Abstract

Title of Dissertation:	AN EXPLORATORY STUDY OF A MEASURE OF VOCATIONAL IDENTITY FOR SPANISH-SPEAKING PERSONS
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Two overlapping issues have given rise to this study: the need for assessment instruments to use with Spanish-speaking Latinos and the need for normative data on current and future Spanish-language instruments. Numerous career assessment instruments exist for the English-speaking population. These instruments may be administered on computer-based systems or in paper and pencil format, but few instruments exist for use with the Spanish-speaking population.

Holland's Vocational Identity Scale is widely used both as a screening instrument to assess the need for vocational assistance and as an outcome measure in studies of counseling effects. To examine the feasibility of using this English-language instrument with a Spanish-speaking population, a translation of the English- language instrument was prepared, internal consistency of the translated scale was scrutinized, and explorations of the construct validity of the instrument were undertaken. Norms based on a Spanish speaking sample were produced. An overarching question for this study was whether a Spanish translation of My Vocational Situation, which contains the Vocational Identity scale, would yield similar results in terms of reliability and correlations with other variables as the English-language version. The study focused on two additional questions pertaining to the translated scale: To what degree does Identity have a positive

correlation with other measures of psychological adjustment? Do groups presumed to be higher in Vocational Identity (more educated persons, persons higher in age) score higher than groups presumed to be lower in vocational identity? Data were collected via the Internet.

Measures included Spanish-language versions of four established instruments: My Vocational Situation, Career Decision Self-Efficacy Short Form (CDSE-SF), Hope Scale, and the Neuroticism Scale of Goldberg's International Personality Item Pool. A new experimental scale devised for the present research, Latino Barriers, was also included. Items for each measure were subjected to internal consistency item analyses. Most Spanish language scales were satisfactory based on the item analysis, but one item in the translated Neuroticism scale was deleted. Analysis of the reliability of the measures revealed that the Spanish-language version of the Vocational Identity scale had an alpha of .86 which was comparable to reliability with the English version for high school students ($\alpha = .86$) and for college students and workers ($\alpha = .89$) (Holland, Gottfredson, & Power, 1980).

Correlations of the translated Vocational Identity scale with other instruments imply that it provides a measure of vocational adjustment with a psychological meaning similar to that of the English language Vocational Identity scale. It appears appropriate to apply the translated instrument in research and practical applications while continuing to study its psychometric properties and practical utility with Spanish speaking persons.

AN EXPLORATORY STUDY OF A MEASURE OF VOCATIONAL IDENTITY FOR SPANISH-SPEAKING PERSONS

By

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Chapter 1: Introduction

Large client caseloads for counseling professionals make it difficult for counselors to provide individual vocational assistance for everyone. Because there will never be enough counselors to provide direct professional assistance to all individuals who might benefit from career counseling (Gottfredson, 2001; Holland, 1974), the profession and its clients may benefit from instruments that identify individuals most in need of assistance. Several such instruments have been developed and evaluated for use with English-speaking populations; the same is not true for Spanish-speaking populations.

Language and cultural differences in counseling necessitate the use of assessment instruments in the client's dominant language (Fouad, Crudeck, & Hansen, 1984). However, few Spanish language career counseling instruments exist and few attempts have been made at translating English language instruments into Spanish. Psychological assessments would prove to be useful with Spanish-speaking clients in need of career, academic, or personal counseling, if they were available. Such instruments would have to be reliable and valid when used with Spanish-speaking clients. Furthermore, norms obtained with Spanish-speaking clients would be helpful.

A common theme in the counseling literature is a concern that cultural differences or current or historical inequities may make theories and instruments that were initially developed in other cultural contexts inappropriate or of diminished utility when applied to Latino groups or other so-called "minority" groups. That is certainly a possibility that deserves consideration. For example, Toporek and Pope-Davis (2001) wrote the

following about their study of a career development construct among African American and White American college students:

> Multicultural career researchers have noted that the majority of career related research and instrument development has been conducted with White college students (Arbona, 1995; Leung, 1996; Lonner, 1985). Leung (1996) indicated that vocational assessment instruments that were developed from a European American cultural perspective may not be appropriate for cultural groups who differ in values and attitudes from the norm group. Padilla and Medina (1996) suggested that ethnic minority individuals may have experiential backgrounds that differ from those of standardization groups resulting in uncertain validity of many instruments. The issue of validity is even more crucial considering Leung's caution that many counselors are not trained in cross-cultural assessment and, therefore, are not able to adapt test interpretation in culturally appropriate ways. Although it is certainly important that counselors demonstrate cross-cultural competency in career assessment interpretation, development of valid instrumentation must be a priority. (p. 135)

It is my contention that whereas it is always a possibility that assessment tools developed in the context of one group may be of diminished relevance or usefulness—or have undesired psychometric properties—when applied with other groups, the test of this proposition is in empirical evidence about that usefulness and those psychometric properties. The aim of the present research is to develop some of that evidence.

It is the goal of this research to develop an instrument that may be used by practitioners and at the same time subjected to scrutiny and research by researchers. It

starts with a construct and assessment tool that has proven useful with Anglo populations in the U.S.

A number of career diagnostic tools, derived from a variety of counseling perspectives, have been developed for use with English speakers. These include the Career Maturity Inventory (CMI) (Crites, 1973), the Career Thoughts Inventory (CTI) (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996; 1998), the Career Decision Scale (CDS) (Osipow, Carney, Winer, Yanico, & Koschier, 1976, 1987), the Career Decision Self-Efficacy Scale (CDSE) (Taylor & Betz, 1983), the Career Attitudes and Strategies Inventory (Holland & Gottfredson, 1994), and the Vocational Identity (VI) scale of My Vocational Situation (MVS) (Holland, Gottfredson & Power, 1980). The Vocational Identity Scale, in particular, has proven useful in assessing the need for career assistance and for evaluating vocational interventions. It would be helpful if this tool were available in Spanish, provided that a psychometrically sound and valid translation could be produced.

At the present time, research on the vocational identity of Spanish speaking Latino adults is virtually non-existent. A review of the literature revealed no previously published studies using a Spanish language version of the Vocational Identity Scale or My Vocational Situation (MVS). A few studies have, however, investigated the vocational identity of Latino high school students using the English language version of MVS. Gushue, Clarke, Pantzer, and Scanlan (2006, p.307) found that "higher levels of career decision-making self-efficacy were related to both a more differentiated vocational identity and a greater engagement with career exploration tasks." They also found that perceptions of fewer barriers was related to a more integrated vocational identity. In

another study, Pruitt (1992, cited by Toporek & Pope-Davis, 2001) found that high vocational identity scores were related to higher levels of education and paid work experience in a Latino sample. One interpretation of such findings (favored evidently by Toporek & Pope-Davis) is that the identity construct is culture bound and high scores reflect identification with the majority culture. Another interpretation is that high identity is associated with successful vocational adjustment in the U.S. culture, and may be associated with successful adjustment in many cultures. Certainly attaining high education and stable employment is not necessarily a sign of poor adjustment however characteristic seeking these outcomes may be of the so-called majority culture. It is the purpose of the present investigation to begin the exploration of what the correlates of vocational identity are rather than to systematically explore the cultural meaning of this or other constructs.

Although an exploration of the cultural context of career adjustment for different ethnic groups may bear fruit and should be encouraged, even a quick assessment of a client's language ability, use, and preference are important when working with culturally diverse clients can suggest that language is an issue in assessment in counseling. Thus it makes sense to assess clients in their native language if instruments are available or can be developed. Doing so is distinct from, but certainly does not preclude, research that is more directly focused on aspects of culture other than mere language. Indeed, research focused on vocational identity and culture requires attention to the development of measures of vocational identity in the first place.

To this end, the current study addresses the following research questions.

Research Questions

1. Will a Spanish translation of the Vocational Identity (VI) scale of My Vocational Situation have internal consistency similar to the English language version?
2. Does the Spanish version of the VI scale have correlations with other measures of psychological and vocational adjustment similar to those of the English language version?
3. Do groups presumed to be higher in vocational identity score higher on the Spanish language version of the VI scale than groups presumed to be lower in vocational identity?

To address the research questions, a Spanish language version of My Vocational Situation was developed and employing in a Spanish-speaking sample. Data were collected to provide evidence of the validity of the Spanish language version of the VI Scale and examine its psychometric properties. The evidence from correlations of the translated scale was compared with those for the original English language instrument to provide preliminary evidence about the validity of the Spanish language version of the VI scale.

Chapter 2: Literature Review

The career assessment tools that have been developed for English speakers derive from a variety of historical and contemporary perspectives on career development and assistance. Several influential perspectives are briefly summarized in this section, along with descriptions of applicable associated assessment instruments. A review of the literature on vocational identity is also provided.

The Early Vocational Guidance Movement

Frank Parsons is the individual usually credited with the beginning of the vocational guidance movement (Wright & Heppner, 1990). His concept of vocational guidance is discussed in his book *Choosing a Vocation*, published in 1909. His framework for assisting individuals in selecting a career is based on the following three principles:

1. A clear understanding of yourself, your attitudes, abilities, interests, ambitions, resource limitations, and their causes;
2. A knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work;
3. True reasoning on the relations of these two groups of facts (Parsons, 1909, p.5).

Parson's considered the selection of a vocation to be the greatest decision of a young person's life. In making this decision he proposed that decision makers needed the help of a vocational counselor to provide information, assistance, and general counsel. A clear understanding of the self as well as of occupations is required for competent

decision making according to Parsons' perspective. The clarity of these understandings is what is assessed by the Vocational Identity (VI) scale to be discussed later.

The emphases Parsons placed on knowledge about the self and about occupations being considered was instrumental in the development of what eventually came to be characterized (and, one might say, caricatured) as a trait-and-factor approach to vocational adjustment (Crites, 1969) that involved attempting to help square pegs find their way to square holes and round pegs to round holes. A variety of interest and aptitude tests were developed to assess the fitness of individuals for work of different kinds (Super, 1949), and extensive occupational analysis was undertaken to describe the work demands of different kinds of occupations (U.S. Department of Labor, 1956). Although Parsons (1909) had emphasized from the very beginning the appropriateness of multiple occupations for a given individual, and although theories often characterized as representing a trait-and-factor approach, in fact, have long incorporated accounts of vocational development (Holland, 1973) career theorists (e.g., Super, 1953) came to write as if the focus on individual traits and occupational demands was static. Super (1961) poked fun at the matching perspective, writing that this approach "matches youth and jobs and assumes that, once the match is made, the lucky pair lives happily ever after" (p. 11).

Vocational Development Perspectives

Super

In contrast to Parsons' focus on understanding the *content* of the decision, the vocational developmental theorists have focused on the *process* of vocational development. For Super the ultimate developmental task is the implementation of one's

self concept (Super, 1950). This occurs by passing through a series of developmental stages. According to Super, each stage involves a characteristic developmental task. In principle, the provision of vocational assistance should be focused on the developmental task at the individual stage of development. Super et al. (1992) described the developmental tasks of an adult occupational career as follows:

> Crystallizing, Specifying, and Implementing at the Exploration stage;
>
> Stabilizing, Consolidating and Advancing at the Establishment stage;
>
> Holding One's Own, Updating, and Innovating at the Maintenance stage; and
>
> Decelerating, Retirement Planning, and Retirement Living at the Disengagement stage. (p. 76)

Super (1973) developed the Career Development Inventory (CDI), in part, to address the need for both accountability in guidance services and availability of instruments for counselors to assess the effectiveness of their interventions. He used this instrument in studies conducted in the 1960s and 1970s. The CDI included scales intended to measure the maturity of vocational attitudes as well as knowledge. According to Super, it provided a crude yardstick for assessing levels of vocational development, but it would be helpful to have better measures. A more recent example of application appears in an article by Super, Osborne, Walsh, Brown, & Niles (1992).

