Relation of Disability Type and Career Thoughts to Vocational Identity

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This study compared dysfunctional career thoughts and perceptions of vocational identity for individuals with different types of disabilities and examined whether the relation of career thoughts to vocational identity was moderated by type of disability. Ninety adults with cognitive and physical impairments were administered the Career Thoughts Inventory and the My Vocational Situation. Results indicate that individuals with cognitive impairments had more decision-making confusion and external conflict than individuals with physical disabilities. The groups did not differ in their perceptions of vocational identity, and disability type did not significantly moderate the relationship between career thoughts and vocational identity. Implications for career counseling of individuals with disabilities are discussed.

Vocational identity formation is an important task in career development and ego-identity achievement (Raskin, 1994; Savickas, 1985; Sharf, 2002). Possessing a secure vocational identity, or a “clear and stable picture of one’s goals, interests, personality, and talents” (Holland, Daiger, & Power, 1980, p. 1), contributes to appropriate vocational decision-making and confidence in one’s ability to make career-related decisions. Failure to form a stable vocational identity often results in career indecision (Holland et al., 1980).

Individuals with disabilities typically have a more complex career development process than their peers and are more susceptible to vocational identity and career decision-making problems (Enright, 1996; Luzzo, Hitchings, Restish, & Shoemaker, 1999; Ochs & Roessler, 2001). Career decision-making difficulties are related to impaired decision-making skills, unclear goals, lack of vocational information, perceived barriers, and value conflicts (Germejs & DeBoeck, 2003; Holland et al., 1980; Ladany, Melinoff, Constantine, & Love, 1997; Osipow, 1999) and are a significant obstacle to employment for many people with disabilities (Enright, 1996; Enright, Conyers, & Szymanski, 1996; Hagner & Salomone, 1989). Because of the staggering unemployment and underemployment rates reported for individuals with disabilities (Hanley-Maxwell, Szymanski, & Owens-Johnson, 1998), there is a heightened need to understand career-related issues for these individuals.

Research suggests there are a number of individual and environmental factors that influence the career development process for people with disabilities. Individual factors include, but are not limited to, gender (DeLoach, 1989), cultural background (Enright et al., 1996; Szymanski & Hershenson, 1998), socioeconomic status (Blustein, Juncturen, & Worthington, 2000), self-esteem (Munson, 1992), self-efficacy (Szymanski & Hershenson, 1998), and disability status. Environmental factors such as family involvement (Hitchings, Luzzo, Ristow, Horvath, Retish, & Tanners, 2001), work experiences (Blustein et al., 2000; Ohler, Levinson, & Barker, 1996), and decision-making opportunities (Hagner & Salomone, 1989) have been found to affect the vocational decision-making abilities of individuals with disabilities. Vocational behavior may also vary because of characteristics of a person’s disability.
(Aune & Kroeger, 1997; Enright, 1996; Hitchings et al., 2001; Szymanski & Hershenson, 1998).

One disability characteristic that has received limited attention is whether the disability is physical or cognitive. Research on the career development of people with disabilities indicates that individuals with cognitive disorders and those with physical impairments encounter different barriers during the career development process. Hitchings, Luzzo, Retish, Horvath, and Ristow (1998) found that individuals with developmental or cognitive disabilities displayed greater difficulty in understanding how their disability affects their employment when compared with persons with physical impairments. Enright et al. (1996) postulated that individuals with cognitive disabilities often have limited experience in making career decisions because of high dependency needs and overprotective caregivers. As a result, individuals with cognitive disorders are likely to have impaired vocational decision-making skills (Enright et al., 1996) that may lead to unrealistic expectations about vocational training and employment opportunities (Falvo, 1999; Hagner & Salomone, 1989; Szymanski & Hershenson, 1998).

