A Dissertation
Submitted to the Faculty
of Xavier University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Psychology
by
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August 2012

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Acknowledgements

To begin, I would like to thank Dr. Barrett for his time and guidance through this process as they have been invaluable. I would like to further extend my thanks to Dr. Morell Mullins for his expertise and kindness as well as to Dr. Wes Houston for his time. I would also like acknowledge my many mentors and professors who have led by example and taught me about the privilege of being in the position to affect people’s lives.

All the synonyms for love, support, guidance, and unfailing belief do not begin to cover what my family has given me. In particular I would like to thank my mother and my grandfather. From my mother I have learned about strength, integrity, and the importance of having passion for what you do. She has been my rock in the storm, my personal cheerleading squad, and the reason I have been able to reach this goal. I am honored to call her my mother, my mentor, and my friend. While my Djeda Zarko has taught me that making a difference in the lives of others, and celebrating life through the challenges, are activities that have no age limits. He is an inspiration to me and I am proud and thankful to be his granddaughter! I love you both!

Sometimes in life, if you are very lucky, you are granted the opportunity to make someone your family. I think that this is the greatest, most unexpected gift of all, for these people then become the family of your heart! My Louie is a man of amazing honor, and generosity. He is the crusher of obstacles and the creator of possibilities in my life. I could not have reached this goal or realized my dreams without his love and support, and it is to him that I dedicate this manuscript. Thank you Louie, I love you!
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Introduction

The projected increase in the number of older adults in the United States will likely challenge the mental health care system. Six thousand Americans turn 65 everyday and now comprise 13% of the US population (Alliance for Aging Research, 2002). Statistical projections predict that by the year 2030, the population of adults over the age of 65 will double from its current size (United States Bureau of the Census, 2001). This growth can jointly be attributed to changes in mortality and morbidity rates in America and to the aging of those individuals born in between 1946 and 1964, the so-called “baby-boom” generation. Indeed, by the year 2030, as these baby boomers age, 1 in 5 Americans will be classified as an older adult, providing society with the largest wave of older adults in history (Jeste, 1999). Also, given that the fastest-growing segment of the population includes individuals over age 85, we may experience higher rates of dementia than ever before (US Bureau of the Census, 2000). Additional evidence suggests that members of this cohort may have higher rates of emotional disorder (e.g. depression, suicide, anxiety, alcohol and drug abuse) far exceeding rates in the present cohort of older adults (Klerman & Weissman, 1989). In fact, a Consensus Statement made in 1999 by Jeste and colleagues regarding the upcoming crisis in geriatric mental health confirms this increase in mental illness. Jeste et al., (1999) estimated that there will be a 10% increase in the prevalence of mental illness in older adults, such that by the year 2030, the rates of psychiatrically ill older adults will account for 21.6% of the population, or about 15 million people. This number is even more shocking when compared with the numbers gathered in 1970. At that time there were 4 million mentally ill older adults in the population. Thus from 1970 to 2030 our society is expecting a 275% increase in the
incidence of mental health concerns in the nation’s elderly. If these estimates become reality, mental health services will be ill prepared to meet the need for properly trained professionals capable of dealing with the specialized treatment and assessment requirements of this segment of the population.

Within this context of expected increased demand for mental health services, geropsychology stands to be a likely growth area of practice for those planning a career in psychology (Alliance for Aging Research, 2003; International Longevity Center, 2000; Koder & Helmes, 2008). Indeed, estimates suggest that the numbers of practicing geropsychologists range between 200 and 700 (Gatz, Karel, & Wolkenstein, 1991; National Institute on Aging, 1987). However, there is also evidence of a projected need for approximately 5000 trained geropsychologists (Gatz, Karel, & Wolkenstein, 1991; Karel, Molinari, Gallagher-Thompson, & Hillman, 1997). These numbers suggest that the demand for well-trained geropsychologists far exceeds the expected supply. Obtaining more current numbers regarding practicing geropsychologists is complicated by the diversity of specializations and settings in which psychologists work. Additionally, other specialties, such as clinical neuropsychology, that also have significant interactions with older adults may need to be incorporated into current estimates in order to understand the true state of specialized psychological services available to older adults.

With respect to the availability of clinical psychologists in general, current estimates suggest that 34% of psychologists with doctoral degrees will reach retirement age by 2010. This translates to approximately 27,000 retirements. Based on current estimates of the production of clinical psychologists, about 22,000 clinical psychologists
will be produced between 2000 and 2010. This suggests that, in general, clinical psychologists are not being produced at a rate sufficient to replace those that are retiring (Center for Health Workforce Studies, 2006).

The deficiency in health professionals trained to meet the special needs of older adults is also present in other professions such as medicine, nursing, and social work, though little is known with regards to the actual numbers required (Halpain, Harris, McClure, & Jeste, 1999). However, despite the identification of this need, relatively few psychologists have received formal training in the psychology of aging as part of their generic training in psychology (Molinari, Chiriboga, Schonfeld, et al., 2005). In fact, a recent survey of APA member practicing psychologists Qualls et al. (2002) found that 69% of these professionals conduct some clinical work with older adults. However, in terms of specialized training, fewer than 30% report having had any graduate coursework in geropsychology and less than 20% received any supervised practicum or internship experience with older adults. More than half of respondents indicated that they felt the need for further training in order to further their practice with older adults. Another indication of perceived need for psychologists to acquire training in this area is evidenced by recent governmental actions. Specifically, recent California state legislation which has included graduate or continuing education coursework in aging and long term care as a prerequisite for psychology licensure (California State Senate Bill 953, 2002).

Additionally, at the congressional level, the Bureau of Health Professionals included special funding in order to support training in geropsychology in order to address this public health shortage.
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Recently, the field of psychology has sought to address this shortage through increased training opportunities as well as by establishing certain guidelines and competencies deemed necessary for practice with older adults (APA, 2004; Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009). One such effort in this pursuit has been the Pikes Peak model for training in professional geropsychology (Knight et al., 2009). The Pikes Peak model is the result of three national conferences centered around the training of potential geropsychologists and is geared towards providing competencies that were taken from the American Psychological Association Guidelines for Psychological Practice with Older Adults (APA, 2004) from which to base this training. The end result is a model whose focus is on the competencies of attitudes, skills, and knowledge base believed to be required to provide the appropriate level of care to older adults. While the Pike’s Peak model and other training guidelines are laudatory and important to establish, they do not specifically address the factors that influence the decision of students and professionals to work or not to work with older adults.

There have been numerous investigations into possible factors influencing students’ and professionals’ decisions to work with older adults. Some of these factors appear to be linked to such concepts as attitudes toward older adults (Cummings, Galambos, & DeCoster, 2003; Schigelone 2003), knowledge about aging (Damron-Rodriguez, Funderburk, Lee, & Solomon, 2004) as well as exposure to this population (Koder & Helmes, 2008). However, to date, no prior studies have used a comprehensive career choice theory-driven approach to study the factors influencing clinician’s interest in and choice to work with older adults. Such an approach could identify presumed explanatory antecedents of interest in working with older adults and explore how such
variables jointly function to facilitate or impede their interest in working with older adults and ultimately their career decision to do so.

Lent, Brown, and Hackett (1994) proposed social cognitive career theory (SCCT) as a conceptual framework to explain how individuals develop career interests and make career decisions. The foundation of SCCT lies in Albert Bandura's (1986) general social cognitive theory. While SCCT is similar to other theories of career interest and development insofar as it focuses on the relationship among a number of different constructs (e.g. interests, abilities, and goals), in SCCT the regulation of career behavior is primarily linked to three interwoven variables: self-efficacy beliefs, outcome expectations, and personalized goals (Lent et al., 1994). Self-efficacy beliefs refer to a person's belief or confidence in their ability to successfully engage in a certain behavior (Bandura, 1986). Outcome expectations pertain to the beliefs held by an individual regarding the consequences, or outcomes of performing different behaviors (Lent & Brown, 2006). Personal goals are intentions formed through the combination of self-efficacy and outcome expectations (Lindley, 2005). In addition to these main variables, Lent et al. (1994) incorporated the effect that individual differences and environmental influences may have on these variables, and thus on career development and choice. Because of this comprehensive approach, the Lent et al. (1994) model has been cited as one of the most integrative models currently available with which to study career choice and interest (Bishop & Bieschke, 1998; Gainor, 2006).

The purpose of the present study is to test the applicability of the Lent et al.'s (1994) SCCT model of vocational interest to psychology graduate students' interest in working with older adults. While the entire SCCT model will help inform this purpose,
there are particular aspects of the model that will be the focus of this inquiry. With respect to the question of career interest development, the emphasis is placed on the concept of self-efficacy and its centrality to this theory of career choice and interest development. In focusing on these relationships, it is hoped that a better understanding of the development of professional interest in working with older adults will be obtained and will help lay the groundwork for interventions targeted at cultivating interest in working with this underserved population. However, before a full complement of hypotheses is presented, the literature regarding interest in working with older adults, and the theory and application of social cognitive career theory will be reviewed in greater detail.
Chapter I
Review of the Literature

Research conducted across the health disciplines (i.e. medicine, nursing, psychology, social work), has suggested several factors, which are thought to influence student interests in working with the older adult population. Specifically, the focus has been on attempting to measure the influence of various factors on career interest and choice to work with older adults including knowledge of aging, attitude and attitude change toward older adults (Cottle & Glover, 2009; Dunkle & Hyde, 1995; Knapp & Stubblefield, 2000; MacNeil, 1991; Moriello, Smey, Pescatello, & Murphy, 2005; O’Hanlon & Brookover, 2002; Robert & Mosher-Ashley, 2000; Shenk & Lee, 1995; Stuart-Hamilton & Mahoney, 2003), the influence of contact with older adults (Dunkle and Hyde 1995; Koder & Helmes, 2008), and demographic variables (Fitzgerald, Wray, & Halter, 2003; Litwin, 1994; Shmotkin, Eyal, Lomranz, 1992).