Crites

Crites (1978) developed the Career Maturity Inventory (CMI) as an attempt to improve upon Super's Career Development Inventory. The 1978 inventory contained several subscales intended to measure attitudes towards career decision making (e.g., decisiveness and involvement) and competence (e.g., self-appraisal, use of information,

and problem solving). The 1978 inventory took about 2.5 hours to administer and received a lukewarm (at best) review by Healy (1994). The CMI was revised by Crites and Savickas (1996) to produce a considerably briefer instrument. A review by McDivitt (2001) implies that research on the new, shorter form, would be required to assess its reliability, construct- and criterion-related validity. More recent empirical assessments by Powell and Luzzo (1998) and Busacca and Taber (2002) imply that the revised CMI may lack adequate psychometric properties including construct validity.

Career Indecision Research

College students who have difficulty deciding on a major field of study have long been regarded as a problem in higher education, because they are seen as not making timely progress towards the completion of their college degree. Osipow, Winer, Koschier, and Yanico (1975) conceived an approach to assess career indecision. Their original intent was to develop a set of categories of career indecision for use with audio taped self-assessment and self-counseling exercises. The goal was to assist clients in targeting and understanding their indecision (Osipow & Winer, 1996) while assisting counselors in determining interventions (Osipow, 1999).

Early researchers found the scale to be reliable and capable of distinguishing "career-decided from career-undecided students" (Osipow, Carney, & Barak, 1976, p. 233). Early factor analysis revealed four factors that distinguished the two groups: the need for structure, perceived external barriers, positive choice conflict, and personal conflict. By the 1990s most researchers using this scale only used the total indecision score to ascertain the client's level of career indecision, rather than using the four-factor structure presented in earlier research. Counselors used the scale as a pretest and post-

test after counseling services for career indecision (Osipow, 1999). In later years, Osipow saw career indecision as a phase individuals pass through on their way to making decisions (1999).

Decision-Making Self-Efficacy

Hackett and Betz (1981) applied Albert Bandura's concept of self-efficacy to the field of career counseling. Later, Taylor and Betz (1983) developed the Career Decision Making Self-Efficacy Scale (CSMDE) to help counselors understand and treat career indecision. They defined career decision-making self-efficacy as individuals' confidence in their ability to complete the tasks necessary to make career decisions. The scale later became known as the Career Decision Self-Efficacy Scale (CDSE) after Taylor and Betz learned of another author's use of the term "career decision making" (Betz, Hammon, & Multon, 2005).

Cognitive Dimensions of Hope

Another appealing cognitive approach to conceptualizing goal-related behavior is Snyder's Hope Scale. Snyder et al. (1991) hypothesized that goal-directed behavior is influenced by people's perceptions of successful agency as well as their perceptions of pathways to the goals. They have demonstrated impressive evidence of construct validity for their brief self-report measures of Hope by showing that the scale has strong correlations with measures of depression and psychasthenia, the Social Introversion scale of the Minnesota Multiphasic Personality Inventory (MMPI), and other measures. They also showed that it can be distinguished from negative affectivity, in general, as well as generalized positive outcome expectancies (Snyder et al., 1991). They also adduced experimental evidence that individuals who score high on the Hope Scale select more

difficult goals and that people high in Hope appraise their life goals with a positive cognitive set. Johnston and Asama (1992) found that the VI scale has relatively strong correlations with the two Hope subscales, Agency and Pathways. The evidence about the validity of Snyder's very brief Hope Scale suggests that it may be useful as a general screening instrument for cognitive obstacles to pursuing goal-related behavior.

Holland's Career Decision-Making Diagnostic Research

John Holland was also concerned with the problems of understanding career indecision and assessing individuals' decision-making competencies. In the early 1970s, Holland conducted studies directed at testing a number of diagnostic signs and scales for decision-making competency, some of which were derived from his theory of vocational personalities and work environments (Holland, 1973). Holland's typological theory assumed that it is useful to describe persons in terms of their resemblance to six ideal personality types, and that persons are likely to select and persist in environments (such as college majors or occupations) that are congruent with their vocational personalities. Congruence (or match) is assessed, according to Holland's typological theory, in terms of the degree to which the environment (major or occupation) rewards the characteristics displayed by the six personality types and demands the competencies that these personality types display (Holland, 1973). To make this assessment of congruence possible, Holland also described environments in terms of six ideal types that correspond to the six personality types. Both personality and environmental types are labeled *Realistic, Investigative, Artistic, Social, Enterprising*, and *Conventional* (Holland, 1973; 1985; 1997).

Holland had developed a theory concerned with explaining vocational behavior and suggesting practical ideas for helping "young, middle-aged, and older people select jobs, change jobs, and attain vocational satisfaction" (Holland, 1973, p.1). The following four basic assumptions were the foundation for Holland's (1973) theory:

1. Most persons can be categorized as one of six types: realistic, investigative, artistic, social, enterprising, or conventional (p. 2).
2. There are six kinds of environments: realistic, investigative, artistic, social, enterprising, or conventional (p. 3).
3. People search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles (p. 4).
4. A person's behavior is determined by an interaction between his personality and the characteristics of his environment (p. 4).

According to Holland, career choice is an expression of an individual's personality. For Holland the process of examining or estimating personality could be accomplished through the use of interest and personality inventories, a chosen vocation or field training, work history or history of pre-employment aspirations, or a combination of these means. An individual's attraction to a specific career stems from his/her particular personality as well as other individual background variables (e.g., age, gender, social economic status, intelligence and level of education).

In the 1973 revision of his theory, Holland had proposed a number of secondary concepts that might be related to vocational adjustment and decision making ability. In research to test these and other ideas, Holland, Gottfredson, and Nafziger (1975)

investigated a number of theoretical signs of decision-making ability. Among these were *differentiation* (the extent to which assessment data implied that individuals more clearly resembled some "types" rather than others) and *consistency* (the extent to which the ideal types individuals most resembled were related to or consistent with each other and performance on some tasks). One of the measures used by Holland and colleagues (1975) was an early form of an identity scale, intended to assess the clarity of a person's sense of what he or she was like in vocational terms. Subsequent research has shown that the Vocational Identity Scale (VI) (Holland, Gottfredson, & Power, 1980), based on the earlier test of diagnostic signs, is strongly related to a variety of measures of vocational adjustment and other kinds of psychological adjustment (Holland, Johnson, & Asama, 1991). In his most recent revision of his theory, Holland (1997) assigned a more central role to the VI scale in moderating theoretical expectations for person-environment interactions based on his theory. He defined identity as "the possession of a clear and stable picture of one's goals, interests, and talents" (p. 5).

My Vocational Situation is is an assessment instrument composed of 26 items:

- a VI scale consisting of 18 true-false items;
- an Occupational Information (OI) section consisting of four yes-no items measuring the need for occupational information; and
- a Barriers (B) section consisting of four yes-no items measuring perceived barriers to occupational goals.

Sample items include *I need reassurance that I have made the right choice of occupation* and *I need to find out what kind of career I should follow*. The client can complete the VI scale and the other two sections of the complete My Vocational Situation

in about five minutes and the counselor can score it in about one minute. Subsequent sections of this paper will review evidence about the validity of the VI scale.

With regard to the practical implications of the alternative frameworks presented here, Holland's VI scale is simpler and more direct, and has (as we shall see) proven useful in practical application. Implications of the VI scale are straightforward. It provides a way for the client to tell the counselor about his or her specific problem and allows the counselor to respond in a direct way. Understanding client scores on the VI scale allows the counselor to provide career assistance to clients exhibiting maladaptive career development, i.e., manifesting the lack of a clear sense of identity or failing to develop a career in a congruent occupation (Holland, 1997). The brevity, simplicity, and ease of administration and scoring of the MVS have contributed to the wide use of the instrument by researchers and practitioners.

In practice, the VI scale is used by counselors to gain a better understanding of the client in terms of incongruence, indecision, or dissatisfaction (Holland, 1997). The VI scale has also been used in waiting rooms prior to the first counseling session to allow counselors quickly to identify vocational identity problems by using the scale as a checklist (Hood & Johnson, 1997). By using the VI scale as a diagnostic tool, counselors are in a better position to provide the appropriate career assistance necessary to support the client.

The VI scale has also been used in the evaluation of college and university career courses. Rayman, Bernard, Holland, and Barnett (1983) found an effect size greater than 0.8 using the VI scale to evaluate a 6-module, 11-week college career course. The scale was used as a pre-post test to evaluate the main effects of the course and to examine

possible interactions due to characteristics of instructors and students. Meta-analytic studies of the efficacy of career interventions generally imply that these interventions tend to be efficacious across a range of outcomes and over a range of intervention modalities (Oliver and Spokane 1988; Spokane & Oliver, 1983; Whiston, Sexton, & Lasoff, 1998). This outcome research has not focused on Spanish-speaking clients, perhaps in part due to the limited availability of Spanish-language intervention and assessment resources.

Evidence of Construct Validity for the Identity Scale

The literature on the VI scale is plentiful. Convergent correlations have been reported between the VI scale and measures of vocational decision making, decidedness, decisiveness, indecision, age, education, ability, achievement, and adjustment (Holland, Johnston, & Asama, 1992). Correlations between the VI scale and a variety of other individual characteristics with which VI is not necessarily expected to be related such as gender, vocational interests athletic ability, beauty, personality, and racial identity, have also been reported (Holland et al., 1992).

In a study of vocational decision-making ability (Betz, Klein, & Taylor, 1996), the correlation of the VI scale with the total score of the Career Decision-Making Self-Efficacy Scale Short Form (CDMSE-SF) was .63 for a sample of 103 female college students and .48 for a sample of 81 male college students. Furthermore, in these samples the scores on the VI scale had correlations with the subscales of the CDMSE-SF that ranged from .40 to .66 for women and from .28 to .55 for men.

In another study (Wanberg & Muchinski, 1992) of vocational decision making and personality variables examining a sample of 390 undergraduate introductory male

and female psychology students at a Midwestern university, scores on the VI scale had correlations with the Career Decision Profile (CDP) subscales ranging from .22 to .66 (Jones, 1989). The correlations with the subscales were .58 for Decidedness, .70 for Comfort, .68 for Self-Clarity, .64 for Knowledge, .50 for Decisiveness, and .34 for Importance. In the same study (Spielberg, Gorsuch, Lushene, Vagg, & Jacobs, 1983), the VI scale showed low negative correlations with the State Anxiety (r = - .13) and Trait Anxiety (r = - .12) sub scales of the State-Trait Anxiety Inventory (STAI). Using the same sample with the Internal, Powerful Others, and Chance (IPC) Scales, Levenson (1974) found that VI scale correlations with the IPC Scales were .08 for Internal, -.07 for Powerful Others, and -.12 for Chance. Wanberg and Muchinski also found a -.04 correlation between the VI scale and the three subscales of the Self-Consciousness Scale (SCS) (Fenigesten, Scheier, & Buss, 1975). However, neither the Private Self-Consciousness, Public Self-Consciousness, or Social Anxiety Scales were significantly related to the VI scale. The Self-Esteem subscale of the Janis Field Feelings of Inadequacy Scale (JF) (Janis & Field, 1959; revised by Eagly, 1967) was correlated (r = .15) with the VI scale.

Graef, Wells, Hyland, and Muchinsky (1985) studied vocational decision-making ability along with life history antecedents. They found that the VI scale was highly correlated with the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1976, 1987) for females (r =. 67) and males (r = .63), in a sample of undergraduate students enrolled in psychology courses. They also found correlations of .54, .09, -.01, and -.05 for the Career Planning (CP), Career Exploration (CE), Decision Making (DM), and the World of Work Information (WW) subscales of the Career

Development Inventory (CDI; Super, Thompson, Lindeman, Jordaan & Meyers, 1981) and the Identity scale; for a sample of 103 male undergraduates. Female (N = 97) correlations for the same study were .65, .36, .07 and .12. For males the correlation of VI with CP was significant, while correlations of VI with CP and CE were found to be significant correlations for females. In a study of the assessment of life history antecedents, senior status, social extroversion, low negative social adjustment, high scientific interest, and low independence/dominance were found to be the best predictors (R^2 = .14) of high VI scale scores for males. For females, the best predictors (R^2 = .36) for high VI scores were having a high GPA, a declared major, warm paternal relationship, high degree of school and cultural activities, and a positive academic attitude.