Davis, Anderson, Linkowski, Berger, and Feinstein (1985) reported that the greatest vocational barrier for individuals with physical impairments is often social discomfort or shame resulting from physical appearance. Elliott, Uswatte, Lewis, and Palmatier (2000) identified a relationship between high goal instability and greater social discomfort and self-consciousness in individuals with physical disabilities. Essentially, embarrassment regarding a physical impairment can impede a person’s capacity to set vocational goals and pursue career ventures. Although both disability types may lead to impaired vocational development, they may do so through different sets of vocational cognitions.

Cognitive information processing (CIP; Peterson, Sampson, Reardon, & Lenz, 1996) theory provides a framework for the role of vocational cognitions in the career decision-making process. CIP theory divides career decision-making into four domains: self-knowledge, occupational knowledge, decision-making, and executive processing. Self-knowledge and occupational knowledge provide a basis for an individual’s career decision-making process. The decision-making domain consists of five subcomponents that address the specific steps that are needed to process career information and solve career problems: communication, analysis, synthesis, valuing, and execution. Executive processing can be conceptualized as meta-cognitions (e.g., self-talk) that initiate and control cognitive strategies used in solving vocational problems. CIP theory implies that dysfunctional career thoughts in one or more of the four domains may negatively affect an individual’s career development process or lead to complete avoidance of the process (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996).

**Career Thoughts and Disability**

According to CIP theory, an individual’s beliefs about him- or herself and the world of work are derived from life experiences (Peterson et al., 1996). Individuals with cognitive and physical impairments encounter significant personal and vocational barriers during their development that may contribute to negative perceptions about themselves and their environment. These perceptions may alter their belief structures and result in dysfunctional thoughts in one or more of the four domains described by CIP theory. Because of the known complexity of their career development process (Enright, 1996; Luzzo et al., 1999; Ochs & Roessler, 2001), individuals with disabilities are likely to possess more dysfunctional career thoughts than peers without disabilities (Lustig & Strauser, 2003). It is also possible that individuals with cognitive disorders and those with physical impairments differ in their career thoughts because they encounter diverse vocational barriers that lead to varied life experiences. No studies have examined the differences in career thoughts by type of disability.

Studies assessing the relationship between disability status and dysfunctional career thoughts have produced mixed results. Dipeolu, Reardon, Sampson, and Burkhead (2002) examined career thoughts in a sample of college students both with and without learning disabilities. Contrary to expectations, the researchers found that the students with disabilities indicated fewer dysfunctional career thoughts overall, less commitment anxiety, and less confusion regarding vocational decisions than peers without disabilities. Strauser, Lustig, Keim, Ketz, and Malesky (2002) assessed career thoughts in a group of individuals with disabilities from the community and in a group of college students without disabilities; the scientists found no significant differences between groups. The researchers noted several limitations to the study, including a 15-year mean age difference between the two groups.

Lustig and Strauser (2003) classified a community sample of individuals with DSM-IV diagnoses into clusters on the basis of their vocational cognitions. Participants in the dysfunctional career thoughts clusters were then compared with individuals without disabilities who were receiving community-based job placement services. Contrary to Dipeolu et al. (2002), participants with disabilities indicated more dysfunctional thoughts regarding decision-making and commitment anxiety than did peers without disabilities. Dipeolu et al. and Lustig and Strauser both found that individuals with disabilities reported more dysfunctional thoughts regarding external conflict than did peers without disabilities. Enright (1996) identified career beliefs as a significant predictor of level of vocational identity and career indecision in a sample of college students both with and without disabilities. In addition, she found that the relationship between self-doubting ca-
career beliefs and career indecision varied on the basis of disability status.

Limitations in the existing research further the need for the continued investigation of career thoughts and vocational identity in individuals with disabilities. Previous studies have not examined the effect of specific disability types on career thoughts and vocational identity, nor have they examined the relationship between career thoughts and vocational identity by disability type. In addition, studies using community samples have not controlled for the effects of age and education level on career thoughts and vocational identity. Holland et al. (1980) found that vocational identity increases with age and level of education. Therefore, age and education level could affect the relationship between career thoughts and vocational identity.

