar issue is the value of IR at an institution; whether it makes a difference in the organization, influences decisions, and is included in high-level administrative activity. Another issue raised is ethical concerns. Usually this involves being directed to show a certain outcome or misuse of data and findings by others. A common complaint involved external reporting: too much of it and the work is repetitive, tedious, unfulfilling and does not match one's expectations of what they would do on the job.

The descriptive results of this study indicate that 22% of IR professionals plan to leave their institution and 31% said they may leave before long. No data exist on the actual turnover rate in IR. However, in a national study in 1999, Lindquist found that one-third of IR professionals had been in the field five years or less. In this study, that percentage was 39%. Given the investment in recruiting and training employees and the considerable length of time required to learn the intricacies of a specific institution and the IR profession, determining ways to hire employees that are a good match for the position and retaining them is imperative.

Managers should provide recognition for IR staff and the value of their work to the institution. Leimer and Terkla (in press) suggest simple ways this can be accomplished such as informing staff when campus constituents use their reports, passing along compliments received, inviting senior administrators to meet with the IR staff, sharing the results of the IR office evaluation with staff, publicly acknowledging and crediting staff work, inviting staff to participate in presentations of their work, and recognizing staff contributions to the office and the institution in personnel evaluations.

Other ways to offer support, recognition, advancement, and challenge to institutional researchers include developing strong mentoring relationships, promoting

active involvement in professional associations in order to strengthen professional networks, ensuring that institutional research analysts and associate positions provide intellectual challenge and opportunities for professional growth, and structuring “[d]irector’s positions [so that they are] characterized by flexibility in establishing work priorities; authority in setting [the] research agenda; freedom in deciding how work is accomplished and authority required to get the work done.” (Delaney, 2001, 24)

Institutional leaders must find ways to alleviate workload and provide adequate resources. At institutions where allocation of additional resources is impossible, one solution that would simultaneously make the best use of most IR professionals’ expertise would be to focus IR office work on policy, issue and goal-oriented research and analysis and decentralize external reporting by shifting it to the units that generate the operational data required for that reporting (Leimer and Terkla, in press). At such severely resource-constrained institutions, IR managers and institutional leaders should discuss what responsibilities or tasks can be eliminated from the IR workload.

It is common to hear IR professionals joke about how to define or describe what they do. However, this lack of definition and variability across institutions can result in the “give it to IR” syndrome noted in the open-ended comments. Such a lack of definition makes it nearly impossible to compare salaries, titles, staffing levels, and other characteristics. Without such evidence, it can be difficult for IR managers to justify the need for additional resources or workload adjustments. AIR should facilitate a re-examination of the role of IR and ways to professionalize it, not in terms of certifications or continuing education requirements, but in ways that will assure more bargaining

power, recognition, and professional rewards for IR professionals while simultaneously increasing IR's value and contributions to higher education.

One such approach, advocated by Sayers and Ryan (2009), involves aiding institutions that are "stressed" by improving institutional research. Specifically, their recommendations include integrating IR, assessment, strategic planning and information functions on campuses; appointing a chief strategy officer at the cabinet level; and integrating academic and administrative expertise. The current study's implications support these ideas. Heightening the profile of institutional research by having its chief officer serve as a chief strategy officer at the cabinet level and having all IR staff members as appropriate broaden their activities and responsibilities (including the assumption of faculty roles) would clearly demonstrate organizational support, provide challenge and job growth opportunities, and hopefully make a compelling case for the need for additional resources that would mitigate workload. AIR should facilitate a series of discussions with campus presidents about improving institutions through realizing the potential of IR. Presentations about the benefits of using IR to its full potential might also be provided in high-profile venues such as the American Council on Education conference, regional accreditation conferences, and the Harvard Institutes for Educational Management. Showcasing institutions where IR is working at its full potential and highlighting the resulting institutional benefits may be an effective strategy.

While answering some questions about employee turnover among IR professionals, this study raises numerous issues for future research that can contribute to the strengthening of the profession. For example, the relationship between age, job tenure, and turnover found by Fenstemacher (1982) was not confirmed in this study.