Ageism: Attitudes, Knowledge, and Behavioral Intentions or Interests

Many of the efforts to understand the lack of interest in working with older adults have been conducted using the social cognitive construct of attitudes. Attitudes have been traditionally defined as a psychological tendency, which is expressed by evaluating some entity with a certain degree of favor or disfavor (Eagly & Chaiken, 1993). The tripartite attitude model (Eagly & Chaiken, 1993) proposes that attitudes are comprised of three components. The first is an affective component, which is comprised of feelings one has towards older individuals. The model also includes a second, cognitive component, which consists of beliefs or stereotypes regarding older adults, and a final behavioral component, represented by actual behavior or behavioral intentions toward older adults.
One's attitude toward older adults can be thought of as a combination of these three components. Negative attitudes with regard to aging have been discussed using the term ageism, coined by Butler (1969), which refers to evaluative judgments made toward a person or persons based on their advanced age. When broken down further however, this conceptualization of ageist attitudes yields additional information regarding the basis for these attitudes and the behaviors that may result. The second component of the tripartite model, one's belief regarding older adults, is assumed by the theory to be based on factual information (DeLamater, 1992). It is the evaluation of these facts, positive, negative, or neutral, that is thought to be the core of the actual attitude a person has regarding a construct. Following this theory, researchers have looked at attempting to change attitudes by increasing students' and professionals' knowledge about aging and age-related phenomena. In following the model, which includes behavioral dispositions or intentions in the definition of attitude, it is hoped that the link between knowledge, attitude, and behavioral intention or interests will then lead to a change in individual behavior (DeLamater, 1992). Using the present example, providing knowledge about age-related issues may improve students' attitudes towards older adults and thus increase their interest or behavioral intention to work with this population.

This path of investigation has been conducted both at the undergraduate and graduate levels and across disciplines. The focus of the present study is on the interest of doctoral students in clinical psychology. However the literature available on this population regarding this topic is sparse (Koder & Helmes, 2008; Shmotkin, et al., 1993). In fact the majority of the literature with regards to attitudes and aging has been conducted at the undergraduate level and will be reviewed here.
Researchers concerned with fostering interest in working with older adults have made attempts to study this question through a look at changing attitudes held by students through increased education and knowledge about aging. While the majority of these investigations have resulted in a change in student knowledge about aging (Cottle & Glover, 2009; Knapp & Stubblefield, 2000; O’Hanlon & Brookover, 2002; Stuart-Hamilton & Mahoney, 2003), the impact of these interventions on student attitudes have been less clear. Some studies have reported no changes in attitudes toward aging based on these interventions (Cottle & Glover, 2009; Stuart-Hamilton & Mahoney, 2003), while others have reported significant positive changes as a result (O’Hanlon & Brookover, 2002; Shenk & Lee, 1995).

In investigating the question of knowledge and attitude change, Stuart-Hamilton and Mahoney (2003), administered the Palmore Facts on Aging Quiz (Palmore, 1986; Palmore & Kivett, 1977) and the Fraboni Scale of Ageism (Fraboni, Saltstone, & Hughes, 1990) to 200 British undergraduate students both before and after a one-month age awareness workshop. The survey data revealed that while the workshops were effective in increasing students’ knowledge of the aging process, there was no change on the ageism measure. The results of this study suggest that an increase in awareness improves knowledge regarding older adults and aging but that it does not change attitudes toward aging and older adults. While this study allows for measuring change of these constructs over time, it also has some limitations. Firstly it is based on self-report survey data. It is also based on using British subjects, which could complicate the applicability to students in different countries. Also the specific curriculum of the awareness course was
not defined, making it difficult to measure the ways in which the intervention could have contributed to these results.

A similar study, conducted by Cottle and Glover (2009), looked at undergraduate students enrolled in five lifespan human development courses in order to measure change in their knowledge of, and attitudes toward the elderly (i.e. Time1 and Time2). In this course approximately 20% of course content was devoted to the study of late adulthood. The study included 253 undergraduate students ranging in age from 17 to 35 years of age. There was a discrepancy in gender and race, with the majority of the respondents being female and Caucasian. The study included survey based data. Knowledge of aging was measured using Palmore’s Facts on Aging Quiz (Palmore 1986; Palmore & Kivett, 1977). Attitudes toward aging were measured using the Aging Semantic Differential Scale (Rosencranz & McNevin, 1969), which uses a pair of adjectives, which are polar opposites to measure attitudes or biases. Data were collected during the first class (Time 1) and during the last week of classes (Time 2). The results of this study indicate student knowledge of aging showed positive change following the end of the course (i.e. increase in knowledge of the aging process). However, increased knowledge of the aging process appeared to be unrelated to attitudes toward older adults held by students as attitude scores at both Time 1 and Time 2 revealed no significant change. Some of the problems with this study were its high attrition rate between Time 1 and Time 2 as well as the lack of a control group. Additionally, four different instructors taught the lifespan course, which makes it difficult to assume equivalence of the student experience across course sessions. One novel approach of this study was the use of a lifespan course so as to avoid
self-selection of subjects with an increased interest in aging which may be assumed from students who enroll in a course totally devoted to aging.

In yet another study investigating the role of increased knowledge in attitudinal change in aging, researchers investigated the effect of the Professional Development Program in Gerontology (PDPG) offered through Continuing Education at the University of North Carolina. In this study Shenk and Lee (1995) surveyed professionals in two offerings of the program (Study 1 and Study 2). They used Palmore's Facts on Aging Quiz (Palmore, 1986; Palmore & Kivett, 1977) and a set of open-ended questions, both pre and post test in order to track knowledge and attitudes of participants with respect to aging and age-related phenomena. A review of the data suggested that this program was successful at improving students’ knowledge of aging and was also successful at improving attitudes toward older adults. While this is an example of a study in which attitudes were changed positively following an intervention, there are some issues with the nature of the sample. By virtue of the fact that these are professionals who are paying for a continuing education course in gerontology, they may be more inclined toward working with older adults and may be more open to attitude change. Additionally, this study relies on the Palmore’s as a measure of knowledge and as a partial measure of assessing attitude change. Measuring attitude change is further supplemented by open-ended question, which were not specified in the article.

The findings of Shenk and Lee (1995) have more recently been supported by O’Hanlon and Brookover (2002), who conducted an assessment of attitudinal change in 55 students enrolled in two gerontology courses at a university in Louisiana. They measured attitudes using the Aging Semantic Differential standardized measure
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(Rosencranz & McNevin, 1969) as well as a self-report of their beliefs about older adults. In addition to the coursework students were required to conduct a semi-structured life history interview with an older adult. Students completed the ASD and the self-reports at the beginning of the semester and after completing their interviews and were also asked to complete a reflection of their experience of the course. Results on the ASD indicated significant positive attitudinal change from pretest to posttest. A content analysis of the reflections provided converging validation. Students indicated that their classroom activities were important in the development of their attitudes; however, many of them particularly cited the interview with the older adult as an influential and valuable experience. While this study is limited by its small sample size, its reliance on survey data, and the difference of courses and instructors, it does include an experiential component with older adults that may be more influential with respect to attitudes and attitude change.

Despite the disparity in the literature regarding attitude change, there are many commonalities with respect to the methodology. Firstly many of these studies rely on survey-based data, they also share common designs (i.e. pre and post tests), similar measures (e.g. Palmore’s Facts on Aging, Aging Semantic Differential Scale), and similar populations (undergraduate students). One obvious difference is the use of practical experience with older adults (O’Hanlon & Brookover, 2002), which raises questions regarding the impact of contact on attitudes and interest in working with older adults. The role of contact will be explored later in the review after a look at the relationship between attitudes toward older adults and interest in working with them.
While researchers have devoted a lot of study to the importance of attitudes and attitude change in understanding interest in aging, there are studies, which question the role that attitudes or changes in attitudes themselves have an actual interest in working with this population. (Dunkle & Hyde, 1995; MacNeil, 1991; Moriello et al., 2005; Robert & Mosher-Ashley, 2000). For example, MacNeil (1991) explored the attitudes of 95 future therapeutic professionals from Great Britain toward the elderly and their effects on preferences for working with the older adult population. Statistical analysis of survey data revealed that while students' attitudes (as measured by the Kogan’s Old People Scale; Kogan, 1961) toward older adults were generally positive, there was a clear preference among students to work with younger clients than older adults.

Similarly, Robert and Mosher-Ashley (2000), investigated possible factors contributing to a desire to work with older adults. Using 282 pre-dominantly female college students enrolled at a Massachusetts school which has offered interdisciplinary program in Gerontology studies, Robert and Mosher-Ashley, found that 31% percent of the students surveyed planned on specializing in careers working with older adults. These results were based on the administration of several different questionnaires which asked questions regarding preferred working conditions, factors influencing decisions to work with older adults, descriptors of the older adults themselves, and possible descriptors with which to characterize working with this population. While the 31% of students who planned to work with older adults had more positive attitudes toward older adults than those who didn’t, they had equivalent negative attitudes toward working with older adults as well. Specifically, both groups felt that working with older adults would be boring, difficult, depressing, and frustrating. This research suggests that while people who plan to
work with older adults have more positive attitudes toward that group than those who do not, they also have equivalent negative attitudes toward this work than students planning to work with other populations. Robert and Mosher-Ashley, state that while attitudes themselves may be important factors in deciding to work with older adults, the story of interest among students to pursue working with the aging population is more complicated than that. While this study used a large sample and many different measures in investigating this question, this study is limited by use of a student population already exposed to gerontology. It is also hampered by the use of non-standard measures, which list characteristics that are not necessarily representative of individual attitudes.

