ATTRIBUTES CONTRIBUTING TO THE EMPLOYMENT SATISFACTION OF UNIVERSITY GRADUATES WITH LEARNING DISABILITIES

Joseph W. Madaus, Lilia M. Ruban, Teresa E. Foley, and Joan M. McGuire

Abstract. One hundred and thirty-two graduates with learning disabilities (LD) of a large, public, competitive postsecondary institution were surveyed to determine levels of employment self-efficacy and satisfaction. Based upon a response rate of 67% (N = 89), graduates reported high levels of employment self-efficacy and satisfaction. Although there were no significant differences related to levels of self-efficacy and job satisfaction and selected demographic variables, perceptions of employment self-efficacy and the use of self-regulatory strategies/accommodations were found to be significant predictors of employment satisfaction.

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The employment experiences of college graduates with learning disabilities (LD) have drawn increasing attention in the professional literature (Adelman & Vogel, 1990; Greenbaum, Graham, & Scales, 1996; Horn, Berktold, & Bobbit, 1999; Madaus, Foley, McGuire, & Ruban, 2001; Madaus, Foley, McGuire, & Ruban, 2002; Silver, Strehorn, & Bourke, 1997; Vogel & Adelman, 2000; Witte, 2001; Witte, Phillips, & Kakela, 1998). These investigations are reporting some positive outcomes, such as employment rates that are comparable to those of non-LD peers and that exceed those of young adults with LD who do not receive postsecondary degrees. Furthermore, the reported salaries of college graduates with LD far outpace salaries reported by adults with LD who do not graduate from postsecondary institutions (Blackorby & Wagner, 1997; Goldstein, Murray, & Edgar, 1998; Madaus et al., 2001; Vogel & Adelman, 2000; Witte et al., 1998), and appear competitive with salaries earned by professionals in the United States workforce at large (Buckley, 1999). Indeed, it appears that a successful postsecondary experience can make an important difference in the employment outcomes of young adults with LD (Madaus et al., 2001).

While employment rates and levels of salary are unquestionably important, another critical consideration in determining successful adult outcomes is employment satisfaction. Given the amount of time people spend working, a job “determines whether a substantial part of our lives is repetitively boring, burdensome, and distressing or lastingly challenging and..."
self-fulfilling” (Bandura, 1997, p. 422). Indeed, employment satisfaction can be considered a major quality-of-life indicator (Marinoble & Hegenauer, 1988).

Research specific to the employment satisfaction of college graduates with LD is limited and often conflicting, with many existing studies measuring job satisfaction through a single question (Witte et al., 1998). The present study sought to comprehensively determine levels of employment satisfaction of a sample of university graduates with LD and, additionally, to determine what personal and work-based attributes contribute to these perceptions.

**Influences on Employment Satisfaction for Adults with LD**

**Employment Satisfaction and Adults with LD**

Witte et al. (1998) examined perceptions of job satisfaction in a group of 55 college graduates with LD with a 25-question survey that covered five areas, Work, Supervision, Colleagues, Promotion, and Pay. Respondents reported a general dissatisfaction with employment, including being assigned tasks below their ability level, receiving ineffective supervision, maintaining superficial relationships with colleagues, receiving lower pay, and having fewer opportunities for promotion than their non-LD colleagues.

This dissatisfaction with employment may ripple into overall life satisfaction. For example, many of the adults with LD interviewed by Roffman (2000) described job-related dissatisfaction, which they also reported had a negative impact on their overall quality of life. While these investigations have identified employment areas in which adults with LD are satisfied or dissatisfied, no investigation has explored how employment and personal factors specifically contribute to employment satisfaction.

**Impact of LD on Job Performance and Self-Disclosure**

The existence of an LD is a confounding variable in the quest for job satisfaction. Findings by Madaus et al. (2002), Vogel and Adelman (2000), and Greenbaum et al. (1996) illustrate the complex interplay between LD and employment. In each of these studies, 80%-90% of the respondents indicated that their LD impacts their work. However, in each study, and in investigations by Witte et al. (1998) and Kakela and Witte (2000), large percentages (from 41% to 95%) of respondents did not self-disclose their LD to employers or coworkers. Common reasons for nondisclosure included concerns about job security and fear of negatively impacting relationships with coworkers and supervisors (Madaus et al., 2002; Vogel & Adelman, 2000).