The purpose of this study was to build on previous research in the area of career thoughts and disability by comparing dysfunctional career thoughts and perceptions of vocational identity for individuals with cognitive and physical disabilities. This study also examined the moderating effect of disability type on the relationship between dysfunctional career thoughts and vocational identity. The following three research questions guided this study:

1. Are there differences in the level of dysfunctional career thoughts based on disability type (cognitive vs. physical)?
2. Is there a difference in level of vocational identity based on disability type?
3. Does disability type moderate the relationship between dysfunctional career thoughts and vocational identity?

METHOD

Participants

The sample consisted of 90 individuals with disabilities receiving vocational evaluation services at a southern, urban university research center. All of the participants were referred to the center by the state vocational rehabilitation agency. Forty-six participants were diagnosed with a cognitive impairment, and 44 were diagnosed with a physical disability. In the cognitive disability group, 61% (n = 28) were diagnosed with a learning disability and 33% (n = 15) were diagnosed with a traumatic brain injury. In the physical disability group, 32% (n = 14) of the participants were diagnosed with an orthopedic impairment, 30% (n = 13) were diagnosed with a medical condition, 18% (n = 8) were diagnosed with a sensory impairment, 9% (n = 4) were diagnosed with a spinal cord injury, and 4% (n = 2) were diagnosed with cerebral palsy. For six participants, information regarding a specific cognitive or physical disability diagnosis was either unclear or incomplete. Table 1 presents information on age, gender, ethnicity, and level of education for study participants.

Procedure

Participants completed an initial interview and two survey instruments as part of a 3-day vocational assessment at the research center. Demographic information was provided by the referral source and verified by the participants during the initial interview with a vocational evaluator. Disability type was confirmed by medical documentation submitted by the referral source and signed by a health care provider. Survey instruments were distributed individually during the vocational evaluation process. Vocational evaluators orally administered questionnaires to participants who had basic reading skills below the sixth-grade level. Reading level was determined by using standardized instruments (e.g., Woodcock-Johnson Tests of Achievement–Third Edition [Woodcock, McGrew, & Mathes, 2001]; Wide Range Achievement Test [Wilkinson, 1993]). The vocational evaluators used discretion in determining whether or not individuals were able to comprehend items of the instruments used in this study. All of the participants completed an informed consent form that was approved by the university's institutional review board. Participants were informed that their participation was voluntary, that all data would be confidential, and that participants were free to withdraw at any time with-
out penalty or loss of access to services available through the center.

**Instruments**

The Career Thoughts Inventory (CTI; Sampson et al., 1996). CIP theory provided the foundation for the development of the CTI, a self-administered instrument designed to measure dysfunctional career thoughts in career problem-solving and decision-making in high school students, college students, and adults (Sampson, Peterson, Lenz, Reardon, & Saunders, 1998). The CTI requires participants to have a 6.4 reading grade level (Sampson et al., 1996). In a review of instruments designed to measure career decision-making and decision-readiness, the CTI is considered to be the most comprehensive instrument because it measures both cognitive capability and complexity, two constructs related to making an effective career decision (Sampson, Reardon, Peterson, & Lenz, 2004). The 48-item scale is scored on a 4-point Likert-type scale ranging from 0 (strongly disagree) to 3 (strongly agree; Sampson et al., 1996). The instrument consists of a total score and three subscales. The Decision-Making Confusion (DMC) subscale measures the extent to which an individual's emotions or lack of decision-making skill interferes with his or her ability to make a career decision and includes statements such as "Choosing an occupation is so complicated, I just can't get started" (Sampson et al., 1996). The Commitment Anxiety (CA) scale examines the effect anxiety has on a person's ability to commit to a career decision and includes statements such as, "There are several fields of study or occupations that fit me, but I can't decide on the best one" (Sampson et al., 1996). The External Conflict (EC) scale examines how well the person uses input from others and self-perception in decision-making and includes statements such as, "Whenever I've become interested in something, important people in my life disapprove" (Sampson et al., 1996). The three CTI subscales were used for this analysis. Internal consistency coefficients for the CTI subscales have been reported as follows: DMC (.90–.94), CA (.79–.91), and EC (.74–.81) (Sampson et al., 1996). Test–retest reliability (4 weeks) for the three subscales was .77 for DMC, .75 for CA, and .63 for EC (Sampson et al., 1996). The CTI scales correlated in the expected direction with measures of similar constructs, specifically, the My Vocational Situation, the Career Decision Scale, the Career Decision Profile, and the Revised NEO Personality Inventory (Sampson et al., 1996). Finally, the CTI scales showed significant differences between a group of college students seeking career services and those not seeking career services (Sampson et al., 1996). For this study, alpha coefficients of the construct scales scores were as follows: .88 for DMC, .73 for CA, and .69 for EC.