In addition to vocational decision-making ability, Leong and Morris (1989) used the VI scale and examined occupational values, career maturity, vocational interests, and personality correlations. The findings indicated that VI scale score was related to all three career decision-making styles of the Assessment of Career Decision Making (ACDM) (Harren, 1979). The study used a sample of 86 White college students (53% female and 47% male) in an introductory psychology course at a large state university in the eastern United States. Correlations with the VI scale for the Rational scale (r = .37), the Intuitive scale (r = -.35) and the Dependent Styles (r = -.60) scales were significant. The same study found the VI scale was also correlated to the Certainty (.67) and Indecision (r = -.58) subscales of the ACDM. Correlations of the VI scale were also found with the Realistic (r = .14), Investigative (r =. 25), Artistic (r = .13), Social (r= .09), Enterprising (r = .08), and Conventional (r = -.08) scales of the Vocational

Preference Inventory (VPI) (Holland, 1978). The Investigative scale was the only one to have a significant correlation with Vocational Identity scale in this sample. Using a modified version of the Occupational Values Scale (Rosenberg, 1957), Leong and Morris (1989) found that only 3 of the 10 values were significantly correlated with the VI scale: Special Abilities (r = .24), Creative and Original (r = .22), and Exercise Leadership (r = .31) scales. In the same study, the VI scale correlated positively (r = .69) with the Career Maturity Inventory-Attitude Scale (Crites, 1973). With regard to personality variables, the researchers found that the Identity scale was negatively correlated with the Social Avoidance and Distress Scale (Watson & Friend, 1969) (r = -.21) and with the Intolerance and Ambiguity Scale (Budner, 1962) (r = -.26). A correlation of -.17 with the Locus of Control Scale (Rotter, 1966) was not statistically significant. Studying career indecision, Chartrand, Robbins, Morrill, and Boggs (1990) found that the VI scale was negatively correlated with the Career Choice Anxiety (r = -.40), Generalized Indecisiveness (r = -.33), Need for Self-knowledge (r = -.35), and Need for Career Information (r = -.40) subscales of the Career Factors Inventory (CFI) (Chartrand et al., 1990).

In a study of career change adjustment (Heppner, Multon, & Johnston, 1994), the VI scale was found to be correlated with the total score of the Career Transition Inventory (CTI) (r = .52) for a sample of 104 adults (78 females, 25 males and one person not indicating gender) in career transition because of involuntary layoffs at manufacturing plants. The VI scale was correlated with the Readiness (r = .25), Confidence (r = .56), Control (r = .28), Perceived Support (r = .47), and Decision Independence (r = .05) subscales of the CTI, respectively.

In a study (Fretz & Leong, 1982) of predicted outcomes of career interventions with a sample of 48 male and 64 female undergraduate psychology students, the VI scale was correlated with the self-appraisal (r = .09), the occupational-information (r = -.09), goal selection (r = .15), planning (r = .05), problem solving (r = -.08) and a`

q1attitude (r = .43) subscales of the Crites' (1978, 1995) Career Maturity Inventory.

In a study assessing the need for vocational assistance, sex differences, and academic performance, Lucas, Gysbers, Buescher and Heppner (1988) found no statistically significant gender difference between the VI scale scores and males and females entering university freshman (*N= 2,532;* 1,181 men and 1,351 women), a subsample of male and female undeclared freshmen from the entering university freshman (*N=119;* 39 men and 80 women), and male and female adults seeking career counseling (75 men and 75 women). The average age was 17.8, 18.0, and 33.8 for the respective groups. The study also showed that undecided college freshmen scored more than one-half a standard deviation lower on the VI scale than freshmen in general. There was no significant difference between undecided college freshmen and adults seeking career counseling. In this study displaced homemakers scored greater than one standard deviation lower on the VI scale than other homemakers in general. With regard to academic performance no evidence was found to support a relationship between student grade point average and VI scores among college freshmen.

In a high school sample of 41 White males and 42 White females, Grotevant and Thorbecke (1982) found no sex differences in VI scores (females: M = 15.5, SD 4.8; males M = 15.4 SD = 4.6). They did find different patterns of achievement motivation

and identity development in adolescent men and women, using the Work and Family Orientation scale (WOFO) (Helmereich & Spence, 1978). Male scores were correlated with the Mastery (r = .54), Work (r = .30), Competitiveness (r = .15), and Personal Unconcern (r = .37), subscales of the WOFO. For females, the correlations were .18, .45, -.27, and .02, respectively.

Summary of Studies Reviewed

The table in Appendix A summarizes the findings of the studies reviewed here concerning the relation of the VI scale to other measures of variables related to vocational identity. Construct validation, the scientific argument about the meaning of constructs and about how well specific instruments measure these constructs, is important when measuring abstract domains such as personality characteristics (Neukrug & Fawcett, 2010). Researchers often examine construct validity by using one or a combination of the following methods: (a) experimental manipulation, (b) factor analysis, (c) convergence with other instruments, or (d) discrimination with other measures (Neukrug & Fawcett). The current research examines the construct validity of the VI Scale through convergence, that is, examination by comparing results to other existing well-known assessments (e.g., the CDSE-SF, Hope Scale, and Neuroticism Scale of Goldberg's IPIP).

Need for Spanish Language Instruments

Over the last 20 years, the United States has seen an increase in the number of Latinos who speak Spanish more fluently than English. U.S. census data indicate that of nearly 11 million Latinos of school age, 17% don't speak English very well (Pew, 2008). The situation is more dire among adults 18 and over; of nearly 31 million Latinos who reside in the U.S. 44% do not speak English well.

The use of Spanish-language instruments is essential when working with individuals whose dominant language is Spanish. This practice may assist in the reduction of ambiguity and misinterpretation which may lead to incorrect or unintended responses. The use of Spanish language instruments is a major step towards culturally appropriate practice.

Best Practices in Translation

The proper translation and validation of instruments has been considered one of the most important elements in cross-cultural educational evaluation and research (Chapman & Carter, 1979). Inappropriately translated instruments may provide erroneous findings or may show inaccurate relations among measured variables. Previous researchers have recommended back-translation as a tool when translating instruments into other languages (Brislin, 1970; Chapman & Carter, 1979). Back-translation requires the use of two bilingual individuals; "the first translating from the source to the target language, the second blindly translating back from the target to the source" (Brislin, 1970, p. 186). Back-translation should always be accompanied by empirical validation with bilingual respondents (Chapman & Carter, 1979).

Chapman and Carter (1979) suggested that "correlating overall scores may hide inconsistencies within individual item translations. A safer approach is to compute item correlations between student responses on each form of the instrument separately" (p. 74). This is, of course, simply a recommendation to conduct the usual internal consistency item analysis that is common among test developers for each specific etnic group (Crocker & Algina, 1986).

In a study using back-translation, Brislin (1970) suggested that translation quality of instruments is predictable and significantly affected by content, difficulty, language, and content-language interactions. He also stated that by studying responses to the original and target versions a functionally equivalent translation can be demonstrated. Back-translation is often accompanied by a procedure called "decentering," which may involve the modification of both the original and target language instruments, and may not be practical in the present instance, as the English language VI scale is already well established.

Chapter 3: Methods

Sample

Participants consisted of male and female Spanish-speaking adults 18 years old and older and included undergraduate and graduate students and part-time and full-time workers. Like the original researchers (Holland, Gottfredson & Power, 1980), the current investigator attempted to obtain a sample diverse in age, type of work, and level of education and training. Participants were recruited with the help of various organizations including Latino undergraduate and graduate organizations, Latino Greek organizations, general undergraduate student organizations, professional Latino organizations, Extended Opportunity Programs and Services (EOPS) counselors and student service personnel at community colleges, via electronic communication. These organizations were contacted via electronic communication which included an IRB approved electronic letter describing the research and need for participants. Individuals contacted within these organizations were asked to forward an electronic recruitment letter to members within their organizations. The electronic letter included a link to the survey which was conducted via the SurveyMonkey website. To facilitate comparisons of results for different educational levels, attempts were made to recruit 100 males and 100 females representing each of high school or less, some college, and college graduates.

Description of the Sample

The sample, identified through various organizations listed in Appendix C and contacted via e-mail, included 248 individuals who ranged in age from 18 to 86 years (M = 37.9; SD = 13.6). The majority (70%) of the sample was female as indicated in Table 1. Thirty-two percent of the sample was born in the U.S. and 68% were foreign-born.

For the present research participants identifying Puerto Rico as their place of birth were classified as foreign born. Table 2 displays the statistics related to place of birth. The 168 participants who were born in other countries reported they were born in one of 20 different countries with almost half of them coming from either Puerto Rico (*n*=69) or Mexico (*n*=35). See Table 3 for countries of origin reported by participants. Of those born elsewhere, the average age at entry to the U.S. was 17 years (*SD*=11). The age at entry to the U.S. ranged from 1 year to 60 years (*SD*=11). Table 4 displays the statistics related to age of entry into the U.S.

Participants responded to items on the demographic survey related their preferred language (Spanish or English) and their ability to understand, speak, read, and write English. Table 5 shows that 136 participants (55%) preferred to speak English and 80 participants (32%) preferred Spanish. Five percent of participants indicated that they preferred both languages equally while one participant indicated that he preferred a combination of both languages, which I labeled Spanglish. The number of participants who responded that they had *very good* ability in the various areas ranged from a low of 73% to a high of 80%. Table 6 displays the number and percent of those responding that they had *very* good ability in each of the four areas. Additionally, 29% of the sample indicated having taken a class to improve their English. Twenty-six percent indicated that they had completed some college level courses and 6% reported having a secondary education or less, as reported in Table 7.

Table 1

Survey Respondents' Gender

Gender	Number	Percentage
Male	68	27
Female	175	71
No Response	5	2
Total	248	100

Table 2

Respondents' Immigration Status

Location	Number	Percentage
Born in the U.S.	80	32
Foreign-Born	168	68
Total	248	100

Table 3

Respondents' Place of Birth

Location	Number	Percentage
U.S.	80	32
Puerto Rico	69	28
Mexico	35	14
Cuba	10	4
Columbia	8	3
Other Countries	42	17
Missing Information	4	2
Total	248	100

Table 4

Age at Time of Survey and Age at Entry to U.S. for Respondents Who Were Born Outside of the U.S.

Self-report	N	Mean	SD	Min	Max
Age in Years at Time of Survey	244	38	14	18	86
Age in Years at Time of Entry to US[a]	134	17	11	<1	60

[a]Pertains only to participants not born in the US

Table 5

Preferred Language of Survey Respondents

Language	Number	Percentage
English	136	55
Spanish	80	32
Both English & Spanish	12	5
Spanglish	1	<1
Missing	19	8
Total	248	100

Table 6

Number and Percentage of Respondents' Who Reported That Their Ability Was "Very Good" Regarding the Use of English

Abilities	*N* Respondents	Percentage
Understanding Spoken English	231	80
Speaking English	233	74
Reading English	231	81
Writing English	232	73

Table 7

Highest Level of Education Completed by Respondents

Education Level	Number	Percentage of Respondents
Secondary or Less	13	5
Some College	55	22
College Graduate	164	66
Missing	16	6
Total	248	100

Measures

The following scales and questionnaires, most of which were introduced in Chapter 2, were use in the study:

- My Vocational Situation (including Vocational Identity, Occupational Information, and Barriers)
- Career Decision Self-Efficacy Short Form (CDSE-SF)
- Hope Scale
- Neuroticism Scale of Goldberg's International Personality Item Pool
- Demographic Questionnaire
- Latino Obstacle Scale (a new experimental scale).