However, the descriptive statistics do show Analysts intending to leave at higher rates than managers. Our study's respondents were largely managers. Without running the model for employee level, we do not know if the same influences affect line staff and managers' intention to quit. The IR effectiveness literature suggests that there are some differences and it is reasonable to assume this would be the case. In addition, there is no study of actual turnover. Consequently, it is impossible to determine at this point whether the degree of turnover is comparable to other professional/technical industries and whether IR may be losing talent to these industries. Research into the reasons for and degree of turnover by employee level would be useful as would further analyses of intention to quit by employee level.

In this study, Perceived Organizational Support has a large effect on job satisfaction, yet job satisfaction has little effect on intention to quit. Because job satisfaction is so important to employee turnover in the general literature, further investigation into job satisfaction among IR professionals is warranted. For instance, what characteristics comprise job satisfaction for IR professionals? Is job satisfaction a more salient factor if one is not embedded in their current job or organization?

Factors that were widely noted in comments but were not specifically tested in the quantitative study, some of which are shown in the literature on IR effectiveness and job satisfaction, should be further explored, such as inadequate staffing and increasing demands. How many and what type of staffing is "adequate" for what types of responsibilities? What are the additional demands being placed on IR? What is needed to meet these demands? More investigation into IR staffing, salaries, and their

corresponding title and responsibilities is needed and should be widely shared for executive and IR manager use in developing IR offices.

We did not explore the question about leaving the IR field that was asked on this survey. Given that 35% of respondents said they are thinking of leaving IR, such an analysis should be completed. The open-ended comments suggest one reason for managers; career advancement. A field in which Director is usually the highest management level, and many reach it in ten years or less, is at risk of losing some of its most experienced professionals and consequently their extensive knowledge of the institution and the benefits of mentorship they can provide to new practitioners. In general, lack of challenge and a mismatch between expectations and required tasks, cited by many as a reason for intending to quit their job may contribute to leaving the field as well.

Given the increasing accreditation, accountability and assessment requirements that are applicable to all institutions, Leimer and Terkla (in press) contend that the correlation between institutional size and IR staff size noted in the IR literature may be due to availability or allocation of resources or longevity of the office rather than the actual need for IR services. Studies should be carried out to examine employee turnover by institutional type, control, and size. However, more refined descriptive characteristics should be included to assist in establishing patterns and reasons for those patterns.

In all of these suggested studies, qualitative approaches could add depth and nuance to further research and suggest strategies and tactics for improving IR.

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Footnote

¹The responses of the small number of participants from other than the United States and Canada were removed from the data set due to the concern that the work experiences of IR professionals in other countries might be very different than in the U.S.

²Due to the prominence of Perceived Organizational Support in the results, we have chosen to list the items that comprise this factor. They include: “The organization values my contribution to its well-being.”, “If the organization could hire someone to replace me at a lower salary it would do so.”, “The organization fails to appreciate any extra effort from me.”, “The organization strongly considers my goals and values.”, “The organization would ignore any complaint from me.”, “The organization disregards my best interests when decisions are made that affect me.”, “Help is available from the organization when I have a problem.”, “The organization really cares about my well-being.”, “Even if I did the best job possible, the organization would fail to notice.”, “The organization is willing to help me when I need a special favor.”, “The organization cares about my general satisfaction at work.”, “If given the opportunity, the organization would take advantage of me.”, “The organization shows very little concern for me.”, “The organization cares about my opinions.”, “The organization takes pride in my accomplishments at work.”, and “The organization tries to make my job as interesting as possible.”

³Results of the factor analyses are available upon request from the first author.

⁴It is unclear why Job Stress items and Intent to Search items each cluster into two separate groupings as a result of factor analysis. The Job Stress items grouped into components tentatively titled Job Stress-Burnout (“I spend so much time at work, I can’t