While job security anxiety is understandable, concerns about social relationships is a less apparent, but significant contributor to job satisfaction. Because most jobs involve human interaction, they are a major source of social connections. Workplace success can in large part be due to successfully navigating these social networks, which may include effective communication with supervisors and coworkers and exercising leadership. In fact, Bandura (1997) argued that being effective in these social relationships might contribute more to career success than general occupational skills and, additionally, directly contribute to a sense of life satisfaction.

**Self-Efficacy**

Self-efficacy refers to how a person judges or perceives him or herself to be capable of using a set of skills to achieve a certain level of performance (Bandura, 1986). These judgments and perceptions directly influence both the activities and environments a person chooses to engage in, for as Bandura (1977) noted, “people fear and tend to avoid threatening situations they believe exceed their coping skills, whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating” (p. 194).

Positive perceptions of self-efficacy lead people to engage in activities that facilitate the development of new competencies. Conversely, negative perceptions of self-efficacy result in self-limiting avoidance of such activities. People with low levels of self-efficacy create internal obstacles that block opportunities for new, rewarding experiences (Bandura, 1986). Thus, because challenging and stressful activities require persistent effort, people with higher levels of self-efficacy are likely to persevere and succeed in the face of challenges. In contrast, those with lower levels of self-efficacy are more likely to disengage from the activity if initial attempts prove unsuccessful. Because of the power of self-efficacy beliefs in influencing which activities a person will engage in, and how much effort and persistence they will display when engaged in the activity, self-efficacy has been posited to be a major mediator or, in some cases, a potential barrier to career selection and development (Bandura, 1986, 1997; Brown, 1999; Hackett & Betz, 1981).

**Interplay Between Self-Efficacy and Employment Satisfaction**

While an efficacy expectation relates to the belief that one can successfully perform a behavior to create an outcome, an outcome expectation is a person’s belief that a behavior will lead to a desired outcome (Bandura, 1977). Outcome expectations can be broken out into three major categories: physical outcomes (e.g., monetary); social (e.g., approval or praise); and self-evaluative (e.g., sense of accomplishment and self-satisfaction).
(Bandura, 1986; Lent, Brown, & Hackett, 1994; Panagos & DuBois, 1999). Self-evaluative expectations such as self-satisfaction are especially critical, particularly in long-term activities such as employment. To maintain motivation, people must set internal or personal standards against which to judge performance. If self-satisfaction is made conditional on achieving these levels of performance, individuals will remain motivated to persist until performance matches this standard (Bandura & Schunk, 1981). When people achieve levels of desired performance, they experience a sense of satisfaction, which in turn may build greater interest in the activity and lead to the setting of new levels of desired performance (Bandura, 1986; Bandura & Schunk, 1981).

This feedback system of measuring progress and setting new internal goals can provide a continual source of self-motivation (Bandura, 1986). According to Bandura (1986), this is a highly evolved form of personal incentive, for “people invest vast amounts of time and energy in the pursuit of taxing activities that bring them self-satisfaction. What may appear like grueling work to others is for them a labor of self-fulfillment” (p. 240). This may be an especially important consideration for adults with LD, who often must achieve an ongoing sense of personal accomplishment and satisfaction to continually overcome the obstacles caused by their LD in career endeavors.

Given the adversities an LD may create in employment settings, understanding the impact of employment self-efficacy beliefs with this population may be important in promoting successful transitions to employment (Panagos & DuBois, 1999). Despite the power of self-efficacy in enhancing persistence in challenging situations, the impact of self-efficacy beliefs on the employment of individuals with LD has received minimal attention.

**Self-Regulation**

The work of Gerber and Reiff (1991) and Gerber, Ginsberg, and Reiff (1992) has contributed powerful observations from studies of adults with LD who attained high levels of success in their careers by using self-regulatory techniques, such as goal orientation, reframing their disability in a positive way, determining a goodness of fit between strengths, weaknesses, and career choice, and accessing a social ecology of support systems, such as family and friends. Additionally, studies conducted with postsecondary students with LD indicate the use of compensatory approaches is critical to their academic success (Butler, Elaschuk, & Poole, 2000; McGuire, Hall, & Litt, 1991; Reis, McGuire, & Neu, 2000). For example, Reis et al. (2000) emphasized that high-ability university students with LD attributed academic success to the use of specific compensation strategies learned in a comprehensive program for college students with learning disabilities (McGuire & Madaus, 1999). These compensation strategies included study strategies, cognitive/learning strategies, environmental accommodations, opportunities for counseling, self-advocacy, and the development of an individual plan incorporating a focus on metacognition and executive functions.