Similarly, interventions aimed at attitude change have uncertain results when it comes to encouraging student interest in working with older adults. Moriello et al. (2005) investigated the influence of a six-hour educational intervention on attitudes of students in health related fields toward working with older adults. These 41 students from the University of Connecticut volunteered for the study and were randomly assigned to a treatment or control group. The treatment group consisted of a six-hour workshop focused on increasing student knowledge regarding healthy aging and exposure to stereotypes regarding aging. The control group was engaged in an unrelated activity for the six hours. Utilizing a post-test only research design, the participants were administered the Kogan’s Old People Scale (Kogan, 1961), which examines attitudes toward aging and Palmore’s Facts on Aging Quiz (Palmore, 1998; Palmore & Kivett, 1977), which provides a score of knowledge about older adults, both one week following the workshop and again 10 weeks after the workshop. Those in the treatment group showed a significant increase in their knowledge of aging-related phenomenon one week
following the workshop. However these gains diminished at the 10-week follow-up. With respect to attitudes, there were no reported statistical differences in attitudes at either the 1-week or 10 week follow-up, and importantly there were no reports of student intentions to work with this population. There are several limitations to this study. The small sample size decreases the power of the study and thus the ability to detect a true difference between actual and expected results. Additionally, it is hard to measure the effect of the treatment itself in the absence of baseline data to compare the treatment group’s normative beliefs regarding older adults.

While factors such as attitude change and increased knowledge regarding older adults appears to have a prominent place in the research on increasing interest in aging, it appears that the literature is not conclusive on the relationship between knowledge and attitude change (Cottle & Glover, 2009; Knapp & Stubblefield, 2000; O’Hanlon & Brookover, 2002; Stuart-Hamilton & Mahoney, 2003). Furthermore, there is evidence that suggests that attitudes toward older adults, either positive or negative, do not necessarily translate into interest or the actual pursuit of working with older adults professionally (Dunkle & Hyde, 1995; MacNeil, 1991; Moriello et al., 2005; Murphy, 2005; Robert & Mosher-Ashley, 2000;). Other studies have attempted to look at the personal or demographic variables involved in interest in the older adult population.

Demographic Variables: Person & Contextual Inputs.

In attempting to further understand the factors associated with interest in aging, researchers have looked at demographic factors such as gender, ethnicity, and age. A study specifically investigating the characteristics of clinical psychologists treating older adults was conducted by Shmotkin, Eyal, and Lomranz (1993). The study focused on
surveying 2 groups of Israeli clinical psychologists. The groups were divided based on
the clinicians’ population of interest (i.e. those working with children and adolescents
versus those working with mid-life and elderly adults). Shmotkin et al. (1993) found that
the two groups differed with respect to certain personal variables; specifically, they found
that psychologists treating older clients were found to be older, to contain a greater
proportion of women, and in general, had greater professional experience. Similar survey
based studies have also suggested that women are more likely to be attracted to careers in
gerontology than men (Fitzgerald, Wray, & Halter, 2003, 2006; Gorelik, Damron-
Rodriguez, Funderburk, & Soloman, 2000; McKillip, 1980). Older students have been
shown to prefer coursework in gerontology more than younger student populations
(Reuben, Fullerton, Tschann, & Croughan-Minihane, 1995; Shmotkin et al., 1992).
Findings pertaining to ethnic or racial factors have produced mixed results. For example,
in a study of Jewish and Arab social work students living in Israel, Litwin (1994) found
that ethnicity was the distinguishing factor in the level of motivation students had to work
with older adults. In this survey-based study, Arab students reported greater motivation
than their Israeli counterparts to work with the aging population. Litwin suggested a
variety of sociodemographic and cultural factors that may be responsible for the
differences found between these ethnic groups. Shimamoto and Rose (1987) examined
the attitudes of nursing students in Hawaii. They found that only 50% of the Caucasian
students were interested in gerontology, in comparison to 71% of the non-Caucasians
(Pacific-Asians). The authors suggest that this interest could be a reflection of different
degrees of reverence for the aged between the two populations. However, in a study of
American students, there was no significant difference found in the willingness of
Caucasian, African American, or Hispanic social work students in their willingness to work with older adults based on their racial identity (Curl, Simons, & Larkin, 2005). Differences between racial and ethnic groups with respect to cultural norms and values have been suggested as playing a role in the differences found in the literature (Litwin et al., 1994; Reuben et al., 1995).

While research indicates that some demographic and personal variables may contribute to interest in working with older adults, they are not sufficient to explain interest in working with this population (Curl et al., 2005; Reuben et al., 1995). Another avenue of inquiry into understanding the development of professional interest in aging has focused on the importance of contact personally, professionally, and semi-professionally with older adults as a predictive factor in individual interest in working with older adults.

*The Role of Contact: Experiential Inputs*

Both the quality and the quantity of previous contact with older adults has been supported in the literature as a factor related to interest in aging (Robert & Mosher-Ashley, 2000; Gorelik et al., 2000).

For instance, in a study cited earlier, Robert and Mosher-Ashley (2000) investigated the various factors, which could possibly influence the desire to work with older adults. The results of their investigation suggested that taking care of an older adult during childhood was a significant factor in the choice to specialize in a career working with older adults. This was assessed by information provided by surveys based on past experiences with older adults completed by 282 college students.

The relationship between prior personal contact with older adults and professional
interest in working with this population was further investigated by Gorelik et al. (2000), in a cross-sectional, quasi-experimental study conducted at the University of California, Los Angeles. In this study, 189 undergraduate students, enrolled in a course on aging were compared to a stratified random control group with respect to their interest in aging. Demographic factors were collected, including background information pertaining to the frequency, duration, and quality of contact with older adults that individuals reported. The results of this study suggest that interest in aging progresses along a continuum, beginning with an initial interest in aging and then proceeding to greater or substantial interest. Specifically, they found that being female and having frequent contact with older family members significantly explains initial interest in older adults. Thus, female students who had contact with older adults in their past were more likely to register for classes with aging content. They also found that this initial interest was correlated with the development of substantial interest. These findings suggest that contact with older adults is significantly related to initial interest in aging, and subsequently, to a substantial interest in aging. This means that following course work in aging, it was those individuals who had initial interest in working with older adults that were more likely, given the opportunity, to seek out additional educational opportunities pertaining to aging. This study approaches interest in a developmental sense (i.e. using the concepts of initial and substantial interest). It highlights the importance of providing opportunities to foster the interests of those with an initial predilection toward working older adults by making coursework and increased interaction with older adults available. There are a few limitations to this study. Firstly, initial interest is simply defined as enrollment in a course on aging, which may not necessarily be representative of actual interest and is also
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confounded by the fact that these students are self-selected by enrolling in this course. Secondly, the data were gathered from a post-course evaluation. However, no pre-course evaluation was conducted on either group, meaning causality cannot be established. The work of Gorelik et al. (2000) highlight the importance of contact and the need for complexity in understanding the development of student interest in working with older adults. Neither one demographic variable (i.e. being female), nor one construct (i.e. contact with older adults as a child) sufficiently explains initial interest in working with older adults nor its continued development.

While there is evidence for the role of contact in interest formation and professional practice with older adults (Gorelik et al., 2000; Robert & Mosher-Ashley, 2000), other studies indicate that contact and interaction with older adults has less of role to play in professional interest development (Dunkle & Hyde, 1995; Koder & Helmes, 2008). For example, Dunkle and Hyde (1995) conducted an analysis of survey data investigating the predictors of interest in geriatrics among 176 physical therapy and nursing students. This study found that, rather than academic course work or previous contact with older adults, initial attitudes toward older adults as well as student perceptions of their families’ expectations regarding the students’ choice to work with older adults was associated with actual employment in aging related fields. A particular strength of this study was its longitudinal design, such that these same students were followed after graduation to determine whether their expressed interest in working with older adults matched with their actual career selection. However, the major limitation of this study is its reliance on a self-report method of data collection. Data collected from the survey method is descriptive, not explanatory, and, therefore, cannot offer insights
into cause-and-effect relationships.

This importance of contact to interest was also questioned in the work of Koder and Helmes (2008) who investigated the attitudinal and contact factors of Australian generalist psychologists versus those specializing in work with older adults. This survey based, research study involved the dissemination of 1,498 questionnaires to Australian psychologists. With respect to contact, as predicted, those specializing in working with older adults had significantly more professional contact with this population. However, no significant difference between the generalist and the specialist groups was noted with regards to the amount and quality of personal contact with older adults (i.e. older friends or family) and their interest in working with older populations. That is generalists and specialists reported no significant difference with respect to the amount or quality of personal contact, either in the past or present. This is in contrast to the findings of MacNeil (1991) and Gorelik et al. (2000), which suggest that early exposure to older adults is a significant predictor of interest in working with this population. This research is similarly limited by its reliance on survey-based data. Also there are issues with the generalizability of an Australian sample and their criteria for specialization in that it may be different in terms of training and requirements than in the United States.