**My Vocational Situation (MVS; Holland et al., 1980).** MVS is a brief diagnostic instrument comprising 18 true–false items that make up the Vocational Identity subscale. Vocational identity is defined as a clear and stable understanding of one's career goals, interests, personality, and talents and is operationalized through questions such as, "The jobs I can do may not pay enough to live the kind of life I want." Internal consistency coefficients ranged from .86 to .89 for the Vocational Identity subscale score (Holland et al., 1980). For this particular study, the Vocational Identity subscale was used, and the internal consistency estimate for the subscale score was .82.

**RESULTS**

Intercorrelations, means, and standard deviations for the study variables are presented in Table 2. To address the question of whether individuals with cognitive impairments or individuals with physical disabilities differed in their career thoughts, a two-group MANOVA was conducted. The independent variable was disability type, and the dependent variables in the MANOVA were the three CTI subscales: DMC, CA, and EC.

Preliminary analysis indicated that assumptions of normality or homogeneity of dispersion of matrices were not violated. The multivariate test for differences between the two groups of individuals with disabilities was statistically significant, Wilks $\lambda = 0.902; F(3, 86) = 3.11; p < .05$, indicating that the two groups differed in their career-related thoughts. The multivariate effect size of $D^2 = 0.4246$ indicates that a moderate difference existed between the groups. Univariate analyses of variance (ANOVA) were used to determine which of the three dependent variables differed by type of disability. Individuals with cognitive disabilities had significantly more decision-making confusion and external conflict than individuals with physical impairments. Examination of univariate effect sizes revealed small to medium effect sizes (Cohen, 1992) across all three CTI subscales. Results of the univariate tests are displayed in Table 3.

To address the question of whether individuals with cognitive impairments and individuals with physical disabilities differed in their perceptions of vocational identity, a one-way ANOVA was conducted. The independent variable was disability type, and the dependent variable was the Vocational Identity subscale of the MVS. The one-way ANOVA of participants' perceived vocational identity did not reveal a statistically significant main effect, indicating that both groups of individuals with disabilities perceived similar levels of vocational identity.

Following the recommendations of Aiken and West (1991) and Frazier, Tix, and Barron (2004), the moderating effect of disability type was tested through step-wise
multiple regression analysis. Interaction terms were created by taking the product of the CTI subscales and disability type. Demographic variables of age, level of education, and disability type were entered in the first step of the equation. The three subscales of the CTI were entered in the second block, and the interaction terms were entered in the third block. A significant change in $R^2$ for the interaction terms would indicate that disability type moderated the relationship of career thoughts and vocational identity.

Preliminary exploratory analysis indicated that there were no multicollinearity problems in the data (largest variance inflation factor was 2.79) and that the assumptions of independence, normality, and heteroscedasticity were met. The demographic factors accounted for 6.4% of the variance in vocational identity, and career thoughts contributed an additional 32.6% to the variance explained, for a total of 38.9%. Commitment anxiety ($\beta = -0.339$), decision-making confusion ($\beta = -0.293$), and age ($\beta = -0.226$) were significantly related to vocational identity. The increase in variance explained by the addition of the interaction terms was not statistically significant, indicating that the influence of the variables in the model on vocational identity was approximately the same for individuals with cognitive impairments and individuals with physical disabilities. The results of the analysis are displayed in Table 4.