Appendix B includes a list of the permissions sought for the various measures. Each of the measures is described in the following sections.

My Vocational Situation

My Vocational Situation is composed of three parts totaling 26 items:

- a Vocational Identity (VI) scale consisting of 18 true-false items;
- four yes-no items measuring the need for Occupational Information (OI) and

- four yes-no items measuring perceived Barriers (B) to occupational goals.

High scores on the VI scale indicate a strong sense of vocational identity; meaning the "possession of a clear and stable picture of one's goals, interests, and talents" (Holland et al., 1980, p. 1191). People who score high on the VI scale have also been seen as vocationally mature, interpersonally competent and "relatively free of disabling psychological problems, conscientious, hopeful, and responsible" (Holland et al., 1993, p. 8). An individual possessing these characteristics may show untroubled decision-making and confidence in his/her ability to make sound decisions when faced with "inevitable environmental ambiguities" (Holland et al., 1980, p. 1191).

The MVS has been shown to have substantial construct validity and retest reliability (Holland et al., 1980; Holland et al., 1993). Reliability estimates have been provided for samples of male and female high school students, college students, full-time workers, graduate students, and faculty. Individuals scoring low on the MVS may be seen as having "low self-esteem, neuroticism, destructive beliefs about self and decision making, diffuse identity, dependency, hopelessness, and poor-problem solving attitudes and skills" (Holland et al., 1993, p. 8). Males and females with clear senses of identity and smaller numbers of informational needs have smaller number and variety of occupational aspirations. VI scale scores increased with age, training, and degree of specialization. Holland et al. (1980) indicated that while the VI scale has a high degree of internal consistency, the OI and the B scales resemble checklists rather than scales, due to their diverse content and low reliability.

Career Decision Self-Efficacy Scale-Short Form (CDSE-SF)

The CDSE-SF (Taylor & Betz, 1983) measures the degree to which an individual believes he/she can complete the tasks necessary to make career decisions. Individuals are asked to indicate how much confidence they have in accomplishing tasks related to the five subscales on a 5-point Likert scale from 1 (*no confidence*) to 5 (*complete confidence*). The CSDE is a 50-item instrument consisting of five 10-item subscales: self-appraisal, occupational information, goal selection, planning, and problem solving. Reliabilities (coefficients alpha) for the subscales are .88, .89, .87, .89, and .86, respectively (Taylor & Betz, 1983). The 25-item short form of the CDSE known as the CSDE-SF is used in this study. The 5-level continua CDSE-SF has proven to be about as reliable and valid as the 10-level continua used in previous studies (Betz, Hammond & Multon, 2005). Alphas range from .78 to .87 for the 5-level and .69 to .83 for the 10-level continuum.

Hope Scale

The Hope Scale (Snyder, et al., 1991) is a 12-item instrument containing a 4-item Agency subscale and a 4-item Pathways scale. The items are rated on a 4-point Likert scale: 1 (*definitely false),* 2 (*mostly false*), 3 (*mostly true*), and 4 (*definitely true*). The agency items were developed to measure an individual's sense of determination in meeting past, present, and future goals (e.g., *I meet the goals I set for myself*.). The Pathway items measure an individual's sense of generating successful plans to meet their goals (e.g., *I can think of ways to get the things in life that are most important to me*.). Internal consistency estimates for the Hope Scale were found to range from .74 to .84. The Agency scale coefficients ranged from .71 to .76, and the Pathways scale coefficients

ranged from .63 to .80. Test-retest correlations were .85, .73, and .76, respectively, for 3-week, 8-week, and 10+-week interval for two samples. The Hope Scale has been found to correlate positively with problem solving as measured by the Problem Solving Inventory or PSI (Heppner & Petersen, 1982) and with self-esteem as measured by the Self-Esteem Scale (Rosenberg, 1965). The Hope Scale was also found to have a negative correlation with depression as measured on the Beck Depression Inventory (Beck et al., 1961) and hopelessness as measured on the Hopelessness Scale (Beck et al., 1974).

Neuroticism

The Neuroticism items of the International Personality Item Pool (IPIP) represent one factor of the big five personality dimensions (Goldberg, 1992). The 10-item IPIP Neuroticism scale provides a brief, well studied measure of this personality dimension. A translation of the Neuroticism items of the IPIP by Pérez, Cupani and Beltramino (2004) was used in this study.

Latino Obstacle Scale

This scale has been developed to measure constructs found in the literature that are said to have a negative effect on Latino immigrants. The scale is a collection of items written specifically for the present research to supplement MVS Barriers with other barriers that may be perceived by Spanish speaking persons in the US. The scale is composed of items reflecting topics that occasionally are raised in counseling Latinos or that may be encountered by any immigrants or language minorities.

Table 8 summarizes the characteristics of the standardized measures being used in this study.

Table 8

Measures

Measure	Subscale	Number of Items	Item Format
My Vocational Situation	Vocational Identity (VI)	18	True/false
	Occupational Information (OI)	4	Yes/no
	Barriers (B)	4	Yes/no
Career Decision Self-Efficacy Scale-Short Form (CDSE-SF)	Self-appraisal	10	5-point Likert scale
	Occupational Information	10	5-point Likert scale
	Goal Selection	10	5-point Likert scale
	Planning,	10	5-point Likert scale
	Problem Solving	10	5-point Likert scale
Hope Scale	Agency	4	4-point Likert scale
	Pathways	4	4-point Likert scale
International Personality Item Pool (IPIP)	Neuroticism	10	6-point Likert scale
Latino Obstacle Scale		6	Yes/no

Demographic Questionnaire

In addition to the measures displayed in Table 8, study participants completed a brief demographic questionnaire, which I developed. The questionnaire included items on the participants' age, gender, educational level, length of residency in the United States, English usage, and Spanish usage. This portion of the questionnaire was composed specifically for the present research by adapting demographic items from other similar research conducted in the past.

Translation

The following measures were used in the study: My Vocational Situation, Career Decision Self-Efficacy- SF, Hope Scale, Neuroticism Scale of IPIP, and the Latino Obstacle Scale (see Table 8). To eliminate the effects of English language proficiency,

the battery of instruments was translated from English into Spanish. An apparently good translation already existed for Goldberg's (2006) International Personality Item Pool (IPIP) Neuroticism subscale; translated by Pérez, Cupani, and Beltramino (2004). For the present study, it was necessary to prepare translations not only of My Vocational Situation, but also of the Career Decision Self-Efficacy Short Form, and the Hope Scale. The demographic questionnaire was composed in Spanish.

To prepare each translation, a college-educated native speaker of Spanish who was familiar with colloquial Mexican, Puerto Rican, Central and South American Spanish and who also spoke English rendered a close but colloquial translation of the English material into Spanish. A second college-educated bilingual individual back-translated the Spanish version to English. Then the author (who is bilingual in English and Spanish) examined the back translation to ascertain whether the meanings of the items correspond to the original English. He also examined the Spanish versions for deviations of meaning from the original and for the use of forms of expression that are not generally understood by Latinos from Mexico, Puerto Rico, Central America, and South America. Deviations and proposed solutions were discussed with college-educated native speakers and an expert in vocational assessment to achieve agreement on a translation that preserves the original meaning while being widely comprehensible in Spanish.

Analyses

The analysis was designed to answer the three research questions:

1. Will a Spanish translation of the Vocational Identity (VI) scale of My Vocational Situation yield similar internal consistency as the English language version?
2. Does the Spanish version of the VI scale have similar correlations with other measures of psychological and vocational adjustment as the English language version?
3. Do groups presumed to be higher in vocational identity score higher on the Spanish language version of the VI scale than groups presumed to be lower in vocational identity?

Items for each scale used in the research were subjected to internal consistency item analyses. If necessary, items with unsatisfactorily low corrected item-total correlations were deleted. (It proved necessary to do this for one item in the IPIP Neuroticism scale.) Alpha reliability coefficients were reported for all scales following item analysis. A matrix of correlations among the scales was constructed and examined to see if correlations of the translated VI scale with other measures were observed. Substantial negative correlations with Neuroticism and the experimental Latino Barriers scale, and substantial positive correlations with the Career Decision Self-Efficacy and Hope scales as well as with age and education level, were hypothesized. Finally, a look-up table was constructed to enables users to obtain a percentile rank for VI scale raw scores.

Chapter 4: Results

This chapter describes the sample used in the study and presents the findings related to three research questions:

1. Will a Spanish translation of the Vocational Identity (VI) scale of My Vocational Situation yield similar internal consistency scores as the English language version?
2. Does the Spanish version of the VI scale have similar correlations with other measures of psychological and vocational adjustment as the English language version?
3. Do groups presumed to be higher in vocational identity (more educated, persons higher in age) score higher on the Spanish language version of the VI scale than groups presumed to be lower in vocational identity?

Internal Consistency Item Analysis for Identity Scale Translation

Of the 248 completed surveys, 189 (76%) had no missing responses to the 18 translated VI scale items and were included in the internal-consistency item analysis for the Identity scale. Fifty-four or the respondents (24%) did not provide information about their gender. Of the 68 surveys submitted by males, 13 were excluded because of missing responses which left a total of 55 (male) surveys for an item-analysis for males. Of the 175 surveys submitted by females, 41 were excluded due to missing VI scale item responses, leaving a total of 134 surveys for an item-analysis for females. Regarding analyses related to whether participants were born in the U.S. or in another country, all 189 surveys were used; 133 surveys were completed by individuals who were foreign-

born and 56 were completed by individuals who were born in the U.S. Table 9 shows a summary of surveys used in analyses.

Table 9

Summary of Surveys Used in Item Analyses for Total Sample and Subgroups

		Total Complete	Missing Data	Used in Analyses
Total Group		248	59 (24%)	189 (76%)
Gender	Male	68	13	55
	Female	175	41	134
Immigration Status	Foreign Born	168	35	133
	U.S. Born	80	24	56

Coefficient alpha for the total sample was .856 implying that 86% of the total Identity score is estimated to be "true score variance" (Nunnally & Bernstein, 1994). The alpha based on standardized items would be only slightly larger (.863), which is expected because all of the items are of the same response format and have variances that do not vary wildly in size. The reliability of this Spanish translation in the present total sample is comparable to the reliability for the English-language version of the VI subscale of My Vocational Situation which was also reported to be .86 (Holland et al., 1980).

Item Summary Statistics

Summary statistics were calculated for the total group, for men and women, and for U.S. and foreign born individuals. Tables 10 to 13 display these results. The summary item statistics for the reliability analysis of the VI scale are shown in Table 10. The analysis indicates that the mean of item means is .754 with a range from .307 to .899. Because the keyed direction of items in this scale is "False" (true = 0 and false = 1); this means that the average respondent rejected three-quarters of the statements composing the scale as characterizing him or herself. Of particular importance in understanding the

results of the analyses are the inter-item correlations which are, for the most part, within the expected range of .3 to .5, with a few instances of correlations outside of this range. The mean the inter-item correlations is .259 and the correlations range from a low of -.022 (items 6 and 17) to a high of .543 (items 9 and 13).

Identity Scale Reliability for Gender and Immigration Status Subgroups

Table 11 provides descriptive statistics for the VI total group and for the subgroups examined. The means and standard deviations are similar for men and women and for native born Spanish speakers versus immigrants (although the mean for immigrants is a tad lower in this sample).

Table 10

Summary *of Vocational Identity Scale Item Statistics (n=189)*

	Mean	Minimum	Maximum	Range	No. of Items
Item Means	.75	.31	.90	.59	18
Item Variances	.17	.09	.25	.16	18
Inter-Item Correlations	.26	-.02	.54	.57	18

Table 11

Vocational Identity Scale Statistics: Total Sample and Subgroups

Sample	Mean	Std. Dev.
Total Group	13.6	3.9
Male	13.9	3.9
Female	13.5	4.0
Foreign Born	13.7	4.0
U.S. Born	13.3	4.1

The summary of item statistics when the analysis is performed separately for males and females is presented in Table 12. Generally, the summary is similar for men

and women, although one item had a non-negligible negative correlation with other items in the sample of males. The two items involved in this modest negative correlation (-.13) mainly have positive correlations with all of the other items, and so this negative correlation does not appear to be a major concern. (More details on item performance are presented shortly.)