In summary, the knowledge base regarding the role of personal contact in interest in aging is inconclusive. Some of the disparity in the literature may be accounted for the reliance on survey data, the use of subjects in different stages of professional or academic interest and development, or the various means by which interest was assessed. However, what remains is a lack of understanding of the role of the various factors thought to be involved in interest in working with the older adult population. While a review of the
literature regarding the factors and components of attitudes, knowledge, and exposure to older adults has yielded important information regarding career choice across the different health professions, it has failed to provide a comprehensive theory-driven approach to study the factors influencing clinician’s interest in and choice to work with older adults. In order to do this an in-depth review of the constructs and variables of the SCCT framework will be conducted and applied to the question of interest in working with older adults.

**SCCT & Key Concepts**

Social cognitive career theory (SCCT) provides a unifying framework for understanding the process of professional interest and career choice (Lent et al. 1994). SCCT has been applied to a diverse group of people to predict a vast spectrum of career and academic related behaviors (Lent & Brown, 2002). For example, SCCT has been used in both occupational (Multon, Brown, & Lent, 1991) and educational settings (Lent, Lopez, Lopez, & Sheu, 2008; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998).

While SCCT is similar to other theories of career interest and development, its foundation lies in Albert Bandura’s (1986) general social cognitive theory and draws from his constructs including self-efficacy, goal mechanisms, and the importance of contextual and learning factors. In SCCT, career choice and interest or regulation of career behavior are linked to three interwoven variables: self-efficacy beliefs, outcome expectations, and personalized goals. SCCT emphasizes the complexity of career decisions involving the interconnectedness between people, their behavior, and their environments. While SCCT focuses on the relationship among a number of different constructs (e.g. interests, abilities, and goals), it also includes other cognitive and
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experiential processes along with personal and contextual and behavioral variables that may impact the development of different professional interests (Lent, Brown, & Hackett, 1994; Lent, Larkin, & Brown, 1989). SCCT proposes that these different factors influence career developmental outcomes through certain mechanisms and paths (Lent et al. 1994). Given the disparate findings in the literature on the present state of facilitating interest in working with older adults it appears that the multi-factor SCCT model may help to provide a unifying framework with which to study factors that influence a student’s choice to seek specialized training in working with older adults. Figure 1 illustrates the model showing components of the relationships of these factors.

Self-Efficacy

Self-efficacy beliefs refer to the self-assessment of one’s ability to perform the required actions to reach a certain goal or level of performance (Bandura, 1977). This judgment is presumably based upon information gathered from four types of learning experiences. The first is personal performance accomplishments; these are based on information gathered by an individual based on their own abilities and accomplishments. The second form of learning is vicarious learning and is based on efficacy information provided from observing the performance of others. The third source of learning information is provided by social persuasion and is based on the influence that social norms, values, or pressures have on what a person learns. The last form of learning is based on one’s physiological or emotional states and refers to information one receives from his or her bodily reaction to certain situations and performances (Tokar, Thompson, Plauñcan, & Williams, 2007). In Bandura’s original social cognitive framework, these four sources of learning inform self-efficacy beliefs. These beliefs are at the core of the
mechanism of personal agency, a central determinant of individual thought and action in social cognitive theory. Its centrality is such that a person’s level of self-belief or efficacy is at the core of how people think of themselves and the actions that they will undertake (Lent & Brown, 2006).

In social cognitive theory, individual personal agency is not a static or uniform concept because it is connected to self-efficacy beliefs, which are susceptible to change and modification. In fact, general self-efficacy is a dynamic concept that is influenced by a myriad of different domain specific self-efficacy beliefs. For instance, a person may have high self-efficacy beliefs for his or her performance on tasks requiring visual or perceptual skills but they may feel less competent, or have lower self-efficacy for tasks requiring verbal abilities and language skills (Gainor & Lent, 1998). Similarly, a person may feel quite competent or have high self-efficacy with respect to clinical skills when working with children, but may feel less competent in exercising similar skills when working with older adults. Therefore, following the SCCT model, this decreased sense of self-efficacy may then affect an individual’s level of interest in working with older adults in the future. Specifically, if one has experienced a significant amount of negative learning events such that they have a low sense of self-efficacy in working with older adults, they are less likely to believe in future successful performances in this domain which will impact a person’s sense of agency and thus future behavior in this domain.

However, following the SCCT model, this would theoretically work in the reverse, such that an improvement in self-efficacy would likely change expectation regarding future performance in this area and may increase the likelihood that a person will pursue experiences in this domain.
Outcome Expectations

Outcome expectations regarding career interest and choice refer to personal beliefs about the results or outcomes of performing different career related behaviors. Outcome expectations are also partly influenced by self-efficacy beliefs. In other words, individuals must have a degree of belief in their ability to accomplish a goal so as to have some expectation regarding the outcome of this performed behavior or event (Diegelman & Subich, 2001; Lent et al., 1994). Additionally, outcome expectations regarding career choice are also influenced by other determinants including direct learning experiences with regards to the outcomes of certain career related actions, vicarious learning experiences, and the consequences that result from performing certain behaviors (Bieschke, Bishop, & Garcia, 1996; Lent et al., 1994). In this way, expectations are formed in relation to relevant past experiences and knowledge regarding outcomes is acquired through exposure to various possible outcomes and consequences. In the example of geropsychology, a practicum experience focused on working with older adults will provide learning experiences (both direct and vicarious) as well as other information regarding the experience itself and the different working conditions and rewards that are accompanied by this work.

Personal Goals

An inherent, and often implicit concept in career choice is one’s personal goals. Specifically, in SCCT, the setting of personal goals acts like a reference point from which behavior can be guided (Lent & Brown, 2006). Goals help people to organize and guide their own behavior with regards to directing their efforts toward achieving these goals. Social cognitive theory suggests that personal goals are shaped by the beliefs people have
developed about their ability to accomplish these goals (i.e. self-efficacy) and the
eXpectations they have regarding the consequences of performing these behaviors (i.e.
outcome expectations). For instance, a strong belief in one's ability to work with the
older adult population as a psychologist combined with high expectations regarding the
benefits of such a career will, presumably, foster one's goal to pursue further training in
this area.

Component Models of SCCT

Given the aforementioned variables of self-efficacy, outcome expectations, and
personal goals, Lent et al. (1994) proposed relationships among them within the
framework of SCCT that consists of four different component models. Each of these
models and factors are accompanied by different propositions and accompanying
hypotheses. The models and corresponding propositions are: The Model of Interest
Development, which includes Propositions 1 and 2, the Model of Career Choice,
including Propositions 3 through 7, the Model of Performance, including Propositions 8
and 9, and the role of personal and contextual variables, including Propositions 10
through 12. While the models of career choice and performance, and their accompanying
propositions are an important component of the SCCT model, they are less relevant to the
present study because they go beyond the level of primary career interest to investigate
goals that are more well developed in terms of career related behaviors. However, for
clarity the domains of the three models have been outlined in Figure 1. Additionally a
brief description of the models of career development and performance and their
propositions will be reviewed below in order to provide a more thorough understanding
of SCCT. Of interest in this study are the two components of the model of interest
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development (Propositions 1 and 2) and the role of personal and contextual inputs (Propositions 10, 11, 12), which will be explained in detail below after the models of career development and performance are more fully explained.

Model of Career Choice

This model involves the separate component phases of career choice which, when taken together, create a feedback loop which shape career choice behavior. Based on the link between self-efficacy and outcome expectations and interest formation proposed in Propositions 1 and 2 (which are explained below), the model of career choice (composed of Propositions 3 through 7) focus on the development of choice goals that are based on the areas of primary interest which are forming through the process outlined by the model of interest development. The model of career choice looks at the effect that interests will have on behaviors associated with pursuing a certain career. In the example of psychology, the model of career choice would best be used to understand the career choice of psychology and the steps or behaviors that would be necessary in pursuing this aim.

Model of Performance

The model of performance, which is concerned with propositions 8 and 9, include a broad definition of performance, which encompasses level of accomplishments as well as career persistent behaviors. Propositions 8 and 9, explain the relationship between self-efficacy, outcome expectations, and aptitude on career/academic specific performance. This model is interested with the career specific achievements. Using our example of psychology, the model of performance would look at behaviors and factors which would
contribute to the pursuit of a masters or doctoral degree, or higher performance level within the field of psychology.

The two SCCT constituent models presented above are concerned with the pursuit of more specialized career related goals that are proposed to take precedence after a primary interest has been formed. The purpose of this study is focused on understanding the development of primary interest for psychologists to work with older adults, as such the rest of the review of the SCCT literature will focus on the other, more relevant model of interest development and personal and contextual inputs that comprise SCCT.

Model of Interest Development

The model of interest development centers around two variables: individual aptitudes and values. These two variables impact self-efficacy beliefs, outcome expectations, and interest, and the ways in which these impact career choice.

Traditionally, early vocational theorists (e.g. Strong, 1943) believed that aptitudes were largely inherited. This construct is challenged in the SCCT model. While the importance of native abilities is stressed in SCCT, the theory also highlights the role that career-relevant skill acquisition plays in one’s aptitude for a certain career path. It is postulated that this skill acquisition will result in the formation of a pattern of likes and dislikes regarding certain career related activities. In turn, these preferences and aversions develop over the course of a person’s lifetime and form the basis for interest development in a career. Exposure, both direct and vicarious, to these activities as well as the differential reinforcements that result from performing or observing these activities are the maintaining factors in these career interest behaviors. In the course of repeated exposures to these activities and the resulting outcomes or reinforcements, it is postulated
that individuals refine their abilities, and develop a certain expectation with regard to the outcome of their future performance in these specific domains. A person’s aptitude, or ability, then is a reflection of their past performance or achievement successes and failures as well as their values. These form the basis of one’s sense of self-efficacy. Presumably peoples’ enduring preferences, or interests, continually develop based on those tasks in which they perceive themselves as being efficacious and in which positive outcome expectations are anticipated (Bandura, 1986; Lent, Larkin, & Brown, 1989; Lent et al., 1994).