**Rationale for the Present Study**

Several researchers (e.g., McGuire, 1997; Panagos & DuBois, 1999; Raskind, Goldberg, Higgins, & Herman, 1999) have recommended additional investigation into the personal attributes of adults with LD that contribute to employment outcomes. To this end, the present investigation sought to determine the extent to which variance in employment satisfaction can be explained by a set of personal attributes (e.g., gender and age), career and employment factors (e.g., length of time in current position, level of salary), learning disability and work experience factors (e.g., work areas impacted by LD, disclosure of LD in the workplace, and use of accommodations and self-regulation), and levels of employment self-efficacy.

**METHODS**

**Sample**

The data for this analysis were drawn from the same sample as reported in Madaus et al. (2002) and Madaus et al. (2001). This sample was drawn from a total pool of 209 students with LD who graduated from a competitive, public university in the Northeast between 1985 and 1999. While enrolled, each of the survey participants voluntarily self-disclosed and submitted documentation to the university LD support program that verified the existence of a specific LD. Review of program records indicated the existence of additional physical disabilities for two respondents; English was a not a second language for any respondents.

**Procedure**

Multiple methods were employed to obtain the most current address of the graduates, including crosschecks with university records and with data from the alumni office. Phone calls were made to each graduate or to the home of the graduates’ parents to explain the purpose of the study and to obtain the most current address for the graduate. Through these methods, contact was made with and current addresses were obtained from 132 graduates or members of the graduate’s family. This pool represented the final sample for the investigation (N = 132).

Following suggested protocol for survey research (Borg & Gall, 1989; Isaac & Michael, 1990), each survey was accompanied by a postage-paid return envelope and a letter describing the purpose of the research con-
taining a note from the director or associate director of the LD program encouraging response. Additionally, cash prizes of $25, $50, and $100 were offered to three randomly selected respondents to serve as an incentive to participate.

Three waves of mailings yielded a total of 89 surveys for a final response rate of 67.4%, well within guidelines set forth by Babbie (2001) for acceptable response rates for mailed surveys. Analysis-of-variance procedures revealed no significant differences among the three waves of respondents.

Instrumentation
The instrument used was created by the researchers and consisted of four sections. The first section included 24 demographic items across four broad areas: Respondent Information, Educational Experiences, Employment Information and Career Experiences, and Your Learning Disability and Work Experiences. Two additional items asked for qualitative evaluative feedback about the services provided by the university LD program. The second section consisted of items related to Job Satisfaction. For the purpose of this investigation, Job Satisfaction was defined as “general gratification derived from my job” and was heavily influenced by the work of Reschly and Wilson (1995) and by research related to employment and adults with LD. The third section consisted of items related to employment Self-Efficacy. Employment Self-Efficacy was defined as “the belief that I can succeed at a particular behavior relating to my job.” Items in this section were drawn largely from the work of Bandura (1986, 1997). The fourth section contained information from the respondent’s university records (e.g., grade point average, number of semesters receiving LD services), and was completed by the researchers upon receipt of a completed survey.

Content validity. An initial pool of 57 items was developed and subsequently condensed to 15 items related to job satisfaction and 16 items related to employment self-efficacy. Because the final available cohort of graduates was 132, there was concern that conducting a pilot of the instrument with a subsample of this group would draw down the final sample. Therefore, great care was taken in examining the content validity of each proposed scale and the quality of each proposed item. The items were distributed to a panel of content experts nationwide who were either postsecondary LD service providers or educational researchers. These content experts rated the extent to which the proposed items fit the categories of Job Satisfaction and Employment Self-Efficacy on a 5-point Likert-like scale (1 = Strongly Disagree to 5 = Strongly Agree). Additionally, they provided specific comments related to the proposed items, and were asked to propose additional items.

Descriptive statistics were derived for each item, and a cut-off point of 4.0 (out of 5.0) was established for inclusion of an item on the final survey. Each item was reviewed based upon the numerical data and the written feedback from the content experts. Additionally, after this analysis and subsequent adjustments, the research team reviewed each item again to ensure that items were written in understandable terms (e.g., the phrase “autonomy” changed to “independence”). In total, 14 items were selected for inclusion on the Job Satisfaction scale, and 16 items were selected for the Self-Efficacy scale.