The summary of item statistics when the analysis is performed separately for U.S. born and foreign born respondents is presented in Table 13. Generally, the summary is similar for the two groups, although one item had a non-negligible negative correlation with other items in the sample of U.S. born respondents. The two items involved in this modest negative correlation (-.17) mainly have positive correlations with all of the other items, and so this negative correlation does not appear to be a major concern. (More details on item performance are presented shortly.)

Table 12
Summary of Identity Scale Item Statistics by Gender (N=189)

	Mean	Minimum	Maximum	Range	No. of Items
Item Means					
Male (n=55)	.77	.36	.93	.56	18
Female *(n=134)*	.75	.28	.90	.61	18
Item Variances					
Male (n=55)	.16	.07	.25	.18	18
Female (n=134)	.17	.09	.25	.15	18
Inter-Item Correlations					
Male (n=55)	.26	-.14	.63	.77	18
Female (n=134)	.26	<.01	.52	51	18

Table 13

Summary of Vocational Identity Scale Item Statistics by Immigration Status (N=189)

	Mean	Minimum	Maximum	Range	No. of Items
Item Means					
Foreign Born (n=133)	.76	.29	.90	.61	18
U.S. Born (n=56)	.74	.36	.93	.57	18
Item Variances					
Foreign Born (n=133)	.16	.10	.25	.16	18
U.S. Born (n=56)	.18	.07	.25	.19	18
Inter-Item Correlations					
Foreign Born (n=133)	.27	-.03	.55	.58	18
U.S. Born (n=56)	.25	-.17	.61	.781	18

Detailed Item Analysis for Vocational Identity

Table 14 provides item statistics for the VI scale for the male and female subsamples and for the total sample. Item statistics for the U.S. and foreign born subsamples are shown in Table 15. For all subsamples coefficient alphas were .86. Overall, the weakest item is "I have known what occupation I want to follow for less than one year." ("Reconozco qué ocupación quiero seguir desde hace menos de un año.") The item works well in the sample of males, but it is particularly weak in the female sample. It is weak in the foreign-born sample but works well in the U.S. born sample. Even in subsamples where this item is weakest, deleting the item would not result in more than a tiny boost in the alpha reliability. Although a bit weak, the item does not have obvious content or meaning problems; it does work well in some subsamples; and it does have positive correlations with most of the other items in the scale. I decided to retain this item, although it could become a candidate for attempts at improvement in future research.

Table 14

Detailed Item Statistics for Vocational Identity Scale – Male and Female

Item	Males[a] (n=55)		Females[b] (n = 134)		Total[c] (N=189)	
	Mean	Corrected Item Total	Mean	Corrected Item Total	Mean	Corrected Item Total
1. I need reassurance that I have made the right choice of occupation. - Necesito asegurarme que escogí la profesión o tipo de trabajo correcto.	.36	.54	.28	.25	.31	.34
2. I am concerned that my present interests may change over the years. - Me preocupa que mis intereses actuales puedan cambiar a lo largo del tiempo.	.58	.46	.61	.48	.60	.47
3. I am uncertain about the occupations I could perform well. - No estoy seguro/a de cuáles empleos pueda desempeñar bien.	.80	.46	.79	.49	.79	.48
4. I don't know what my major strengths and weaknesses are. - No sé cuáles son mis puntos fuertes y puntos débiles.	.93	.20	.87	.41	.89	.36
5. The jobs I can do may not pay enough to live the kind of life I want. - Los empleos que puedo conseguir posiblemente no paguen lo suficiente para tener el estilo de vida que quiero tener.	.73	.52	.65	.34	.67	.39
6. If I had to make an occupational choice right now, I'm afraid I would make a bad choice. - Si tuviera que elegir un empleo en este momento, me temo que elegiría mal.	.85	.39	.90	.50	.88	.46
7. I need to find out what kind of career I should follow. - Necesito averiguar qué tipo de profesión debería escoger.	.78	.55	.77	.60	.77	.59
8. Making up my mind about a career has been a long and difficult problem for me. - Decidir qué profesión escoger siempre ha sido una decisión difícil para mí.	.75	.52	.72	.47	.72	.48
9. I am confused about the whole problem of deciding on a career. - Estoy confundido/a sobre todo el problema de elegir una	.89	.61	.87	.61	.87	.61

Item	Males[a] (n=55)		Females[b] (n = 134)		Total[c] (N=189)	
	Mean	Corrected Item Total	Mean	Corrected Item Total	Mean	Corrected Item Total
profesión o tipo de trabajo.						
10. I am not sure that my present occupational choice or job is right for me. - No estoy seguro/a de que mi elección profesional actual es el correcto para mí.	.84	.47	.78	.55	.79	.53
11. I don't know enough about what workers do in various occupations. - No sé lo suficiente sobre lo que los trabajadores hacen en varios tipos de trabajo o profesiones.	.78	.54	.81	.48	.80	.49
12. No single occupation appeals strongly to me. - No hay una profesión que me atraiga fuertemente.	.93	.20	.89	.50	.90	.43
13. I am uncertain about which occupation I would enjoy. - Tengo dudas sobre qué trabajo o profesión me gustaría.	.89	.69	.83	.67	.85	.68
14. I would like to increase the number of occupations I could consider. - Me gustaría aumentar el número de ocupaciones que podría considerar.	.45	.52	.56	.38	.53	.41
15. My estimates of my abilities and talents vary a lot from year to year. - Mis opiniones de mis habilidades y talentos varían mucho de un año a otro.	.83	.50	.79	.47	80	.48
16. I am not sure of myself in many areas of life. - Mis opiniones de mis habilidades y talentos varían mucho de un año a otro.-No estoy seguro sobre mí mismo en muchas áreas de la vida.	.82	.40	.81	.61	.81	.55
17. I have known what occupation I want to follow for less than one year. -Reconozco qué ocupación quiero seguir desde hace menos de un año.	.80	.45	.72	.19	.75	.25
18. I can't understand how some people can be so set about what they want to do. -Me cuesta entender cómo algunas personas tienen tan claro la profesión a que se quieren dedicar.	.85	.42	.82	.46	.83	.45

[a] Male alpha = .86, [b] Female alpha = .86, [c] Total alpha = .86

Table 15

Detailed Item Statistics for Vocational Identity (VI) Scale – Foreign Born and US Born

Item	Foreign Born[a] (n=133)		U.S. Born[b] (n = 56)		Total[c] (N=189)	
	Mean	Corrected Item Total	Mean	Corrected Item Total	Mean	Corrected Item Total
1. I need reassurance that I have made the right choice of occupation. - Necesito asegurarme que escogí la profesión o tipo de trabajo correcto.	.29	.27	.36	.49	.31	.34
2. I am concerned that my present interests may change over the years. -Me preocupa que mis intereses actuales puedan cambiar a lo largo del tiempo.	.62	.43	.57	.55	.60	.47
3. I am uncertain about the occupations I could perform well.- No estoy seguro/a de cuáles empleos pueda desempeñar bien.	.81	.42	.75	.62	.79	.48
4. I don't know what my major strengths and weaknesses are. -No sé cuáles son mis puntos fuertes y puntos débiles.	.88	.40	.91	.29	.89	.36
5. The jobs I can do may not pay enough to live the kind of life I want. - Los empleos que puedo conseguir posiblemente no paguen lo suficiente para tener el estilo de vida que quiero tener.	.68	.35	.66	.50	.67	.39
6. If I had to make an occupational choice right now, I'm afraid I would make a bad choice. -Si tuviera que elegir un empleo en este momento, me temo que elegiría mal.	.89	.56	.86	.26	.88	.46
7. I need to find out what kind of career I should follow. - Necesito averiguar qué tipo de profesión debería escoger.	.80	.61	.73	.55	.77	.59
8. Making up my mind about a career has been a long and difficult problem for me. - Decidir qué profesión escoger siempre ha sido una decisión difícil para mí.	.74	.50	.68	.46	.72	.48
9. I am confused about the whole problem of deciding on a career. - Estoy confundido/a sobre todo el problema de elegir una profesión o tipo de trabajo.	.89	.57	.84	.68	.87	.61
10. I am not sure that my present occupational choice or job is right for me. -	.82	.56	.73	.47	.79	.53

Item	Foreign Born[a] (n=133) Mean	Foreign Born[a] (n=133) Corrected Item Total	U.S. Born[b] (n = 56) Mean	U.S. Born[b] (n = 56) Corrected Item Total	Total[c] (N=189) Mean	Total[c] (N=189) Corrected Item Total
No estoy seguro/a de que mi elección profesional actual es el correcto para mí.						
11. I don't know enough about what workers do in various occupations. -No sé lo suficiente sobre lo que los trabajadores hacen en varios tipos de trabajo o profesiones.	.79	.47	.84	.58	.80	.49
12. No single occupation appeals strongly to me. -No hay una profesión que me atraiga fuertemente.	.89	.58	.93	.05	.90	.43
13. I am uncertain about which occupation I would enjoy. -Tengo dudas sobre qué trabajo o profesión me gustaría.	.88	.70	.77	.64	.85	.68
14. I would like to increase the number of occupations I could consider. -Me gustaría aumentar el número de ocupaciones que podría considerar.	.53	.36	.54	.53	.53	.41
15. My estimates of my abilities and talents vary a lot from year to year. -Mis opiniones de mis habilidades y talentos varían mucho de un año a otro.	.78	.50	.84	.46	80	.48
16. I am not sure of myself in many areas of life. - Mis opiniones de mis habilidades y talentos varían mucho de un año a otro.-No estoy seguro sobre mí mismo en muchas áreas de la vida.	.82	.60	.79	.45	.81	.55
17. I have known what occupation I want to follow for less than one year. -Reconozco qué ocupación quiero seguir desde hace menos de un año.	.74	.18	.75	.42	.75	.25
18. I can't understand how some people can be so set about what they want to do. -Me cuesta entender cómo algunas personas tienen tan claro la profesión a que se quieren dedicar.	.84	.52	.80	.30	.83	.45

[a]Foreign Born alpha = .86, [b]US Born alpha = .86, [c]Total alpha = .86

Analysis of Reliability for Criterion Measures

Recall that the strategy for the initial explorations of validity for the translated Vocational Identity scale involves examining its correlations with other measures with which the original English-language scale has demonstrated correlations—part of a process of establishing convergent validity. Spanish-language versions of these criterion scales were therefore required for the present research. In some instances a Spanish-language version of a scale was available, but in others it was necessary to produce one. To produce each Spanish language version of the criterion scales, it was translated (if necessary) into Spanish by an educated Spanish speaker. Then all Spanish items in all scales were independently translated back into English. The back-translations were compared with the original English versions to detect deviations in meaning that should be corrected. Two native Spanish speaking educated bilingual persons with graduate degrees and one English language speaking vocational assessment expert discussed each item to agree on the final rendition in Spanish for use in the present research.

Item analyses were undertaken for the Spanish-language versions of all of the instruments used in the study. Table 16 displays reliabilities for subgroups based on gender (male or female) and place of birth (US-born or foreign-born). As we have seen, the internal consistency for the Vocational Identity scale was the same (.86) for all four subgroups (male, female, US-born and foreign-born). Holland, Gottfredson, & Power (1980) wrote of the Occupational Information and Barriers parts of *My Vocational Situation* (MVS) that "The diverse content and low reliability of the Occupational Information (OI) and Barriers (B) scales indicate that they resemble checklists more than scales" (p. 1194). This characterization holds particularly for the Barriers scale in the

present sample: Alpha reliabilities for the Barriers scale were low, ranging from .46 to .58 across subsamples. Three of the Barriers items had low endorsement rates (about 5%) for men. For women, the endorsement rates ranged from 9% to 20% for the same three items. Despite the Holland et al. (1980) characterization of the Occupational Information portion of MVS as a mere "checklist," it has alphas ranging from .80 to .91 in the present samples.