**DISCUSSION**

For the first research question, we examined whether individuals with different types of disabilities differed in their level of dysfunctional career thoughts. The results indicate that individuals with cognitive impairments and those with physical disabilities had significant differences in terms of decision-making confusion and external conflict. Examination of effect sizes revealed medium effects (Cohen, 1992) for these subscales, which would indicate meaningful and practical differences between the groups.

### TABLE 2. Correlations, Means, and Standard Deviations for the Total Sample ($N = 90$)

<table>
<thead>
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<th>1</th>
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<th>4</th>
<th>5</th>
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<td>DMC</td>
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<tr>
<td>CA</td>
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<td>-.159</td>
<td>.773**</td>
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<tr>
<td>EC</td>
<td>-.159</td>
<td>-.094</td>
<td>-.284**</td>
<td>.491**</td>
<td>.496**</td>
<td>1.00</td>
<td></td>
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<tr>
<td>VI</td>
<td>-.145</td>
<td>.101</td>
<td>.062</td>
<td>-.536**</td>
<td>-.556**</td>
<td>-.268*</td>
<td>1.00</td>
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<tr>
<td>Means</td>
<td>29.32</td>
<td>2.41</td>
<td>1.49</td>
<td>11.46</td>
<td>12.82</td>
<td>4.74</td>
<td>9.37</td>
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<tr>
<td>Standard deviations</td>
<td>12.52</td>
<td>.87</td>
<td>.50</td>
<td>7.79</td>
<td>5.22</td>
<td>2.81</td>
<td>4.28</td>
</tr>
</tbody>
</table>

Note. DMC = Decision-Making Confusion; CA = Commitment Anxiety; EC = External Conflict; VI = Vocational Identity. *$p < .05$. **$p < .01$.

### TABLE 3. Means, Standard Deviations, and Univariate Analyses of Variance for CTI Subscales and VI Scale

<table>
<thead>
<tr>
<th></th>
<th>Cognitive ($n = 46$)</th>
<th>Physical ($n = 44$)</th>
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<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
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<tr>
<td>CTI DMC</td>
<td>13.22</td>
<td>8.23</td>
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<tr>
<td>CTI CA</td>
<td>13.63</td>
<td>4.97</td>
</tr>
<tr>
<td>CTI EC</td>
<td>5.52</td>
<td>2.48</td>
</tr>
<tr>
<td>MVS VI</td>
<td>9.11</td>
<td>3.98</td>
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</table>

Note. CTI = Career Thoughts Inventory (Sampson et al., 1996); DMC = Decision-Making Confusion; CA = Commitment Anxiety; EC = External Conflict; MVS = My Vocational Situation (Holland, Daiger, & Power, 1980); VI = Vocational Identity. *$p < .05$. **$p < .01$. 

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No statistically significant differences were found for the commitment anxiety subscale, but examination of the effect size revealed a small to medium effect (Cohen, 1992). Therefore, there may also be meaningful differences between the two groups on their level of commitment anxiety.

Results of this study indicate that individuals with cognitive impairments have more dysfunctional career thoughts than individuals with physical impairments. These dysfunctional thoughts indicate greater difficulty in decision-making. The findings are consistent with prior research suggesting that individuals with cognitive disabilities encounter more individual and environmental factors that negatively affect the career decision-making process (Enright et al., 1996; Falvo, 1999; Szymanski & Hershenson, 1998). For example, individuals with cognitive impairments are apt to have limited experience in making decisions because of their high dependency on others (Enright et al., 1996; Hagner & Salomone, 1989).

Although it might seem axiomatic that individuals with cognitive impairments experience more dysfunctional career thoughts, it must be noted that the two groups were roughly equivalent in their educational attainment. Sixty-one percent of those in the cognitive impairment group had a diagnosed learning disability. Researchers have found that individuals with learning disabilities are limited in their capacity to understand and explain how their disability affects employment opportunities (Hitchings et al., 1998). Persons who do not understand the implications of their disability may perceive themselves differently than others perceive them, which may contribute to an increased level of dysfunctional career thoughts. Examination of the effect sizes would also indicate that individuals with cognitive disabilities have dysfunctional career thoughts that are diffuse in nature, affecting all three career decision-making domain areas.