Data Analyses and Measurement of the Variables
Prior to conducting the main analyses, common data screening and cleaning procedures were used and tests of statistical assumptions were examined (Kline, 1998; Tabachnick & Fidell, 2001). Confirmatory factor analysis (CFA), hierarchical regression analysis, descriptive statistics, and Pearson’s correlation were employed. Eighty-nine graduates (N = 89) responded. However, data from 10 respondents who reported not being employed were deleted from the final regression analyses, given that the analyses sought to determine the extent to which employment satisfaction was explained by other attributes. Additionally, four cases with missing data were deleted, resulting in the final regression analyses being conducted with a sample size of 75 people (N = 75).

Confirmatory Factor Analysis as a Tool for Construct Validity Evaluation
The confirmatory factor analysis, which was used to assess the psychometric properties of the instrument, is a methodological tool that permits an examination of the psychometric adequacy of an instrument, and that can aid in item evaluation and construct development (Kline, 1998). In contrast to exploratory factor analysis (EFA), confirmatory factor analysis (CFA) is used when the relationships among the items and the constructs are hypothesized a priori in the form of a measurement model. To evaluate the measurement model, several conventional fit indices are used; namely, chi-square, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). Conventional practice suggests that values above .90 for TLI and CFI, in conjunction with RMSEA values below .05, indicate a good fit of the model (Kline, 1998). The rationale for choosing confirmatory factor analysis to evaluate the construct validity of the instrument related to the fact that, prior to the administration of the instrument, the researchers hypothesized which items defined Job Self-Efficacy and Job Satisfaction factors, respectively.

Hierarchical Regression Analysis as a Prediction Method of Choice
In hierarchical regression analysis, the order of entry of the variables at each step of the regression model is
Variables in the Hierarchical Regression Model

The variables viewed as potential predictors of employment satisfaction of graduates with LD were entered in sequential blocks in four steps as follows: (a) Demographic Factors (e.g., gender and age); (b) Employment and Career Factors (e.g., length of time in current position and level of salary); (c) LD and Work Experiences (e.g., areas of work impacted by LD, disclosure of LD in the workplace, use of accommodations and self-regulation); and (d) Employment Self-Efficacy (e.g., the mean scale score on the Employment Self-Efficacy factor). It is important to note that on the variables “Areas of Work Impacted by LD” and “Use of Accommodations and Self-Regulation” (in the third block), respondents were offered a list of choices and were asked to select all that applied. Therefore, higher values on these items indicate that the respondents perceived that their LD exerted influence in a greater number of areas and/or that the respondents used several accommodation and self-regulatory strategies.

RESULTS

Characteristics of the Respondents

The majority of the final sample (N = 89) was male (69%). Ninety percent reported being “White, Non-Hispanic American;” 3% reported “Other Hispanic or Spanish-surnamed American,” and 2% reported being “Black Non-Hispanic American.” Most participants (66%) were 30 years old or younger. Respondents reported 44 different majors, including Human Development/Family Relations (10%), Psychology (9%), Communication Science (8%), Political Science (7%), and Economics (7%). In total, these majors reflected graduation from 9 of the 12 undergraduate schools and colleges at the university. More than half of all participants (55%) graduated from the College of Liberal Arts and Sciences, followed by the School of Education (11%), the School of Family Studies (10%), the College of Agriculture and Natural Resources (9%), and the School of Business Administration (9%). The mean grade point average of the sample was 2.7, with a range from 2.0 to 3.7. Although the sample included students who were members of the classes of 1985 to 1999, respondents actually represented the classes of 1987 to 1999. Fifty percent of the participants had been graduated from the university one to five years prior to the survey, while 50% graduated 6 to 13 years prior to the survey.