On the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF), participants were asked to respond using a 5-point Likert scale ranging from 1(*no confidence*) to 5 (*complete confidence*). The total scale and each of the subscales had relatively high alphas, but exploration of the internal structure of the CDSE-SF implies that the subscales fail to show discriminant validity. Explorations of this scale using factor analysis showed that only one factor is required to account for 52% of common variance. A Scree plot indicates one factor solution is justified. Moreover, the subscales do not show discriminant validity, with interscale correlations often about as large as the scale reliability estimates and sometimes larger (see Table 17). Accordingly, I conclude that it is meaningful to examine only results for the CDSE-SF total score in the present research.

The Hope Scale total had alphas ranging from .80 to .82 for three of the subgroups, but had a low alpha of only .68 for U.S. born members of the sample (Table 17). None of the Pathways items worked well for the U.S. born members of the sample, with corrected item-total correlations for this subgroup ranging from .06 to .36. The reason is not clear. The reliability coefficients for the Agency subscale are also variable

and low for some subgroups. It appears best to regard the Hope scale total, but perhaps not the subscales as providing adequate measures in the present research.

The item analysis of the 10-item Neuroticism scale revealed one weak item: "Pocas veces me siento triste." On reflection, this item in translation into Spanish appears ambiguous; it may be taken to mean "I rarely feel sad" or "A few times I feel sad." This item was deleted from the scale used in the present research, resulting in a 9-item Neuroticism scale with good alpha reliability (.78 to .88 across subgroups).

Finally, a 6-item Latino Obstacle scale written specifically to include in the present research resulted in relatively good alpha reliability estimates—ranging from .82 to .84 across subgroups. Tables 18 and 19 detail information about the internal structure of this new scale by showing corrected item-total correlations.

Table 16

Alpha Coefficients for Participant Subgroups

Instruments	Scale	Male	Female	Foreign-Born	U.S.-Born
My Vocational Situation.	Vocational Identity (VI)	.86	.86	.86	.86
(Holland, Gottfredson, & Power; 1980)	Occupational Information (OI)	.91	.85	.89	.80
	Barriers (B)	.46	.52	.49	.58
Career Decision Self-Efficacy Scale-Short Form	Self-appraisal	.88	.86	.87	.83
(CDSE-SF). (Taylor & Betz; 1983)	Occupational Information	.87	.89	.89	.84
	Goal Selection	.83	.83	.82	.83
	Planning	.83	.84	.84	.81
	Problem Solving	.82	.87	.83	.89
	Total Score	.95	.96	.96	.95
Hope Scale (Snyder et al., 1991)	Agency	.66	.83	.83	.65
	Pathways	.70	.57	.64	.37
	Total	.81	.80	.82	.68
Neuroticism International Personality Item Pool (IPIP)	Neuroticism (10 Item)	.84	.86	.86	.78
(Goldberg, 1992)					
Neuroticism[b] International Personality Item Pool (IPIP)	Neuroticism (9 Item)	.85	.87	.88	.78
Latino Obstacle Scale	Latino Obstacles	.82	.83	.82	.84

Table 17

Correlations Among Subscales of the Career-Decision Self-Efficacy Scale-Short Form, in Study Sample

Scale	Self Appraisal	Occupational Information	Goal Selection	Planning	Problem Solving	Total
Self Appraisal	**.86**	.85	.71	.67	.72	.88
Occupational Information	.85	**.88**	.75	.71	.73	.91
Goal Selection	.71	.75	**.83**	.76	.77	.89
Planning	.67	.71	.76	**.84**	.82	.89
Problem Solving	.72	.73	.77	.82	**.85**	.90
Total	.88	.91	.89	.89	.90	**96**

Note. Bold face entries on the diagonal are alpha reliability coefficients.

Table 18

Item Statistics for Latino Obstacle Scale – Male and Female

	Males [a] (n=68)		Females [b] (n = 175)	
¿Cree que alguna de las siguientes son obstáculos para usted salir adelante en los Estados Unidos?	Mean	Corrected Item Total	Mean	Corrected Item Total
1. Skin color - Color de la piel	.27	.46	.22	.43
2. Lack of Money - Falta de dinero	.49	.46	.55	.44
3. Immigration Status - Condición migratoria	.44	.66	.38	.74
4. The Way I speak English - La forma de que habla inglés-	.35	.65	.40	.64
5. Lack of Education - Falta de educación	.44	.63	.43	.71
6. Lack of Transportation - Falta de transporte-	.38	.65	.38	.67

[a]alpha = .82; [b]alpha = .83

Table 19

Item Statistics for Latino Obstacle Scale – Foreign Born and U.S. Born

¿Cree que alguna de las siguientes son obstáculos para usted salir adelante en los Estados Unidos?	Foreign Born[a] (n=158)		U.S. Born[b] (n = 71)	
	Mean	Corrected Item Total	Mean	Corrected Item Total
1. Skin Color- Color de la piel	.20	.42	.31	.56
2. Lack of Money- Falta de dinero	.53	.49	.54	.38
3. Immigration Status- Condición migratoria	.46	.70	.27	.75
4. The Way I Speak English- La forma de que habla inglés-	.41	.61	.32	.71
5. Lack of Education- Falta de educación	.50	.70	.28	.67
6. Lack of Transportation- Falta de transporte-	.44	.64	.25	.73

[a] alpha = .83; [b]alpha = .84

Comparison of Reliabilities for Spanish- and English-Language Versions of Scales

Table 20 provides a brief overview of measures and reliabilities for the Spanish language versions of all scales used in the current research and typical reliabilities for prior English language studies. Based on coefficients alpha in the present study, the translations appear to be successful. With the exception of the alpha for the Pathway subscale, the Hope Scale coefficient alphas appear to be similar or higher for the Spanish-language sample than those recorded in studies using the English-language scale. Internal consistency item analyses were conducted for all scales used in the research. In these internal consistencies item analyses, all items appeared to work as expected with the exceptions of the first item on the Neuroticism Scale, and the Pathways subscale for some subsamples described earlier.

Table 20

Comparison of Reliabilities of Study Sample with Prior Studies

Instrument	Scale	No. of Items	Item Format	Prior Studies[a]	Present Sample
My Vocational Situation.	Vocational Identity (VI)	18	True/false	.89	.86
	Occupational Information (OI)	4	Yes/no	.79	.87
	Barriers (B)	4	Yes/no	.45	.52
Career Decision Self-Efficacy Scale-Short Form (CDSE-SF).	Self-appraisal	5	5-point Likert scale	.81	.86
	Occupational Information	5	5-point Likert scale	.82	.88
	Goal Selection	5	5-point Likert- scale	.85	.83
	Planning	5	5-point Likert- scale	.82	.84
	Problem Solving	5	5-point Likert- scale	.81	.85
	Total Score	25	5-point Likert- scale	.95	.96
Hope Scale	Agency	4	6-point Likert -scale	.71	.79
	Pathways	4	6-point Likert- scale	.67	.60
	Total	8	6-point Likert- scale	.76	.80
Neuroticism International Personality Item Pool (IPIP)	Neuroticism	10	5-point Likert- scale	.85	.85
Neuroticism[b] International Personality Item Pool (IPIP)	Neuroticism	9	5-point Likert- scale	NA	.87
Latino Obstacle Scale	Latino Obstacles	6	Yes/no	NA	.83

Note. NA = not applicable.

[a] My Vocational Situation: reliabilities from Holland et al. 1980. CDSE-SF: reliabilities are calculated from median scores taken from Betz et al. 2005. Hope Scale: reliabilities taken from median score in a normal sample of college students Snyder et al. 1991. Neuroticism Scale: Goldberg et al. 1992.

Correlations With Criterion Measures

This section summarizes information on the correlations between the Vocational Identity scale score and the other scales used in this research for the purpose of examining convergent and discriminant validity. On the basis of validity evidence reviewed in an earlier chapter for the original English-language version of the Identity scale, positive correlations are expected with age, education level, Hope, and Career Decision Self-Efficacy. Negative correlations were expected with Neuroticism.

Correlations between the Vocational Identity scale, as well as the Occupational Information and Barriers subscales of the MVS and criterion measures examined are presented in Table 21. As expected, positive correlations were found between Vocational Identity and age (r= .36), education level (r= .21), Hope (r= .40), and Career Decision Self-efficacy (r= .59). Also as expected, a negative correlation was found between Neuroticism (r= -.50) and Vocational Identity. A negative correlation was also found with the specially created Latino Obstacle Scale (r= -.21).

Table 22 also shows correlations with some additional variables for which there was no *a priori* reason to anticipate an association with Identity. No significant correlations were found between Vocational Identity and place of birth, gender or most of the self-reported English-language abilities. The correlation of Identity with reported ability to read English is statistically significant but small (r = .15, p < .05). For the most part, the correlations between the other two components of MVS, the Occupational Information scale and Barriers checklist follow the pattern for the Vocational Identity scale except that they are opposite in sign and generally smaller in size. An exception is the statistically significant correlation between being female and the Barriers checklist

score (r = .17, p < .02). The two ancillary components of MVS also have slightly larger observed correlations (negative) with age than does the Vocational Identity scale.

For completeness, Tables 22 to 25 show details of the correlations of Vocational Identity with criterion measures separately for males, females, foreign born and U.S. born study participants. The expected convergent correlations were found for all of the subgroups with Career Decision Making Self-Efficacy, Hope, Age, and Education as was the expected negative correlation with Neuroticism.

Table 21

Correlations Between Criterion Measures and Demographics and the Vocational Identity, Barriers, and Occupational Information Scores

Scale or characteristic	Identity Scale	Barriers	Occupational Information
Age in years	.361	-.208	-.249
Education Level	.211	-.350	-.253
Latino Barrier Scale[a]	-.213	.145	.157
9-Item Neuroticism[b]	-.497	.384	.356
Hope Scale[c]	.399	-.242	-.311
U.S.-Born	-.044	.005	-.044
Female	-.043	.173	.092
CDSE_SF	.593	-.333	-.406
Ability to Understand Spoken English	-.010	.017	-.037
Ability to Speak English	.112	-.009	-.025
Ability to Read English	.147	-.097	-.107
Ability to Write English	.077	-.034	-.012

Note. N = 180 to 194. Correlations of .15 or larger in absolute value are significant at the .05 level.