see the forest for the trees.”, “Working here leaves little time for other activities.”, “I frequently get the feeling I’m married to the company.”, “I have too much work and too little time to do it in.”, “I feel guilty when I take time off from my job.”, “I sometimes dread the telephone ringing at home because the call might be job-related.”, “I feel like I never have a day off.”, “Too many people at my level in the company get burned out by job demands.”) and Job Stress-Anxiety (“I have felt fidgety or nervous as a result of my job.”, “My job gets to me more than it should.”, “There are lots of times when my job drives me right up the wall.”, “Sometimes when I think about my job I get a tight feeling in my chest.”). The two Intent to Search items grouped into Intent to Search 1 (“Listed yourself as a job applicant in a work wanted/classified ad in a newspaper, journal, or professional association communication.”, “Prepared/revised your resume.”, “Sent out resumes to potential employers.”, “Filled out a job application.”, “Had a job interview with a prospective employer.”, “Contacted an employment agency, executive search firm, or state employment service.”, “Telephoned a prospective employer.”) and Intent to Search 2 (“Read the help wanted/classified ads in a newspaper, journal, or professional association communication.”, “Read a book or article about getting a job or changing jobs.”, “Talked to friends or relatives about possible job leads.”, “Spoke with previous employers or business acquaintances about their knowing of potential job leads.”, “Used current colleagues to generate potential job leads.”). In neither case is it clear why the items would cluster in this way for institutional researchers unlike for other populations where the items formed unitary scales.