Nearly 87% of the respondents reported being employed full time. With regard to length of time in current position, 22% reported less than one year, 52% reported 1 to 3 years, 10% reported 4 to 6 years, and 8% reported 7 or more years. Respondents varied with respect to their level of earnings, with annual salary
Table 1
Confirmatory Factor Analysis: Maximum Likelihood Dimensions, Standardized Loadings, and Goodness-of-Fit Summary

<table>
<thead>
<tr>
<th>Dimension/Item Stem</th>
<th>Self-Efficacy</th>
<th>Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loadings</td>
<td>M</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Reliability: .95</td>
<td>1. Use creative ways to perform my job.</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>2. Take the initiative for carrying out an important project.</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>3. Exercise leadership in my job.</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>4. Make good use of my strengths, skills, and abilities.</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>5. Interact with my coworkers.</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>6. Communicate clearly with my supervisors.</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>7. Communicate clearly with my colleagues.</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>8. Plan how to meet the demands of my job.</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>9. Cope effectively with job-related stress.</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>10. Develop new skills needed for doing my job well.</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>11. Productively use my time on the job.</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>12. Adapt to the demands of new responsibilities in my job.</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>13. Manage my workload and time pressures.</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>14. Apply the skills I have learned in job situations.</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>15. Work effectively with coworkers.</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>16. Assume challenges related to my job.</td>
<td>.90</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Reliability: .92</td>
<td>1. My job gives me a feeling of accomplishment.</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>2. My job allows me to learn new skills.</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>3. I am satisfied with my job.</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>4. My work is valued by my employer/supervisor.</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>5. My work is rewarded by my employer/supervisor.</td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td>6. There is a match between my skills/abilities and my job.</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>7. My job provides opportunities for professional development.</td>
<td>.62</td>
</tr>
<tr>
<td></td>
<td>8. My job provides an appropriate amount of independence.</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>9. My colleagues are supportive of my professional work.</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>10. My colleagues and I work well together.</td>
<td>.81</td>
</tr>
<tr>
<td>Goodness-of-Fit Summary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X^2$</td>
<td>191.07**</td>
<td></td>
</tr>
<tr>
<td>$X^2/df$</td>
<td>1.91a</td>
<td></td>
</tr>
<tr>
<td>TLI</td>
<td>.890</td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>.901</td>
<td></td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.074</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .001.

$^a$df = 100; $^b$df = 32.
levels ranging from less than $10,000 to over $80,000 a year; 49% earned between $20,000 and $40,000 annually. Participants described 28 areas of current employment, including multiple participants who listed more than one area. The most frequently reported areas of employment were “Business” (30%), followed by “Education” (15%), “Health Care” (11%), and “Technology” (11%). Twelve percent reported being self-employed. No participants selected the choices of “homemaker” or “non-profit” as a type of employment. Specific job titles were classified according to The Enhanced Occupational Outlook Handbook (Farr, Ludden, & Mangin, 1998). The largest category represented was “Professional/Technical” (42%), followed by “Executive, Administrative and Managerial” (36%), and “Marketing/Sales” (7%).

Although 90% of the respondents reported that their LD impacted their job, with many reporting in multiple areas, 69% had chosen not to disclose their LD in the workplace. Respondents reported using on average three or more self-regulation strategies and accommodations. Many were self-initiated and implemented, and included such techniques as finding a quiet work environment (35%); using proofreaders (35%); using time outside of work to complete work requirements (32%); and using assistive technology (24%). Several respondents explained using other strategies, such as seeking social assistance (e.g., asking more experienced employees/colleagues for clarification); prioritizing tasks; assessing task demands and differentiating effort accordingly; using social skills; and applying perseverance.

**Results of the Scales**

The respondents reported high levels of both employment self-efficacy ($M = 4.16, SD = .68$) and job satisfaction ($M = 4.23, SD = .74$). Mean scale scores, standard deviations for each item, and CFA model fit indices may be found in Table 1. To further explore differences with respect to graduates’ levels of employment satisfaction and employment self-efficacy, analysis of variance with Bonferroni adjustment was conducted on selected demographic and employment-related factors (i.e., salary, gender, age, level of education, length of time in current position, and disclosure of LD in the workplace). No statistically significant differences were found on any set of variables.