The second research question examined whether the two groups of individuals with disabilities differed in their perceptions of vocational identity. Vocational identity was not found to vary according to type of disability. These results are surprising considering that individuals with cognitive impairments had more dysfunctional career-related thoughts than those with physical disabilities, and dysfunctional thoughts have been related to vocational identity (Tinsley, Bowman, & York, 1989). It was expected that individuals with cognitive impairments would display lower levels of vocational identity than individuals with physical disabilities because of their greater decision-making confusion. Previously, participants with disabilities reported lower levels of vocational identity compared with normative samples of high school students, college students, and workers (Holland et al., 1980). Overall, vocational identity scores for the current sample were closely related to overall scores reported for high school students (Ladany et al., 1997; Santos, 2001) and were lower than scores reported for college students in past empirical studies (Poe, 1991; Savickas, 1985; Saunders, Peterson, Sampson, & Reardon, 2000).

Researchers have found that individuals with physical impairments report perceived barriers related to self-consciousness and low self-esteem (Davis et al., 1985; Elliott et al., 2000). Therefore, individuals with physical impairments may encounter difficulty forming a secure vocational identity because of self-identity issues rather than because of decision-making problems. It is possible that relevant career beliefs that contribute to vocational identity formation problems in individuals with physical disabilities were not fully accounted for by this study. Further research examining disability status and vocational identity is needed.

The third research question examined whether the relationship between career thoughts and vocational identity was moderated by type of disability. We did not identify a significant moderating effect for disability type. These results are contrary to the findings of Enright (1996), which offered partial support for the influence of disability-related characteristics (i.e., type of onset) on the relationship between career beliefs and vocational iden-
tity. Similar to the findings of Enright, career thoughts contributed more of the variance explained in vocational identity than demographic factors. Commitment anxiety, decision-making confusion, and age were significantly related to vocational identity. The results of this study lend support to the assertion that cognitions are more influential in determining vocational identity than other personal or contextual factors (Lustig & Strauser, 2003; Szymanski & Hershenson, 1998).

The findings indicate that an individual’s type of disability (cognitive or physical) does not affect how the construct of career thoughts relates to vocational identity. The results imply that even though certain disability groups may report higher levels of dysfunctional career thoughts, how those career thoughts affect vocational identity remains constant, independent of the magnitude of dysfunctional career thoughts. In other words, the level of dysfunctional career thoughts may change based on disability status, but how those dysfunctional career thoughts affect vocational identity remains stable. On the basis of the results of this study, it may be reasonable to suggest that individuals with higher levels of dysfunctional career thoughts will have lower levels of vocational identity, regardless of type of disability.

**Implications for Rehabilitation Counseling**

Rehabilitation counselors should be aware that disability-related characteristics affect individuals’ career-related thoughts, as well as the physical barriers that they encounter. Often, job placement specialists do not address psychological barriers that impede job-seeking behaviors (Strauser & Lustig, 2003). Individuals with cognitive disorders in particular might benefit from interventions that provide the opportunity to learn and practice decision-making skills (Szymanski, Hershenson, Ettinger, & Enright, 1996). For example, rehabilitation counselors can assist consumers in finding occupational information (e.g., job descriptions) that will provide a basis for their career decisions. Counselors can then help consumers categorize the information according to work preferences (e.g., outdoor work vs. indoor work). This type of exercise allows consumers to make career decisions based on concrete occupational information. Learning to make simple career decisions (e.g., designating work preferences) can increase individuals’ confidence in their ability to make more complex career decisions.