Interest development is then thought to be the confluence of these self-efficacy beliefs as well as their accompanying personal performance outcomes, expectations, and values. Values in SCCT are defined in terms of preference for reinforcers in the work or academic environment (Rounds, Dawis & Lofquist, 1987), and are thought to be acquired through some of the basic learning processes already recounted (e.g. vicarious learning and personal performance accomplishments and evaluative experiences). Similarly, one’s values are things that may be “inherited” or passed down based on socialization procedures, but they also evolve based on exposure and education. Over time people develop proclivities for certain reinforcers based on what they have come to value. Then they perceive different activities or occupations as varying in their ability to help them obtain these reinforcers. SCCT states that these values can be extrinsic (e.g. money or power) but they may also be more intrinsic, self-evaluative ones (e.g. self-satisfaction or autonomy). SCCT proposes that understanding the combination of a person’s values and aptitudes are important in any career relevant choice. For example, in choosing to work with older adults it would be important to have a combination of placing value in
interacting with this population as well as the ability to conduct professional work with this population using the necessary skills. This view of the roles of value and aptitude development allows for intervention and stresses the importance of exposure and experiences in the development of interest.

In SCCT, a person’s values and their aptitudes are constructs thought to be the basic components of the larger cognitive concept of self-efficacy. With this in mind, Lent et al. (1994) proposed that the academic or occupational interests of an individual would reflect both self-efficacy beliefs as well as a person’s outcome expectations. This will be reflected in a positive relationship or set of relationships among vocationally relevant self-efficacy beliefs, outcome expectations, and interests (Proposition 1). For the purpose of this study, proposition 1 then would suggest that if a person believes themselves capable of working with older adults and expects that such work would result in positive outcomes, they will likely become more interested in pursuing such behaviors and may develop interests related to further pursing this work. Similarly, if one anticipates poor personal performance or negative outcomes from working with this population they will be less likely to pursue such a career path. Additionally, and important due to the current concerns regarding the shortage of trained geropsychologists, changes in either self-efficacy or outcome expectations may result in a change in interests with regards to pursuing clinical work and training. Similarly, it is predicted that changes in a person’s self-efficacy alone or in combination with changes in outcome expectations, which is also influenced by ability, will result in an alteration in a person’s vocational interests (Proposition 2). While proposition 2 highlights an important aspect of the SCCT model it will not be formally investigated in the present study due to its reliance on measures of
vocational ability. No such measure is included in this study and therefore an explanation of proposition 2 is offered here to aid in the overall understanding of the model of interest development.

*Person, Contextual, and Experiential Inputs*

One of the strengths of the theory identified in the SCCT is the inclusion of additional personal, contextual, and experiential inputs into the model that allow for real world applicability of the theory (Betz, 2000, 2007; Lent & Brown, 2006). The role of these additional inputs are important in shaping experiences and have thus been identified as potential sources of self-efficacy beliefs and outcome expectations. This part of the theory highlights the importance of different types of experiences such as vicarious learning, social persuasion, and physical arousal. The theory states that information gathered from social persuasion, such as peer, parental, or societal opinion can be an important factor in the belief individuals have regarding their abilities as well as the expectations with regards to performing related behaviors. In terms of working with older adults, a person may feel less confident in pursuing a career with this population if one’s parents or colleagues appear to de-value it or expect poor outcomes (e.g. less pay or fulfillment) from such a career path (Damron-Rodriguez, Kramer, & Gallagher-Thompson, 1998). Another source of additional input is a person’s physical arousal. Physical arousal or mood has been shown to impact a person’s self-efficacy estimates. So if a person is nervous about performing a certain act or if someone is predisposed to high negative affect, he or she may process learning experiences differently and may ultimately end up underestimating individual capabilities or self-efficacy (Kavanagh & Bower, 1985; Watson & Clark, 1984).
Lent et al. (1994) made a few propositions in their model to clarify the experiential sources of self-efficacy beliefs and outcome expectations. First, they proposed (Proposition 10) that a person's self-efficacy beliefs in a certain domain are comprised of a combination of performance accomplishments, vicarious learning, social persuasion, and arousal states or physiological reactions to certain situations. Specifically with respect to our study, the model predicts that there will be a positive relationship between self-efficacy and these sources when there are positive personal accomplishments with older adults, good vicarious learning models such as specialized geropsychology faculty and supervisors, favorable social communications with regards to the importance or value of choosing to work with older adults, and positive physiological states (e.g. being relaxed while in clinical practice with an older adult). If these experiences are negative there will be an inverse relationship with self-efficacy beliefs. Furthermore, Lent et al proposed that direct, personal performance experiences account for more variance than the other informational sources. In this way, actual positive personal experiences in clinical practice with an older adult would provide the most information regarding one's self-efficacy beliefs.

Secondly, Lent et al. also posit (Proposition 11) that outcome expectations are generated vis-à-vis direct, as well as vicarious, learning experiences in occupationally and academically relevant activities. Similar to proposition 10 these outcome expectations are positively related to reinforcing or positive experiences that one has either directly encountered, experienced, or observed, with the chief importance being given to those consequences that were personally experienced by the individual. So for example, it would be more important for an individual to be positively recognized for
their work with older adults than it would be to read or hear about such an outcome occurring with regards to the work of others. Proposition 11 will not be formally evaluated with respect to the current research question because of its reliance on self-evaluative judgments made in the course of learning, something that cannot be measured with the measures available. The description of Proposition 11 is provided here in order to contribute to the general understanding of the personal, contextual, and experiential inputs presented by the model.

Finally, Lent et al. proposed (Proposition 12) that when the outcome of a situation is closely tied to the quality of a person’s performance, self-efficacy beliefs are a particularly important partial determinant of the outcome expectations one has regarding a certain activity. This is such that there will be a positive relationship between positive outcome expectations and occupationally relevant self-efficacy beliefs. In this instance, when a person successfully completes an evaluation of an older adult, they will not only have enhanced belief in their self-efficacy but they will also have a positive expectation regarding the outcome of future evaluations.

While other studies (Bakken, Byars-Winston, & Wang, 2006; Bishop & Bieschke, 1998; Bieschke, Bishop, & Garcia, 1996; Kahn & Scott, 1997; Lent, et al., 2008), have applied SCCT to career interest in research among counseling students and computing disciplines, both of which are experiencing a lack of trained professionals in their fields, to date the SCCT model has not been applied to psychology graduate students’ professional interest in working with older adults. Past studies have examined the influence of various separate factors on interest in working with older adults with varying results. To this author’s knowledge no study has looked at the contributory factors of
these and the other constructs included in the SCCT. It is hoped that exploring clinical psychology interest in geropsychology using the SCCT model may shed further light on the factors that contribute to professional interest in older adults. Such an understanding may be an important step forward in developing interventions and initiatives that will help increase interest in working with this underserved population.
Chapter II

Rationale and Hypotheses

The American population is getting older (Alliance for Aging Research, 2002). Indeed, by the year 2030, as the baby boom generation age, our society will experience the largest wave of older adults in history (Jeste, 1999). In addition to the projected population increase, researchers have also found evidence that this generation may experience increased emotional disorders and higher rates of dementia than ever before (Jeste et al., 1999; Klerman & Weissman, 1989; US Bureau of the Census, 2000). If these estimates become reality, mental health services will be ill prepared to meet the need for properly trained professionals capable of dealing with the specialized treatment and assessment requirements of this segment of the population.

Within this context of expected increased demand for mental health services, geropsychology stands to be a likely growth area of practice for those planning a career in psychology (International Longevity Center, 2000; Alliance for Aging Research, 2003; Koder & Helmes, 2008). However, both the current and projected need for trained geropsychologists appears to exceed the expected supply (Gatz, et al., 1991; Karel, et al., 1997). Attempts to address this issue have enacted at the professional level as well as at the governmental level (APA, 2004; California State Senate Bill 953, 2002; Knight et al., 2009). While these efforts to address the specialized training needs necessary for practice with older adults, they fail to address the factors that influence the decision of students and professionals to work or not to work with older adults. Indeed the current literature with respect to identifying the factors influencing students' and professionals' decisions to work with older adults have provided inconsistent data (Cummings, et al., 2003; Damon-
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Rodriguez, et al., 2004; Koder & Helmes, 2008; Schigelone 2003). However, to date, no prior studies have used a comprehensive career choice theory-driven approach to study the factors influencing clinician’s interest in and choice to work with older adults.

Lent et al. (1994) proposed social cognitive career theory (SCCT) as a conceptual framework to explain how individuals develop career interests and make career decisions. In SCCT the regulation of career behavior is primarily linked to three interwoven variables: self-efficacy beliefs, outcome expectations, and personalized goals (Lent, et al., 1994). In addition to these main variables, Lent et al. (1994) incorporated the effect that individual differences and environmental influences may have on these variables, and thus on career development and choice. Because of this comprehensive approach, the Lent et al. (1994) model has been cited as one of the most integrative models currently available with which to study career choice and interest (Bishop & Bieschke, 1998; Gainor, 2006).