Table 2 presents correlations among the variables in the hierarchical regression analysis. An examination of the correlations revealed that only three out of eight predictor variables (current annual salary, use of self-regulation/accommodations, and self-efficacy mean scale scores) had significant correlations with the respondents’ employment satisfaction. Whereas the correlation between the dependent variable and annual salary was fairly low, the correlations of self-regula-

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**Table 2**

*Correlations Among the Variables in the Hierarchical Regression Analysis* ($N = 7$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Employment Satisfaction*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td></td>
<td>-0.09</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Age</td>
<td></td>
<td></td>
<td>1.11</td>
<td>-0.32</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Length of Time in Current Position</td>
<td></td>
<td></td>
<td></td>
<td>0.13</td>
<td>-0.08</td>
<td>0.27*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Current Annual Salary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.23*</td>
<td>-0.32**</td>
<td>0.21</td>
<td>0.23*</td>
<td>1.00</td>
</tr>
<tr>
<td>6. Areas of Work Impacted by LD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.03</td>
<td>0.12</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>7. Disclosure of LD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02</td>
<td>-0.10</td>
<td>0.12</td>
</tr>
<tr>
<td>8. Self-Regulation &amp; Accommodations</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.37**</td>
<td>0.02</td>
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<tr>
<td>9. Employment Self-Efficacy</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>0.71**</td>
</tr>
</tbody>
</table>

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

* Dependent variable.
tion/accommodations and employment self-efficacy with employment satisfaction were moderate and high, respectively.

Table 3 presents a summary of the hierarchical regression results. Statistically significant contributors were self-reported use of self-regulation strategies and accommodations in the workplace. Employment self-efficacy was the most important contributor to the prediction model, as indicated by the largest standardized regression weight. None of the other individual variables were statistically significant contributors. Examination of the overall proportion of the explained variance as well as an examination of the incremental contribution of each block of variables provided interesting results.

Three out of four blocks of variables provided significant incremental validity. The demographic variables of gender and age (entered at Step 1) did not add valuable information to the model, explaining only 1% of the variance in the dependent variable (Δ $R^2 = .01$) [$F (2, 72) = .332, p > .05$]. Length of time in current position and current annual salary, entered at Step 2, explained an additional 9% of the variance (Δ $R^2 = .09$, small multivariate effect size), above and beyond that explained by the demographic variables [$F (2, 70) = 3.31, p < .05$]. A still larger incremental contribution was provided by the variables related to LD and work experiences (i.e., areas of work impacted by LD, disclosure of LD, and use of self-regulation strategies and accommodations in the workplace). The collection of these three variables added 16% (Δ $R^2 = .16$, medium multivariate effect size) to the variance explained in employment satisfaction [$F (3, 67) = 4.66, p < .01$]. Employment self-efficacy, entered at Step 4, provided a substantial effect, explaining 42% of the variance (Δ $R^2 = .42$, large multivariate effect size) above and beyond the contribution of all other variables [$F (1, 66) = 82.00, p < .001$].

In summary, a collection of eight demographic, employment, LD work-related factors, and employment self-efficacy variables explained 67% (adjusted $R^2 = .63$) of the variance in employment satisfaction of graduates with LD. This represents a large multivariate effect size (Cohen, 1988). Another indication of the validity of the obtained results is a fairly small proportion of the shrinkage in $R^2$ (i.e., only 4%), indicating that the model would cross-validate (Pedhazur, 1997).

**DISCUSSION**

This investigation presented clear evidence that the use of self-regulatory strategies and perceptions of employment self-efficacy were significant predictors of employment satisfaction in a sample of university

<table>
<thead>
<tr>
<th>Table 3</th>
</tr>
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<tbody>
<tr>
<td><strong>Summary of Hierarchical Regression Analysis with Employment Satisfaction as Criterion (N = 75)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SEB</th>
<th>β</th>
<th>$R^2$</th>
<th>Adj. $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.09</td>
<td>.13</td>
<td>.06</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Age</td>
<td>.04</td>
<td>.05</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of Time in Current Position</td>
<td>.02</td>
<td>.03</td>
<td>.06</td>
<td>.10*</td>
<td>.04*</td>
</tr>
<tr>
<td>Current Annual Salary</td>
<td>.03</td>
<td>.03</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Areas of Work Impacted by LD</td>
<td>.01</td>
<td>.04</td>
<td>.03</td>
<td>.25**</td>
<td>.17**</td>
</tr>
<tr>
<td>Disclosure of LD</td>
<td>-.03</td>
<td>.12</td>
<td>-.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Regulation &amp; Accommodations</td>
<td>.06</td>
<td>.03</td>
<td>.19*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Self-Efficacy</td>
<td>.73</td>
<td>.08</td>
<td>.72**</td>
<td>.67**</td>
<td>.63**</td>
</tr>
</tbody>
</table>