[a] 6-item Latino Barrier Scale; [b] Derived from IPIP; [c] Hope Scale (Snyder et al., 1991)

Table 22

*Correlations Between Criterion Measures and Demographics and the Vocational Identity, Barriers, and Occupational Information Scores —Males (*N *= 50-57)*

Scale or Characteristic	Identity Scale	Barriers	Occupational Information
Age in years	.404	-.089	-.177
Education Level	.332	-.336	-.238
Latino Barrier Scale[a]	-.307	.245	.206
9-Item Neuroticism[b]	-.384	.345	.440
Hope Scale[c]	.426	-.264	-.355
U.S.-Born	-.186	.033	.181
CDSE_SF	.664	-.428	-.509
Ability to Understand Spoken English	.018	-.096	.050
Ability to Speak English	.074	-.145	.055
Ability to Read English	.213	-.229	-.078
Ability to Write English	.189	-.189	-.041

Note. Correlations larger in absolute value than .27 are significant at the .05 level.
[a] 6-item Latino Barrier Scale; [b] Derived from IPIP; [c] Hope Scale (Snyder et al., 1991)

Table 23

Correlations Between Criterion Measures and Demographics and the Vocational Identity, Barriers, and Occupational Information Scores — Females (N = 127-139)

	Identity Scale	Barriers	Occupational Information
Age in years	.339	-.218	-.263
Education Level	.159	-.380	-.273
Latino Barrier Scale[a]	-.176	.127	.145
9-Item Neuroticism[b]	-.540	.397	.322
Hope Scale[c]	.390	-.240	-.294
U.S.-Born	.010	.021	-.135
CDSE_SF	.566	-.319	-.376
Ability to Understand Spoken English	-.021	.031	-.098
Ability to Speak English	.130	.015	-.080
Ability to Read English	.120	-.086	-.151
Ability to Write English	.034	.008	-.010

Note. Correlatons larger in absolute value than .17 are significant at the .05 level.
[a] 6-item Latino Barrier Scale; [b] Derived from IPIP; [c] Hope Scale (Snyder et al., 1991)

Table 24

Correlations Between Criterion Measures and Demographics and the Vocational Identity, Barriers, and Occupational Information Scores —Foreign Born (N = 130 to 140)

	Identity Scale	Barriers	Occupational Information
Age in years	.336	-.224	-.303
Education Level	.190	-.373	-.236
Latino Barrier Scale[a]	-.218	.175	.135
9-Item Neuroticism[b]	-.543	.413	.362
Hope Scale[c]	.413	-.308	-.295
Female	-.107	.173	.177
CDSE_SF	.650	-.395	-.413
Ability to Understand Spoken English	.066	-.025	-.080
Ability to Speak English	.169	-.023	-.055
Ability to Read English	.165	-.107	-.134
Ability to Write English	.097	-.018	-.040

Note. Correlations larger than .17 are significant at the .05 level.
[a] 6-item Latino Barrier Scale; [b] Derived from IPIP; [c] Hope Scale (Snyder et al., 1991)

Table 25
Correlations Between Criterion Measures and Demographics and the Vocational Identity, Barriers, and Occupational Information Scores —*U.S. Born (*N = *47-56)*

	Identity Scale	Barriers	Occupational Information
Age in years	.414	-.166	-.105
Education Level	.283	-.300	-.304
Latino Barrier Scale[a]	-.231	.080	.204
9-Item Neuroticism[b]	-.358	.313	.341
Hope Scale[c]	.374	-.038	-.402
Female	.074	.178	-.143
Self-Appraisal Subscale of the CDSE_SF	.450	-.173	-.430
Ability to Understand Spoken English	-.273	.183	.208
Ability to Speak English	-.056	.062	.192
Ability to Read English	.141	-.062	.099
Ability to Write English	.048	-.090	.192

Note. Correlations larger than .27 in absolute value are significant at the.05 level.
[a] 6-item Latino Barrier Scale; [b] Derived from IPIP; [c] Hope Scale (Snyder et al., 1991)

Correlations Among the Components of My Vocational Situation and the New Latino Obstacles Scale

Finally, Table 26 was prepared to examine the degree of independence versus redundancy among the components of the translated Vocational Identity scale and the other two components of My Vocational Situation. The table shows the correlations among the scales, including the newly developed Latino Obstacles scale and includes the alpha reliability coefficients for each of the four measures on the diagonal. The results in

Table 26 confirm that the Vocational Identity scale is moderately independent of the Occupational Information scale, with the correlation between these two scales (r = -.56) substantially below the alpha reliabilities of either scale (.86 and .87) in absolute value. In contrast, the table also confirms that the MVS Barriers component is best thought of as a simple checklist of potential issues to discuss with clients rather than as an independent scale.

Table 26 also shows that the new Latino Obstacles scale measures barriers that are substantially independent of the other information provided by the MVS. Its correlations with the MVS scales are all modest (ranging from -.23 to .16) and well below its reliabilities. If used together with the MVS it would add additional information relevant to the career status of Latinos.

Table 26

Correlations Among Scales of My Vocational Situation, Spanish Translation, and the Latino Barriers Scale

Scale	Identity	Occupational Information	Barriers	Latino Obstacles
Identity	**.86**	-.56	-.49	-.23
Occupational Information	-.56	**.87**	.47	.16
Barriers	-.49	.47	**.52**	.14
Latino Obstacles	-.23	.16	.14	**.83**

Note. *N*s range from 193 to 194. All correlations are significantly different from zero at the .05 level. Alpha reliability coefficients shown in bold face type on the diagonal.

Chapter 5 Discussion

The specific aims of this study were to produce a Spanish language version of My Vocational Situation with a focus on the Vocational Identity scale which has been widely used in English language practice and research. This research therefore begins the process of gathering psychometric data for the Spanish language version, providing initial evidence of its construct validity, and compares the evidence about a new Spanish version with that of the English language version.

Evidence of Construct Validity

The goal of producing a Spanish-language version of My Vocational Situation was achieved. Initial and back translations were completed by bilingual individuals and a small sample of Spanish speakers who provided me with feedback on their interpretation of the translated items. The two individuals conducting the original translation were Spanish and Peruvian; back translations were conducted by a Cuban American individual; the four individuals providing feedback were from Honduras, El Salvador, Cuba and Puerto Rico. The feedback (a kind of informal cognitive lab exercise) proved useful in revising translated items to reduce ambiguity. For example, one of the individuals stated that she was offended by the instrument because of the use of the Spanish word "tu" (informal word meaning you) and thought the instrument should be more formal and use the word "usted." I agreed, and made appropriate changes throughout the instrument making it more formal. The internal consistency item analyses revealed that the newly developed Spanish language version of the Vocational Identity scale has similar reliability in the present sample of Spanish speakers ($\alpha = .86$) with the English version for high school students ($\alpha = .86$) and for college students and workers (α

= .89) (Holland, Gottfredson, & Power, 1980). These results provide evidence of the successful Spanish-language translation of the Identity scale.

The evidence of construct validity for the English-language Vocational Identity scale is plentiful, although somewhat scattered and unsystematic. Since its development by Holland, Gottfredson, and Power (1980), numerous studies (many of which were reviewed in earlier chapters) have been conducted using the Vocational Identity scale. The empirical success of the Vocational Identity scale in predicting vocational indecision, identifying individuals in need of vocational assistance, and in evaluating the outcomes of vocational interventions led Holland to include vocational identity as a key construct in the most recent version of the theory (Holland, 1997), which now incorporates identity as an explanatory construct, implying that the main postulates in the theory apply more clearly to persons of high identity. The theory now also incorporates a parallel construct on the environmental side (called Organizational Focus or Environmental Identity) that is operationalized by the Organizational Focus Questionnaire (Gottfredson & Holland, 1997; Gottfredson & Duffy, 2008). The results of this study provide initial evidence regarding the convergent and discriminant validity of the Spanish language version of the Vocational Identity scale and My Vocational Situation, the assessment tool within which it is found.

The encouraging initial evidence about the Vocational Identity scale will allow the extension of research on Holland's theory, particularly the portion relating to vocational identity, to Spanish speaking populations. Other assessment instruments based on the theory, particularly Spanish language versions of the Self-Directed Search (Holland, 1997; Glidden-Tracey & Greenwood, 1997) and of the Position Classification

Inventory (Gottfredson & Holland, 1991; Martínez & Fernández, 2003) already make it possible to implement the typological formulations for person and environment in practice and research. The present translation now allows the extension of research and practice to include the vocational identity construct.

The current study revealed that all of the hypothesized relationships between the English language Vocational Identity Scale and criterion measures selected for this investigation were confirmed for the Spanish language version of the scale. Anticipated positive correlations were found with age (*r*=.36), education level (*r*=.21), Hope (*r*=.40), and Career Decision Self-Efficacy (*r*=.59). Negative correlations were found with Neuroticism (*r*= .50) and a new Latino Obstacles scale (*r*= .21). These findings are consistent with previous studies described in Chapter 2 and Appendix A. The findings of a negative correlation of the Vocational Identity scale with Neuroticism is similar to that of Holland, Gottfredson, and Baker (1990) who also found an inverse relationship between Vocational Identity and Neuroticism. The moderate relationship (*r*=.36) between age and Vocational Identity for the Spanish language version in the present research implies that older individuals tend to have higher levels of VI. Similarly, the moderate relationship (r=. 21) found between the Spanish language Vocational Identity scale and education level in the present sample parallels the earlier findings in English-speaking samples that individuals with higher levels of education tend to have higher levels of Vocational Identity. The moderate to large correlations found between Spanish language Identity scale and the Hope Scale (r=.40), Career Decision Self-Efficacy (r=.59), and Neuroticism (*r* = -.21) support the interpretation that the Vocational Identity scale is a useful measure of adjustment in the vocational realm.

Identity, Gender, and Nativity

In the present Spanish speaking sample, scores on the Vocational Identity scale were essentially independent of gender and of whether the respondent was born in the U. S. Respondents not born in the U.S. and women tended to indicate that a few more of the barriers listed in MVS applied to them, but the difference was not great.

In summary, the translated Vocational Identity scale as well as the Occupational Information scale and Barriers checklist of the MVS appear to have similar psychometric properties for men and women and immigrant and native born U.S. Spanish speakers and to show promising evidence of construct validity—suggesting their appropriateness for further research and practical applications.

Limitations of the Study

Every study has limitations. This section describes notable limitations of the present effort.

Although the three largest Latino subgroups in the U.S. (Mexican, Puerto Rican and Cuban) did emerge as the three largest Latino subgroups in the present study, the groups did not proportionately resemble the current U.S. Latino population. The largest three Latinos subgroups in the study were Puerto Rican (28%), Mexican (14%) and Cuban (4%). A closer approximation to the population of U.S. Latinos would have had Mexicans (65%) as the largest group followed by Puerto Ricans (9%) and then Cubans (3.7%) and Salvadorans (3.6%) (Pew, 2010). Attempts were made via electronic communication with student service personnel staff at community colleges in California, Texas, Arizona, and New Mexico in order to increase Mexican participation;

unfortunately not many replies were received from community colleges in the Southwest. Males are underrepresented in the sample.

It would also have been preferable if a larger number of younger community college and university students could have been recruited. Participants ranged in age from 18 to 86 years old. The average age of the sample was 38 years (SD = 14) which is fairly old for this type of instrument; a better sample would have included more younger subjects. This implies that it would be useful for career counseling centers to develop local norms for use in work with younger Latinos.

The sample included numerous individuals with college degrees. This is not representative of the population of individuals in the U.S. who have limited English language abilities and who would most benefit from a Spanish language version of the Vocational Identity scale. More than 73% of participants stated they could understand spoken English, speak English, read, and write English *very well*. Future research should extend studies to samples that include Latinos with less English-language competency.

Implications for Practice

Research on the structural aspects of Holland's theory of vocational personalities and work environments has generally supported the universal applicability of the interest dimensions and their structural arrangement for both men and women in a variety of languages and ethnicities (Day & Rounds, 1998), despite some demurrers (Hansen, 1997). The theory is widely applied in counseling applications. Holland and Gottfredson (1992) reported that the Self-Directed Search (an instrument for assessing Holland's personality typology) had been translated into 20 languages. Yet this availability of instruments across cultures and languages has not much extended beyond the personality

or interest measures to include more recent developments in Holland's theory. This leaves parts of the theory untested in research for many language groups, and it makes the application of the complete theory and tools difficult for some language groups. A concrete product of the present research is an instrument to assess vocational identity in terms of the theory that can be applied in Spanish speaking groups.

The current findings imply that it should now be possible for counselors working with Spanish speaking individuals on career-related topics to assess vocational identity in terms of Holland's theory. The most common applications of the English language version have been the assessment of vocational status in colleges, universities, and career development and vocational assistance services. These assessments are used to identify clients most in need of vocational assistance so that services to help these individuals clarify their understandings of self and career options may be offered. The second most common application has been in the evaluation of career related services, where the Vocational Identity scale has been found to be sensitive to the effects of interventions. The extension of this assessment to Spanish speaking clients is now recommended. These extensions should be linked to continuing research to provide more information about the psychometric properties, interpretation, and usefulness of the instrument with these populations. Until we have more data with less English proficient individuals applicability of results to Spanish speakers remains purely speculative.