Figure 1. Initial Research Model

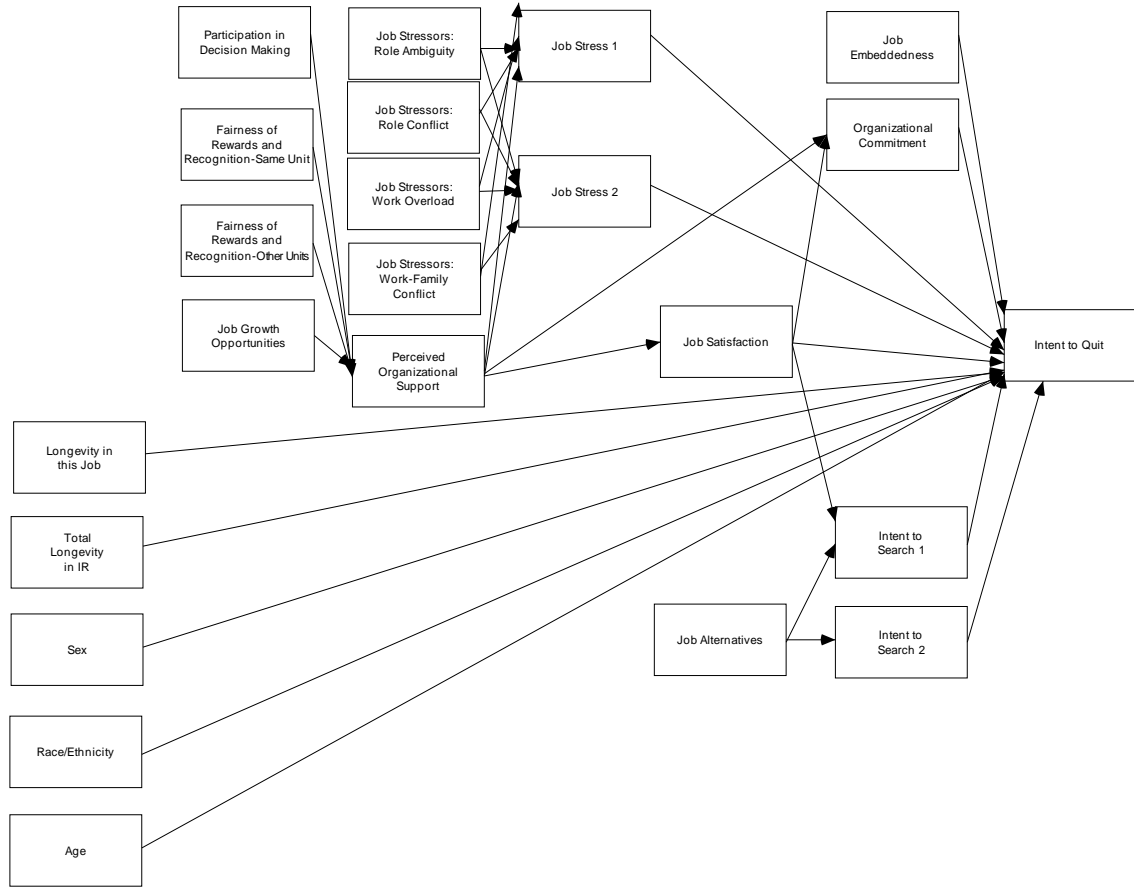


Figure 2. Final Research Model

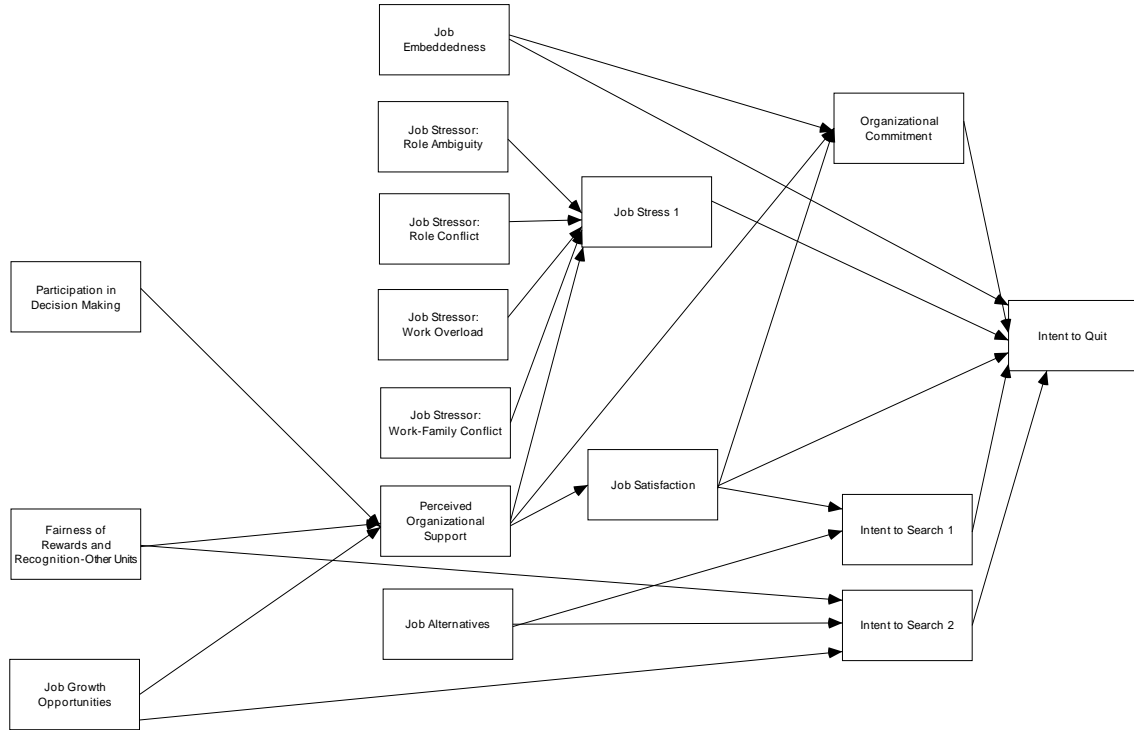


Table 1

Descriptive Statistics, Reliabilities, and Zero-Order Correlations of Variables in the Research Model

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1. Age	--																								
2. Years Current Job	.41	--																							
3. Total Years IR	.49	.60	--																						
4. Race	-.11	-.05	-.06	--																					
5. Sex	-.09	-.00	-.10	.01	--																				
6. Participation in Decision Making	.08	.06	.10	-.11	-.08	.91																			
7. Fairness of Rewards and Recognition- Same Unit	-.06	-.07	-.14	.01	.03	-.22	.92																		
8. Fairness of Rewards and Recognition- Other Units	-.03	-.01	-.05	.09	.03	-.36	.48	.80																	
9. Job Growth Opportunities	-.16	-.13	-.10	-.03	-.06	.44	-.30	-.44	.89																
10. Perceived Organizational Support	-.04	-.05	-.01	-.09	-.05	.62	-.28	-.55	.65	.96															
11. Job Stressors: Role Ambiguity	-.09	-.13	-.13	.01	-.00	-.40	.21	.31	-.35	-.48	.92														
12. Job Stressors: Role Conflict	.00	-.02	.02	.02	-.02	-.22	.13	.25	-.25	-.42	.27	.69													
13. Job Stressors: Work Overload	.10	.04	.08	-.01	.08	-.04	.07	.14	-.11	-.20	.16	.45	.73												
14. Job Stressors: Work-Family Conflict	.08	-.01	.07	.01	.03	-.10	.05	.20	-.18	-.33	.23	.43	.64	.93											
15. Job Stress 1	.03	.02	.06	-.01	.08	-.22	.08	.26	-.26	-.44	.32	.56	.66	.78	.92										
16. Job Stress 2	.02	-.01	.05	.00	.08	-.16	.09	.27	-.22	-.37	.25	.45	.55	.68	.76	.75									
17. Job Satisfaction	.05	.08	.10	-.12	-.02	.56	-.36	-.61	.63	.77	-.51	-.39	-.16	-.28	-.40	-.34	.81								
18. Perceived Job Alternatives	-.12	-.10	-.06	.11	-.05	.01	-.01	.07	.08	-.03	-.05	.06	.00	.06	.04	.07	-.03	.67							
19. Intent to Search 1	-.08	-.10	-.08	.08	-.07	-.29	.13	.29	-.30	-.42	.25	.26	.09	.22	.26	.25	-.42	.30	.82						
20. Intent to Search 2	-.08	-.07	-.05	.04	-.03	-.27	.13	.28	-.29	-.41	.24	.25	.09	.23	.29	.25	-.41	.27	.76	.80					
21. Organizational Commitment	.09	.06	.06	-.08	.05	.46	-.20	-.42	.45	.71	-.41	-.33	-.08	-.18	-.30	-.23	.64	-.08	-.37	-.35	.89				