Consumers can also enhance their ability to make career decisions by completing a vocational evaluation aimed at increasing self-awareness and knowledge of assets, limitations, and preferences (Berven, 2001). The vocational evaluation may provide rehabilitation counselors and consumers with essential information regarding functional limitations related to disability type. For individuals with developmental disabilities (e.g., mental retardation), there is a distinct connection between the common functional limitations of their disability type and its subsequent vocational implications. Conversely, it may be difficult for rehabilitation counselors to determine exactly how an acquired disability (e.g., traumatic brain injury) will affect a consumer's work performance (Falvo, 1999). In such cases, active consumer involvement becomes even more pertinent in determining intervention strategies (Szymanski et al., 1996).

Individuals with physical disabilities reported less career decision-making confusion and external conflict than individuals with cognitive impairments. Therefore, they may possess greater confidence in their decision-making skills and greater clarity regarding their strengths and limitations, compared with individuals with cognitive disorders. Rehabilitation counselors should consider other factors that might affect their clients’ vocational identity formation process. For example, an individual who is impaired in mobility may be hesitant to establish specific vocational goals because of transportation or accommodation concerns. Also, because vocational identity is closely related to ego identity (Raskin, 1994), role confusion issues may greatly affect career decision-making. Individuals with newly acquired physical disabilities often have significant difficulty integrating their disability status into their self-identity (Cook, 1998). Typically, professionals make distinctions between personal problems and career-related issues. Many college counseling centers categorize service recipients as either personal counseling clients or career counseling clients. Past research and the results of this study indicate that psychological and vocational issues are often interrelated and not easily differentiated (Bingham, 2002; Krumboltz, 1993; Strauser & Lustig, 2003; Swanson, 2002). Rehabilitation and career counselors should attempt to determine whether career issues are central or contextual when working with clients with vocational identity formation problems.

**Limitations**

The sample consisted of individuals with a diagnosable physical or cognitive impairment who obtained services from a state vocational rehabilitation agency. Therefore, these individuals may have more severe disabilities than other community samples, as they were required to have a certain level of disability to qualify for services. Also, the majority of the information obtained for this study was self-report and subject to response bias or difficulty understanding questions. Preliminary statistical analysis revealed that all measurements used in this study had adequate internal consistency (Stevens, 2002), although internal consistency was found to be slightly lower than figures re-
ported for normative samples of the CTI (Sampson et al., 1996) and the MVS (Holland et al., 1980). Participant response choices may have been affected by the presence or assistance of a vocational evaluator during test administration. Standardized instruments were used to measure achievement (including reading level) for each participant; however, a common achievement test was not used for all participants. Researchers attempted to control for the effects of reading level on outcome measures by reading survey items to participants whose reading level was below the sixth-grade level. Nevertheless it is not known whether the meanings of the items were clear to those participants.

**SUMMARY**

The overall results of this study indicate that individuals with cognitive disabilities have significantly more dysfunctional career thoughts when compared with individuals with physical disabilities. However, no differences were found between groups in terms of vocational identity. The results also indicate that an individual’s type of disability does not have an effect on the relationship of career thoughts to vocational identity. The results of this research study have two major implications for rehabilitation counselors working with individuals in a career or vocational setting. First, the amount of dysfunctional career thoughts may vary based on an individual’s disability status. This would indicate that both individual and environmental factors might be interacting to create a higher likelihood that certain disability groups will develop dysfunctional career thoughts. Therefore, rehabilitation interventions should be directed at reducing or eliminating the negative effects of individual and environmental factors on the career development process. Second, rehabilitation counselors should place an emphasis on identifying and challenging dysfunctional career thoughts and not on whether or not an individual’s disability type is contributing to lower levels of vocational identity.

The results of this study also provide several rich areas for potential research. First, it is important to replicate this study with a larger sample. It is also important to broaden the sample to include more precisely differentiated disability types, rather than using broadly cognitive and physical divisions. For example, the presence of affective disorders such as depression and anxiety should be explored to see whether similar results are found between groups. In addition, the age of disability onset should be explored to examine whether it has a moderating effect on career thoughts or vocational identity.

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**REFERENCES**