These findings also suggest that it may be helpful to develop translations of other frequently used English language instruments into Spanish. Future research might fruitfully further test the psychometric properties of the current scale and develop more comprehensive and representative norms, to include international testing in other Spanish

speaking countries. Future research might also involve additional translated scales with multiple segments of the Latino population, in order to examine within group differences. International testing may provide insight on the use of near synonyms for words that may have different meanings from country to country.

Counselors working with Spanish speaking clients seeking career services may use the results from the Vocational Identity scale to evaluate the effectiveness of career workshops and career related courses. Individuals with low Vocational Identity scores may benefit from instruction on RIASEC and other career development concepts. Individuals with high Vocational Identity are likely to benefit and get reassurance from interest assessments. In contrast, individuals low scores may benefit from transparent assessments (such as self-assessment with the Self-Directed Search) to learn about themselves and types of interests. Evaluation of these interventions could be accomplished through studies using pre-tests and post-test experiments using the Spanish Vocational Identity scale.

Latino Obstacles

The present research developed a Latino Obstacle Scale which can be used in conjunction with the Vocational Identity Scale when working with Spanish speakers. With a coefficient alpha of .83 the scale shows promise in identifying perceived obstacles by clients seeking career services. Counselors could discuss the obstacles clients identify. Combination of these two instruments provides counselors working with Spanish speakers greater insight into career related services needed and places counselors in a better position to provide support.

Future Research

It may not be enough to simply translate an instrument into Spanish assuming that it will work in the same way that an original instrument did with English speaking persons. While this study has provided a translated version of the Vocational Identity scale, further validation of the scale is needed. In particular, the scale needs to be tested with a more representative sample that addresses some of the limitations of the present sample described earlier.

Appendix A Inventory and Scale Correlates of Vocational Identity

	Correlation			Number			Construct	
	Men	Women	Total	Men	Women	Total	Measured	Sample
Betz, Klein, & Taylor (1996)				81	103	184		Introductory psychology students at a large Midwestern University
***Career Decision-Making Self-Efficacy Scale* - Short Form (CDMSE-SF)**								
• Self-Appraisal	.48	.56					Decision Making Ability	
• Occupational Information	.28	.50					Decision Making Ability	
• Goal Selection	.55	.66					Decision Making Ability	
• Planning	.39	.56					Decision Making Ability	
• Problem-Solving	.30	.40					Decision Making Ability	
• Total Score	.48	.63					Decision Making Ability	
Chartrand, Robbins, Morrill, & Boggs (1990)						296		Undergraduate psychology students from a large western university and a large southeastern university
Career Factors Inventory								
• Career Choice Anxiety			-.40*				Career Indecision	
• Generalized Indecisiveness			-.33**				Career Indecision	
• Need for Career Information			-.35**				Career Indecision	
• Need for Self-Knowledge			-.40**				Career Indecision	
Fretz & Leong (1982)				48	64	112		
Career Maturity Inventory								
• Self-Appraisal (CMI)			.09				Career Maturity	
• Occupational-Information (CMI)			-.09				Career Maturity	
• Goal Selection (CMI)			.15				Career Maturity	

	Correlation			Number			Construct	
	Men	Women	Total	Men	Women	Total	Measured	Sample
• Planning (CMI)			.05				Career Maturity	
• Problem Solving (CMI)			-.08				Career Maturity	
• Attitude Scale (CMI)			.43				Career Maturity	
Graef, Wells, Hyland, & Muchinsky (1985)				103	97	200		Undergraduate psychology students
Career Development Inventory	.52***	.23*					Career Decidedness &Vocational Maturity	
• Career Decision Scale	.67***	.63***					Vocational Indecision	
Grotevant & Thorbecke (1982)				41	42	83	Occupational Identity Formation	White high school students
Work and Family Orientation Scale							Achievement Motivation	
• Mastery	.54***	.18					Achievement Motivation	
• Work	.30*	.45***					Achievement Motivation	
• Competiveness	.15	-.27					Achievement Motivation	
• Personal Unconcern	.37*	.02					Achievement Motivation	
Heppner, Multon, & Johnston (1994)				25	78	103		Adults involuntarily laid-off from manufacturing firms
Career Transitions Inventory (CTI)								
• CTI Total			.52**				Career Change Adjustment	
• CTI Readiness			.25*				Career Change Adjustment	
• CTI Confidence			.56**				Career Change Adjustment	
• CTI Control			.28**				Career Change Adjustment	
• CTI Perceived Support			.47**				Career Change Adjustment	
• CTI Decision Independence			.05				Career Change Adjustment	

	Correlation			Number			Construct	
	Men	Women	Total	Men	Women	Total	Measured	Sample
Holland, Gottfredson, & Baker (1990)				444	234	678		Navy recruits in basic training. Men ages 16 to 31 years (M=19.3); women ages 17 to 35 years (M=21.3)
NEO Personality Inventory								
• Neuroticism	.39***	-.30***					Personality	
• Extroversion	.18***	.25***					Personality	
• Openness	.08	.14*					Personality	
• Agreeableness	.07	.28***					Personality	
• Conscientiousness	.36***	.25***					Personality	
Leong and Morris (1989)						86		White college students enrolled in introductory psychology courses at a large eastern university
Social Avoidance and Distress			-.21*					
• Intolerance of Ambiguity			-.26*				Personality	
• External Locus of Control			-.17				Personality	
• Career Decision Making Styles							Career Decision Making Styles	
• Rational Style			.37*				Career Decision Making Styles	
• Intuitive Style			-.35*				Career Decision Making Styles	
• Dependent Style			-.60*				Career Decision Making Styles	
• Vocational Preference Inventory							Vocational Interests	
• Realistic			.14				Vocational Interests	
• Investigative			.25*				Vocational Interests	
• Artistic			.13				Vocational Interests	
• Social			.09				Vocational Interests	
• Enterprising			.08				Vocational Interests	
• Conventional			-.08				Vocational Interests	

	Correlation			Number			Construct	
	Men	Women	Total	Men	Women	Total	Measured	Sample
• Career Maturity Inventory-Attitude Scale			.69*				Career Maturity	
• Occupational Values							Occupational Values	
• Use Special Abilities			.24*				Occupational Values	
• Earn a Good Deal of Money			.13				Occupational Values	
• Be Creative and Original			.22*				Occupational Values	
• Special Status and Prestige			-.16				Occupational Values	
• Work with people not things			.18				Occupational Values	
• Stable Secure Future			-.12				Occupational Values	
• Free of Supervision			.02				Occupational Values	
• Exercise Leadership			.31*				Occupational Values	
• Adventure			.07				Occupational Values	
• Be Helpful to Others			.02				Occupational Values	
Lucas, Gysbers, Buescher, & Heppner (1988)				1,220	1,431	2,651		Male & female entering college, undeclared university freshman, & adults seeking career counseling
Sex differences	Correlation Not Stated; Reported as *Not Significant*						Gender	
Age differences	Correlation Not Stated; Reported as *Not Significant*						Age	
GPA relationships (high VI subgroup, 17 or above)			-.14			99	GPA	
GPA relationships (low VI subgroup, 1 or below)			-.09			99	GPA	

	Correlation			Number			Construct	
	Men	Women	Total	Men	Women	Total	Measured	Sample
Wanberg & Muchinsky (1992)				188	197	390	Vocational Decision Making & Personality Constructs	Introductory psychology students at a Midwestern university
• Career Decision Profile (CDP)							Career Indecision	
• Decidedness (CDP)			.58				Career Indecision	
• Comfort (CDP)			.70				Career Indecision	
• Self-Clarity (CDP)			.68				Career Indecision	
• Knowledge (CDP)			.64				Career Indecision	
• Decisiveness (CDP)			.50				Career Indecision	
• Importance (CDP)			.34				Career Indecision	
• Career Decision Scale (CDS)							Vocational Indecision	
• Certainty (CDS)			.60				Vocational Indecision	
• Indecision (CDS)			-.78				Vocational Indecision	
• State-Trait Anxiety Inventory							Personality Constructs	
• State Anxiety			-.33				Personality Constructs	
• Trait Anxiety			-.41				Personality Constructs	
• Internal			.20				Personality Constructs	
• Powerful Others			-.31				Personality Constructs	
• Chance			-.35				Personality Constructs	
• Private Self Consciousness			.07				Personality Constructs	
• Public Self Consciousness			-.17				Personality Constructs	

*$p < .05$. **$p < .01$. ***$p < .0001$

Appendix B Copyright Permissions

My Vocational Situation- Permission to translate MVS was obtained verbally and in writing from Denise Gottfredson. Even though the actual instrument states it may be used for research purposes.

Career Decision Self-Efficacy-Short Form- Permission to use and translate CDSE-SF obtained from Nancy Betz along with instrument and manual.

Hope Scale- In original article Snyder provides permission to use manual for research purposes.

Neuroticism Scale of Goldberg's International Personality Item Pool- These items are public domain items available via the internet. While not necessary since items are online the current researcher did contact Edgardo Pérez and received permission to use the Spanish Language items.

Appendix C Recruitment Sources

National Latino Fraternities and Sororities Contacted		Coordinators, Directors and Administrators in Charge of Student Services at Respective Colleges	Miscellaneous Organizations
Alpha Psi Lambda	AZ	Gate Way Community College	Latino Graduate Student Association, UMD
Alpha Pi Sigma Sorority	AZ	Mesa Community College	LAT-NET, Latino Network of American Psychological Association
Chi Upsilon Sigma	AZ	Paradise Valley Community College	Association of Multicultural Counseling and Development
Gamma Alpha Omega	AZ	Scottsdale Community College	National Association of Hispanic Nurses
Gamma Zeta Alpha	AZ	Rio Salado College	Identity Inc.
Kappa Delta Chi.	CA	Bakersfield College	Casa De Maryland
Lambda Alpha Upsilon	CA	Barstow Community College	Association of Mexican American Educators
			Action Langley Park
Lambda Pi Chi	CA	Butte College	
Lambda Pi Upsilon	CA	Chaffey College	
Lambda Sigma Upsilon	CA	Citrus College	
Lambda Theta Alpha	CA	City College of San Francisco	
Lambda Theta Nu	CA	De Anza College	
Lambda Theta Phi	CA	East Los Angeles College	
Lambda Upsilon Lambda	CA	Fullerton College	
Omega Phi Beta	CA	Golden West College	
Phi Iota Alpha	CA	Long Beach City College	
Sigma Iota Alpha	CA	Los Angeles City College	
Sigma Lambda Upsilon	CA	Mission College	
Omega Delta Phi	CA	Orange Coast College	
	CA	Sacramento City College	
	CA	San Diego City College	
	CA	San Diego Mesa College	
	CA	San Diego Miramar College	
	CA	Santa Rosa Junior College	
	CA	Southwestern College	
	CA	Taft College	

National Latino Fraternities and Sororities Contacted	Coordinators, Directors and Administrators in Charge of Student Services at Respective Colleges		Miscellaneous Organizations
	CA	Victor Valley College	
	CA	West Hills Community College-Lemoore	
	CA	Woodland Community College	
	FL	Brevard Community College	
	FL	Broward College	
	FL	Daytona State College	
	FL	Hillsborough Community College	
	FL	Miami Dade College	
	FL	South Florida Community College	
	FL	Valencia College	
	NM	Central New Mexico Community College	
	NM	Clovis Community College	
	NM	Dona Ana Community College	
	NM	Santa Fe Community College	
	NM	Central New Mexico Community College	
	NM	Clovis Community College	
	TX	Coastal Bend College	
	TX	College of the Mainland	
	TX	Dallas County Community College District	
	TX	Del Mar College	
	TX	El Paso Community College District	
	TX	Galveston College	
	TX	Laredo Community College	
	TX	Palo Alto College (San Antonio)	
	TX	Houston Community College System	
	TX	South Texas College	
	TX	Texas State Technical College- Harlingen	

National Latino Fraternities and Sororities Contacted	Coordinators, Directors and Administrators in Charge of Student Services at Respective Colleges		Miscellaneous Organizations
	TX	Victoria College	
	PR	University of Puerto Rico	

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