22. Global Job Embeddedness	.10	.24	.12	-.12	.08	.30	-.12	-.25	.25	.40	-.23	-.14	.07	-.01	-.03	.03	.41	-.18	-.33	-.29	.58	.90	
23. Intention to Quit	-.06	-.06	-.04	.11	-.04	-.34	.16	.34	-.38	-.52	.28	.25	.09	.24	.31	.27	-.52	.25	.53	.49	-.58	-.54	.87
<u>M</u>	46.07	5.65	9.47	0.16	0.62	32.25	8.12	7.01	17.54	75.64	7.33	9.93	10.69	8.27	25.16	10.17	29.51	8.30	9.49	6.02	45.93	21.95	11.43
<u>SD</u>	10.71	5.61	7.80	0.36	0.49	7.76	4.44	2.66	5.09	19.27	2.85	2.40	2.49	3.22	8.01	3.33	5.20	2.49	3.27	1.89	9.71	5.83	4.45

Note. Reliabilities are shown on the diagonal. Correlations greater than .05 are significant at $p < .05$.

Table 2

Standardized Direct, Indirect, and Total Effects and Squared Multiple Correlations for the Final Model

	Perceived Organizational Support	Job Stress 1	Job Satisfaction	Organizational Commitment	Intent to Search 1	Intent to Search 2	Intent to Quit
Participation in Decision Making	0.305	-0.041	0.304	0.187	-0.118		-0.101
	0.305	-0.041	0.304	0.187	-0.118		-0.101
Fairness of Rewards and Recognition	-0.290	0.039	-0.289	-0.178	0.112	0.135	0.116
	-0.290	0.039	-0.289	-0.178	0.112	0.135	0.116
Job Growth Opportunities	0.376	-0.050	0.375	0.231	-0.146	-0.208	-0.156
	0.376	-0.050	0.375	0.231	-0.146	-0.208	-0.157

Job Embeddedness		0.354		-0.261
				-0.084
		0.354		-0.345
				-0.084
Job Stressor:				
Role Ambiguity	0.039			
				0.005
	0.039			0.005
Job Stressor:				
Role Conflict	0.182			
				0.021
	0.182			0.021
Job Stressor:				
Work Overload	0.225			
				0.026
	0.225			0.026

Job Stressor:

Work-Family Conflict

0.529

0.062

0.529

0.062

Perceived

Organizational Support

-0.134

0.997

0.455

-0.388

-0.331

0.158

-0.134

0.997

0.613

-0.388

-0.331

Job Alternatives

0.283

0.242

0.098

0.283

0.242

0.098

Job Stress 1

0.117

0.117

Job Satisfaction

0.159

-0.389

-0.085

-0.123

0.159

-0.389

-0.208

Organizational								
Commitment								-0.238
								-0.238
Intent to Search 1								0.219
								0.219
Intent to Search 2								0.150
								0.150
SMC	0.581	0.690	0.524	0.582	0.230	0.143		0.481

Note. All direct effects are significant at $p < .01$. SMC = Squared Multiple Correlation