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

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graduates with LD. In fact, these two factors explained more than half of the variance in job satisfaction ratings alone, and more than two-thirds of the variance when examined in concert with several other variables (i.e., 67% of the variance, which corresponds to a large multivariate effect size). The respondents reported that they were “confident” or “very confident” about managing the many facets of their job-related tasks. They also reported, on average, three or more self-regulatory methods and accommodations in their work settings, with setting goals and priorities and using time management reported by more than half of the respondents. Conversely, a collection of demographic (e.g., age, gender) and work-related factors (e.g., length of time in current position, salary) did not predict levels of employment satisfaction.

These findings support previous research indicating a link between individuals’ self-efficacy and their job satisfaction. Several researchers (e.g., Gist, Schwoerer, & Rosen, 1989; Saks, 1995) found that individuals who develop a high sense of efficacy also tend to become more satisfied with their jobs, as well as demonstrate stronger commitment to their profession and organizations.

**Implications for Practice**

These findings, while exploratory, may have implications for support programs for postsecondary students with LD. Support programs typically focus directly on academic issues such as providing accommodations in the form of extended time on tests, notetakers, and separate testing locations (Brinckerhoff, McGuire, & Shaw, 2002; Reis et al., 2000). Researchers have increasingly agreed that when resources allow, support programs should strive to assist individuals with LD in becoming independent learners by encouraging them to construct personalized self-regulatory strategies to meet their individual needs, and provide opportunities for continued application of self-regulatory strategies and transfer of strategies to multiple settings (Brinckerhoff et al., 2002; Crux, 1991; McGuire et al., 1991). Such methods may enhance self-efficacy about learning capabilities and assist students in reframing their disability in a positive sense, rather than associating the expenditure of extra time and effort on the use of compensation strategies with a negative stigma.

Research suggests that academic self-regulation is an alterable variable (Schunk & Zimmerman, 1998). Students with LD, with appropriate encouragement and scaffolding, can develop individualized academic self-regulatory methods that may enhance their self-efficacy about their learning capabilities. Additionally, there is the potential for a positive spillover effect into the employment arena, which will likely lead to increased levels of job satisfaction (Bandura, 1997). This, in turn, may enhance the overall life satisfaction of adults with LD.

**Limitations**

Generalization of these results is limited by several factors. First, by nature, survey research contains inherent limitations (Isaac & Michael, 1990). These concerns were addressed by carefully following recognized instrument development and survey research techniques, including a rigorous examination of the content validity of the instrument.

Second, despite extensive efforts to obtain current addresses for each graduate with LD, the final sample size was relatively small (N = 132). Consequently, there was concern about the statistical power for the analyses. However, because all relevant statistical assumptions were examined, and because of the large effect size obtained in the hierarchical regression analysis, the results can be considered valid, albeit exploratory. Further evidence could be obtained by repeating the investigation with a larger sample as well as by replicating the study with samples drawn from other types (e.g., two-year, four-year) of educational institutions.

Such an examination would also help address a third concern related to generalizations of the results; namely, that the results are impacted by the characteristics of the sample, including the enrollment of each respondent at a single, competitive university that has an established LD support program, and the demographic attributes (predominantly young, male, and Caucasian) of the respondents.

Fourth, this study did not employ a matching sample of non-LD students. Because the intent of the investigation was to determine how a set of individual attributes specific to a cohort of individuals with LD (e.g., impact of LD on job, employment self-disclosure, employment self-efficacy) impacted employment satisfaction, it was determined that the results of a matching non-LD sample would not be relevant.

**Suggestions for Future Research**

Additional research is needed to better understand the interaction between learning disabilities and the world of work. Future research should examine the process by which individuals with LD acquire positive perceptions of self-efficacy and individually appropriate self-regulatory skills and transfer these to employment settings. For example, the employment experiences of currently enrolled students (e.g., summer employment, cooperative education, internship, or field placement experiences), their attempts to transfer self-regulatory strategies into these experiences, and their resultant levels of employment self-efficacy could be examined. Further exploration of the employment experiences of graduates with LD is critical in designing and improving career transition programs for upper-classmen. Better understanding and addressing the challenges involved
in this transition, as well as the attributes that contribute to successful employment experiences and increased employment satisfaction, may enhance the quality of life for adults with LD.

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