The purpose of the present study is to test the applicability of the Lent et al. (1994) SCCT model of vocational interest to psychology graduate students’ interest in working with older adults. Research supports the usefulness of SCCT and its components of self-efficacy beliefs and outcome expectations (e.g., Bieschke et al., 1996; Kahn & Scott, 1997; Lent, et al., 2008) for explaining professional interest. SCCT will be used to describe the characteristics and examine the relationships between the SCCT constructs and graduate students’ intention or interest in working with older adults. Due to the lack of research on this topic, this study is exploratory in nature. The variables examined will be age, gender, race, experience and training with older adults, geriatric self-efficacy beliefs and outcome expectations. Figure 2 displays the model of interest in working with
older adults that was first presented by Lent et al. (1994) and has subsequently been adapted by the author to provide clarification of the model and specific hypotheses to be tested.

Such an approach could identify presumed explanatory antecedents of interest in working with older adults and explore how such variables jointly function to facilitate or impede their interest in working with older adults and ultimately their career decision to do so.

In light of the above, the following hypotheses will be tested:

H1: There will be a positive relationship between geropsychology relevant self-efficacy beliefs and interests.

H2: There will be a relationship between outcome expectations and expressed interest.

H3: There will be a positive relationship between occupationally relevant positive outcome expectations and self-efficacy beliefs.

H4: Direct experience with older adults (i.e. clinical hours) will account for variance in self-efficacy beliefs beyond that accounted for by indirect experience (i.e. coursework and research hours).
Chapter III

Proposed Method

Participants

The population for this study will be clinical psychology doctoral students. They will be invited to participate on the online survey through the directors of clinical training at various American Universities.

The population size was determined by consulting the recommended ratio of the observations to the number of variables as to not violate the assumptions of the statistical test. Hair (1998) and Stevens (1992) recommend 20 subjects per predictor variable. Given this study will examine 6 predictor categories of independent variables the minimum number of subjects suggested by this reasoning is 120. In order to determine the number of participants needed to increase the probability of correctly rejecting a null hypothesis, an a priori power analysis was conducted. The effect size was estimated using data drawn from previous work (Luzzo, Hasper, Albert, Bibby, & Marinelli Jr., 1999; Bishop & Bieschke, 1998). The power set at .80 and alpha set at .05, the appropriate sample size is 118 participants. This number approaches the number suggested by the Hair (1998) and Stevens (1992) recommendation and is commensurate with numbers in similar studies (Bishop & Bieschke, 1998, Lent et al., 2008; Luzzo et al., 1999).

Measures

Geropsychology Practice Self-Efficacy Scale. This scale uses 60 items to measure an individual’s perceived ability to perform various tasks related to competent psychological practice with older adults (Appendix A). The construction of this measure was based on the recommendation presented by Lent and Brown (2006) as well as on
personal communication with one prominent SCCT researcher K. Bieschke (personal communication, December 11, 2008), regarding self-efficacy measure construction. These sources suggest that self-efficacy measures should be based on domain specific content. To inform the creation of a measure that was domain specific for working with older adults, items were selected and adapted from the Pike’s Peak Evaluation Tool model for training in professional geropsychology was used (Karel, Berman, Doughan, Emery, Molinari, Stoner, Tazeau, Whitbourne, Yang, & Zweig, unpublished scale; Knight et al., 2009). As previously mentioned, the Pikes Peak model is the result of three national conferences centered around the training of potential geropsychologists and is geared towards providing competencies that were taken from the American Psychological Association Guidelines for Psychological Practice with Older Adults (APA, 2004) from which to base this training. The style of the questions is similar to other self-efficacy measures (i.e. Math Self-Efficacy (Lent et al., 1984); Research Self-Efficacy (Greeley, Johnson, Seem, Braver, Dias, Evans, Kincade, & Pricken, 1989)) in that people are asked to rate the degree to which they agree that they are able to accomplish each item on a scale ranging from 0 (no confidence) to 100 (complete confidence). This scale will be factor analyzed and reliability investigated in order to establish the psychometric quality of the measure such that potential revision for future practice can be accomplished. This measure will also be tested on a small focus group using peers and or experts, such that the scale is consistent with the author’s intent.

*Outcome Expectation Scale.* The geropsychology outcome expectations scale (Appendix B) is a 20-item scale consisting of positive and negative outcomes that might result from pursuing professional practice with older adults. This measure was also based
on the recommendations provided by Lent and Brown (2006), in that they adhere to the underlying constructs of outcome expectations but have also been made specific to outcomes that are relevant to the practice of psychology with older adults. Participants are instructed to indicate their degree of agreement with each statement using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This scale will be factor analyzed and reliability investigated in order to establish the psychometric quality of the measure such that potential revision for future practice can be accomplished. This measure will also be tested on a small focus group using peers and or experts, such that the scale is consistent with the author’s intent.

*Interest Scale.* The interest scale is composed of 5 items, each a description of different roles or activities that a psychologist could engage in, in practice with older adults (Appendix C). Respondents use a 5-point Likert scale ranging from 1 (very disinterested) to 5 (very interested) to indicate their degree of interest in these research activities. This scale will be factor analyzed and reliability investigated in order to establish the psychometric quality of the measure such that potential revision for future practice can be accomplished. This measure will also be tested on a small focus group using peers and or experts, such that the scale is consistent with the author’s intent.

*Background Questionnaire.* Participants will be asked to provide demographic information pertaining to gender, age, ethnicity, year in program, previous experience with older adults, the amount of coursework completed which is specific to this population, supervision experiences, and membership in professional organizations (Appendix D). This measure will also be tested on a small focus group using peers and or experts, such that the information collected is consistent with the goals of the study.
**Knowledge About Aging Measure.** An exploratory element of the study will include the addition of a measure of individual knowledge regarding aging and age related phenomena in order to expand the model. This measure is yet to be determined.

**Procedure**

The current study will be reviewed by Xavier University’s Institutional Review Board (IRB) for approval. No data will be collected until the study is approved. All questions will be digitally uploaded to a survey website. The link to the online survey will be emailed to the training directors at doctoral programs in clinical psychology. These directors will be asked to disseminate the link to their students. All students who are willing to participate will be offered a $5 gift certificate to one of three businesses based on their completion of the survey. They will be informed of this incentive and of the purpose and rationale of the study and will be asked to complete the subjective norms and demographic information, as well as the self-efficacy scale, the outcome expectation scale, interest scale, and measure of knowledge of aging. Upon completion of the survey they will be redirected to a website which will allow them to collect their gift certificate by providing personal information which will not be associated with the answers provided during the survey.
The purpose of this study is to investigate potential relationships between the variables of SCCT and clinical psychology doctoral students' interest in working with older adults. Demographic information collected will be examined. The variables of age, gender and race will be examined against the variables of self-efficacy, outcome expectations, and interest using independent samples t-tests. An exploratory element of this study, should the data allow, will be to utilize path analysis to test the model of SCCT.

The relationship among variables of self-efficacy beliefs, outcome expectations, and experience with older adults will be analyzed using correlational analyses. All correlations will be considered significant at the .05 level. The hypothesized directions of the relationships presented below are based on the Lent et al. (1994) model of factors affecting professional interest in working with older adults.

Hypothesis 1 will examine the relationship between self-efficacy beliefs and interests. This hypothesis states that there will be a positive relationship between self-efficacy beliefs and interests. This hypothesis will be examined using a Pearson $r$ correlation.

Hypothesis 2 will examine the relationship between outcome expectations and expressed interest. This hypothesis states that there will be a relationship between outcome expectations and expressed interest. This hypothesis will be examined using a Pearson $r$ correlation.
Hypothesis 3 will examine the relationship between positive outcome expectations and self-efficacy beliefs. This hypothesis states that there will be a positive relationship between occupationally relevant positive outcome expectations and self-efficacy beliefs. This hypothesis will be examined using a Pearson $r$ correlation.

Hypothesis 4 will examine the relationship between experience with older adults and self-efficacy beliefs. This hypothesis states that direct, experience with older adults (i.e. clinical hours) will account for variance in self-efficacy beliefs beyond that accounted for by indirect experience (i.e. coursework and research hours). This hypothesis will be tested using multiple correlations.
References


APPLYING SCCT TO INTEREST IN GEROPSYCHOLOGY


Greeley, A. T., Johnson, E., Seem, S., Braver, M., Dias, L., Evans, K., Kincade, E., &


Figure Caption

*Figure 1.* Adapted figure of the sociocognitive determinants of career and academic interest and the manner in which SCCT suggest that interests promote career-related activity involvement and skill acquisition (Lent et al., 1994). Scope of the component models of SCCT included in this figure.

*Figure 2.* Adapted figure of the hypothesized paths of factors affecting professional interest in working with older adults, based on the Lent et al. (1994) model.
Figure 2

Person Inputs
Gender
Age
Race

Working with Older Adults Self-Efficacy

H1

Interest in Professional Practice with Older Adults

H2

Working with Older Adults Outcome Expectations

H3

Environmental Influences
Vicarious Experiences
Year in Program
Gero-related Coursework

Direct Contact with Older Adults

H4
Self-Efficacy Scale

Directions: Using the 100-point scale provided, please indicate the degree to which you agree with each statement as they apply to working with older adults as a psychologist.

N.B. Older adults refers to people over the age of 65.

0  10  20  30  40  50  60  70  80  90  100

No Confidence          Moderate Confidence          Complete Confidence

1. I feel able to stay current regarding research on adult development and aging.
2. I can assess older adult’s ability to provide informed consent for psychological evaluation.
3. I can recognize situations in which a medical evaluation would be required to rule out underlying medical or pharmacological causes of presenting symptoms in older adults.
4. I am able to appreciate the methodological considerations in cross-sectional and longitudinal research in older adults.
5. I am mindful of the biopsychosocial perspective in understanding an older person’s physical and psychological development.
6. I can appreciate the differences between normal aging and disease as it pertains to physical, mental and cognitive changes.
7. I can appreciate the diversity of the older adult population.
8. I understand that there are historical influences affecting particular cohorts.
9. I can appreciate with common types of dementia and mild cognitive impairment in older adults.
10. I am able to provide strategies that would be useful in helping older adults cope with functional impairments.
11. I can define and assess activities of daily living (ADL’s) and Instrumental Activities of Daily Living (IADL’s).
12. I understand the impact of aging stereotypes on an older adult’s functional status.
13. I am confident in my ability to handle the ethical and legal issues which arise in the context of impaired functional status and decision-making capacity.
14. Recognizing and acting on situations and signs that suggest risk for abuse and neglect of older adults are things that I feel able to do.
15. I am comfortable talking about issues of death and dying with my older adult clients.
16. I can assess situations and recognize signs that suggest risk for abuse and neglect.
17. I understand the importance of teamwork in geriatric settings to address the biopsychosocial needs of older adults.
18. I can use rapport and empathy to facilitate interactions with older adults, families, and care teams.
19. I feel able to seek continuing education, training, supervision, and consultation to enhance competencies related to working with older adults.
20. I am able to appreciate the interaction of common mental illnesses with the more common medical illnesses and medications and implications involved for assessment and treatment of older adults.
21. Working within the Medicare and Medicaid system is something I feel confident I can do.
22. I can advocate for the older adult clients’ needs in interdisciplinary and organizational environments when appropriate.
23. I can gather and integrate collateral information from family, friends, and caregivers with appropriate consent, when cognitive impairment in older adults is suspected.
24. I am able to utilize screening tools for mood, cognition, substance use, personality, and other clinical issues appropriate for older adults to guide and inform comprehensive assessment.
25. I am confident in my ability to identify risk factors for harm to self or others in older adults.
26. I am able to differentiate goals and models of care in long-term, rehabilitation, acute, primary, home, assisted living, and hospice, care settings.
27. I can recognize when a medical evaluation is indicated to rule out underlying medical or pharmacological causes of presenting symptoms in an older adult.
28. I can collaborate with clients, families, and other organizational and community providers to improve client (older adults') access to services.
29. I possess the flexibility in my professional role to adapt to the realities of work in a variety of aging or healthcare delivery systems.
30. I monitor those internal thoughts and feelings that may influence professional behavior and can adjust behavior accordingly.
31. I can consider assessment measures and techniques with the view to how they have been developed, normed, and validated and how psychometrically suitable they are to use with older adults.
32. I am able to conduct differential diagnoses, including considerations of co-morbid medical issues that may influence presentation in older adults.
33. I can appreciate that there are a range of potential individual factors that may affect assessment performance in older adults (e.g. medications, medical conditions, culture, language etc.).
34. I am able to review and apply scientific literature to case conceptualization, treatment planning, and intervention for older adult clients.
35. I can translate cognitive testing results into practical conclusions and recommendations for older adult clients, families, and other care providers.
36. I can develop strategies for community-based training/education for promoting preventive interventions in the care of older adults.
37. I recognize situations in which geropsychological consultation is appropriate
38. I can define learning goals and objectives as a basis for developing educational sessions that are relevant to older adults.
39. I can appreciate the common types of dementia in terms of onset, etiology, risk factors, clinical course, associated behavioral features, and medical management of these disorders.
40. I feel able to understand characteristics and causes of mild cognitive impairment and reversible cognitive impairment in older adults.
41. I can define and assess Activities of Daily Living (ADL’s) and Instrumental Activities of Daily Living (IADL’s).
42. I can appreciate the unique presentation associated with features, age of onset, and course of the common psychological disorders in older adults.
43. I can appreciate the diversity in ethnic, cultural, and spiritual beliefs and rituals involved in the death and dying process.
44. I am aware of the multiple pathways of interaction between medical illness and psychopathology in late life.
45. I feel able to identify and address ethical and legal issues that may arise in the care of older adults.
46. I can integrate testing results with information from the clinical interview with an older adult and collateral sources (i.e. family, behavioral observations) to formulate recommendations.
47. I can identify risk factors for harm to self or others in older adults.
48. I feel able to address the ethical and legal issues, which may accompany caring for older adults
49. I am capable of screening and comprehensively assessing suicide risk in older adults.
50. I am able to identify risk of elder abuse in emotional, physical, sexual, financial, and neglect domains.
51. I can appreciate the impact of late life medical problems and sensory changes on treatment approaches.
52. I feel able to adapt my interventions to make them appropriate to a particular setting.
53. I have the ability to communicate results within the confines of federal, state, and institutional privacy and confidentiality rules and regulations.
54. I am familiar with state and organizational laws and policies covering elder abuse, advance directives, conservatorship, guardianship, restraints, multiple relationships, and confidentiality.
55. I am able to choose evidence-based treatment for older adult clients based on diagnosis and other relevant client characteristics.
56. I appreciate the roles and potential contributions, of a wide range of healthcare professionals in the assessment and treatment of older adults with mental disorders.
57. I can provide clear and concise written and oral communication of geropsychological conceptualizations and recommendations.
58. I am able to appreciate and integrate feedback from interdisciplinary team members into case conceptualizations.
59. I am able to work with a team to create smooth and efficient transitions across health care settings for older adults and their families.
60. I can identify the client and explain the expectations of the relationship at the outset of the consultation.
Appendix B

Outcome Expectations Measure

Directions: Using the 5-point scale provided, please indicate the degree to which you agree with each statement as they apply to **WORKING WITH OLDER ADULTS AS A PSYCHOLOGIST**
N.B. Older adults refers to people over the age of 65.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td><strong>Strongly Disagree</strong></td>
<td><strong>Agree</strong></td>
<td><strong>Strongly Agree</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Professional involvement with older adults will enhance my career opportunities.
2. People I respect will approve of my involvement with older adults.
3. Involvement with older adults will allow me to contribute to society.
4. Working with older adults will increase my sense of self-worth.
5. Involvement with older adults is valued by significant people in my life.
6. My peers will think highly of me if I become involved in working with older adults.
7. Pursuing a career focused on working with older adults will enable me to associate with the kind of people I value most.
8. Working with older adults would be a good fit with my personality.
9. A career working with older adults will lead to a sense of satisfaction.
10. My involvement with older adults will lead to meaningful contributions to the field of psychology.
11. If I pursue a career working with older adults it will negatively impact my significant relationships.
12. I believe that pursuing a career working with older adults will lead to becoming well known and respected in the field.
13. A career working with older adults will lead to increased financial opportunities.
14. Working with older adults will lead to burnout.
15. In pursuing a career working with older adults I will be fulfilling a need in our society.
16. If I pursue a career working with older adults it will negatively impact my leisure activities.
17. I anticipate having other professionals being able to mentor me as I pursue education opportunities specific to working with older adults.
18. A career focused on working with older adults will provide me with the possibility to perform research in this field.
19. Pursuing opportunities to work with older adults will increase my competitiveness for internship positions.
20. Working with older adults will be interesting and challenging work.
Interest in Professional Practice With Older Adults Measure

Directions: Using the 5-point scale provided, please indicate the degree of interest you have in the activities listed as part of your professional (post-Ph.D/PsyD.) career. N.B. Older adults refers to people over the age of 65.

1 2 3 4 5

Very Disinterested Indifferent Very Interested

Please Use N/A if the options do not apply

1. Pursuing an internship that involves working with the older adult population
2. Being a member of a multidisciplinary team
3. Pursuing a practicum placement that involves working with the older adult population
4. Participating in continuing education opportunities and/or further course work focused on practice with older adults.
5. Providing training for those working with the older adult population
Demographic Questionnaire

1. What is your gender?
   Female
   Male
   Transgender Male
   Transgender Female

2. What is the year of your birth?

3. How would you describe your race/ethnicity? (Check all that apply)
   American Indian or Alaskan Native
   Asian
   Black/African American
   Spanish/Hispanic/Latino(a)
   Native Hawaiian or Pacific Islander
   White/Caucasian
   Other (please specify)

4. Have you completed your doctoral degree?
   Yes
   No, I am still in pre-doctoral training

5. What doctoral degree in psychology are you working towards?
   Ph.D.
   Psy.D.
   Ed.D.
   Other (please specify)

6. What population are you interest in working with?
   Adult
   Child
   Adolescent
   Forensic
   Older Adult (i.e. age 65+)

7. Was this your population of interest when you began your graduate training?
   Yes
   No
7. Does your graduate program have a geropsychology component or track?
Yes, there is a formal geropsychology track (several faculty, coursework, practica placements, research opportunities)
Yes, there is a geropsychology component (1-2 faculty, some coursework, possible practica)
No, but I have found a geropsychology advisor/mentor and/or practicum experience and/or research experience outside my program
None of the above

8. If your program does have a geropsychology track, are you currently enrolled in that track?
Yes
No

9. Please circle the number of courses you have had in graduate school which involved material devoted to working with older adults and the aging process.
1
2
3
4
5
6
7+

10. What year are you in your graduate training?
First
Second
Third
Fourth or fifth, pre-internship
Internship
Post-internship, but predoctoral (i.e., ABD)

11. Please indicate in which of the following geropsychology training experiences you have had to date: (Mark all that apply)
Graduate coursework
Graduate research
Practicum placement
Internship rotation
Specialized internship (more than 50% time devoted to geropsychology)
Other (please specify)

12. Please indicate which of the following settings you have had some geropsychology experience/exposure (during your graduate education). Check all that apply.
Private practice
Other outpatient mental health clinic (agency, hospital)
Primary/outpatient medical care setting
Inpatient medical setting (e.g., acute or rehab)
Psychiatric hospital/unit
Nursing home
Assisted living facility
Home-based care
Community Setting
Other (please specify)

12. How many practicum experiences have you had in which you provided supervised clinical service to older adults (i.e. direct clinical contact hours)?
None yet
0
1
2
3
4
5+

13. In your supervised clinical experience with older adults, roughly what proportion of your time has been spent doing the following clinical activities? (Please make sure the numbers add to 100%)
N/A (I have not yet had clinical experience with older adults):
Psychotherapy (individual, couple’s, family, group):
Assessment (e.g., diagnostic, cognitive/neuropsych, capacity, personality):
Consultation (e.g., staff/agency/team education, training, program development):
Clinical training/supervision (i.e., your being the supervisor, under supervision):
Other:

14. In what professional associations are you a student member? (Mark all that apply)
American Psychological Association (APA)
APA Division 12 (Society of Clinical Psychology)
APA Division 12, Section 2 (Clinical Geropsychology)
APA Division 17 (Society of Counseling Psychology)
APA Division 20 (Adult Development and Aging)
APA Division 22 (Rehabilitation Psychology)
APA Division 40 (Clinical Neuropsychology)
APA Division 38 (Health Psychology)
APA Division 42 (Psychologists in Independent Practice)
Gerontological Society of America (GSA)
Psychologists in Long Term Care (PLTC)
Council of Professional Geropsychology Training Programs (CoPGTP)
Other (please specify)
Chapter V

Dissertation

Abstract

The projected increase in the number of older adults in the United States will likely challenge the mental health care system. Within this context of expected increased demand for mental health services, geropsychology stands to be a likely growth area of practice. Fostering student interest in pursuing specialized training with this underserved population is an important area of exploration. Social cognitive career theory (SCCT) provides a unifying framework for understanding the process of developing professional interest and career choice (Lent et al., 1994). The present study examined the relationships between career interest development in the Lent et al. (1994) model of SCCT as they pertain to clinical psychology doctoral students (n=126) and the field of geropsychology. This survey-based study examined the relationship between the variables of the SCCT model of interest development, including geropsychology self-efficacy, outcome expectations, and interest. Additional factors such as age, gender, race, knowledge regarding aging, as well as educational and clinical experience were also investigated. Analyses were conducted using correlations, multiple regression, and independent sample t-tests. Results support the SCCT model with positive relationships being found among SCCT variables. The role of knowledge, clinical contact, and graduate coursework in geropsychology is also discussed. This study provides initial evidence that the model of SCCT can be used in understanding interest development in working with this population. Future research should pursue additional work in
measurement construction and the possibility of interventions focused on promoting interest in practice with this underserved population.
Applying Social Cognitive Theory to Interest in Geropsychology Among Clinical Psychology Doctoral Students

The projected increase in the number of older adults in the United States will likely challenge the mental health care system. Six thousand Americans turn 65 everyday and now comprise 13% of the US population (Alliance for Aging Research, 2002). By 2050 it is estimated that one in 5 Americans will be 65 years and older (US Bureau of the Census, 2008). It is estimated that approximately 20% of older adults suffer from one or more diagnosable mental disorders, including dementia (Gatz & Smyer, 2001; Lyketsos, Lopez, Jones, Fitzpatrick, Breitner et al., 2002; Panza, Frisardi, Capurso, D’Introno, & Colacicco, 2010). Mental health statistics also indicate that the elderly have the highest rates of suicide among all age groups and a larger ratio of completed to attempted suicides than young adults age 15 to 24 (i.e., 1:4 versus 1:100 or 200) (National Center for Health Statistics, 2008). As of 2002, 5 million elderly Americans suffered from depression with 13% of community dwelling older adults and 43% of those residing in nursing homes experiencing depression (Blazer, 2002). Further, 15-20% of older adults residing in the community suffer from minor depression, which has been shown to significantly compromise health and quality of life (Centers for Disease Control and Prevention, 2011). Recognition of and treatment for these mental health problems can prove to be difficult, as many elders experience complex interactions between their mental and physical health (American Psychological Association, 2011; Colenda, Legault, Rapp, DeBon, et al., 2010).

It is estimated that about two thirds of older adults suffering from a mental health condition do not receive the services they need (American Psychological Association Committee on Aging, n.d.). Alarmingly, the number of older adults suffering from
mental illness is expected to reach 15 million in 2030, almost quadrupled from 4 million in 1970. Notably, demand for mental health services is expected to rise as the new cohort of older adults, now middle-aged, are more accepting and less fearful of psychological intervention than the current generation of elders (American Psychological Association Committee on Aging, n.d.; Zank, 1998).

Within this context of expected increased demand for mental health services, geropsychology stands to be a likely growth area of practice for those planning a career in psychology (Alliance for Aging Research, 2003; International Longevity Center, 2001; Koder & Helmes, 2008). Indeed, estimates suggest that the demand for well-trained geropsychologists far exceeds the expected supply (Center for Health Workforce Studies, 2006; Institute of Medicine, 2008; Karel, Molinari, Gallagher-Thompson, & Hillman, 1999). Despite the identification of this need, relatively few psychologists have received formal training in the psychology of aging as part of their generic training in psychology (Molinari, Chiriboga, Schonfeld, et al., 2005). In fact, a recent survey of APA member practicing psychologists Qualls, Segal, Norman, et al. (2002) found that 69% of these professionals conduct some clinical work with older adults. However, in terms of specialized training, fewer than 30% report having had any graduate coursework in geropsychology and less than 20% received any supervised practicum or internship experience with older adults. More than half of respondents indicated that they felt the need for further training in order to further their practice with older adults.

Geropsychology training efforts have advanced over the past three decades in order to address these needs (Karel, Knight, Duffy, et al., 2010; Karel, Emery, Molinari, & COPGTP Task Force on the Assessment of Geropsychology Competencies, 2010).
Two important initiatives, the “Guidelines for Psychological Practice with Older Adults” (APA, 2004) and the Pikes Peak model for geropsychology training (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009), have established guidelines and competencies deemed necessary for practice with older adults (APA, 2004; Knight et al., 2009). The development of the Pikes Peak Model began in 2006 with a conference largely comprised of psychologists of various competencies and levels of training. This group compiled a list of attitudes, knowledge, and skill competencies, as well as key concepts related to training programs. This gathering, guided by the Council of Professional Geropsychology Training Programs (CoPGTP), developed the Pikes Peak Geropsychology Knowledge and Skill Assessment Tool (Karel et al., 2010). The development of the Pikes Peak Model was also influenced by the APA Guidelines for Psychological Practice with Older Adults (APA, 2004). The model and resultant assessment tool suggest that there are four domains of knowledge necessary for competent geropsychological practice (Karel et al., 2010; Knight et al., 2009). First, general knowledge of adult development, aging, and the geriatric population, is recommended as a foundation for clinical practice with older adults. Additionally, cognitive changes, functional changes, and presentation of psychopathology in later life must be understood. Another import area of knowledge pertains to assessment of older adults and the selection of appropriate measurement tools. Lastly, the Pikes Peak model stresses that knowledge regarding the contextual and developmental issues related to the elderly must inform clinical work with the population, as should empirical studies.

As the training initiatives become more developed, the question of garnering student interest in pursuing specialized training with this underserved population
becomes important (Karel, 2010; Karel, Gatz, & Smyer, 2012; Koder & Helmes, 2008; Qualls et al., 2002). Numerous investigations have been conducted into the possible factors influencing students' and professionals' decisions to work with older adults. Some of these factors appear to be linked to such concepts as attitudes toward older adults (Cummings, Galambos, & DeCoster, 2003; Schigelone 2003), knowledge about aging (Damron-Rodriguez, Funderburk, Lee, & Solomon, 2004) as well as exposure to this population (Koder & Helmes, 2008). However, to date, no prior studies have used a comprehensive career choice theory-driven approach to study the factors influencing clinician’s interest in and choice to work with older adults. Such an approach could identify presumed explanatory antecedents of interest in working with older adults.

Social Cognitive Career Theory

Social cognitive career theory (SCCT) provides a unifying framework for understanding the process of professional interest and career choice (Lent et al. 1994). SCCT has been applied to a diverse group of people to predict a vast spectrum of career and academic related behaviors (Lent & Brown, 2006). For example, SCCT has been used in both occupational (Multon, Brown, & Lent, 1991) and educational settings (Lent, Lopez, Lopez, & Sheu, 2008; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998). SCCT draws from Albert Bandura’s (1986) general social cognitive theory and incorporates his constructs of self-efficacy, goal mechanisms, and the importance of contextual and learning factors. Lent et al. (1994) proposed relationships among the variables of self-efficacy, outcome expectations, and personal goals within the framework of SCCT. The theory consists of three distinct, but interlocking models: the model of interest development, the model of career choice, and the model of performance (see
Figure 1). Each of these models is accompanied by different propositions and accompanying hypotheses. SCCT also incorporates the role of personal and contextual variables into these models. While the models of career choice and performance, and their accompanying propositions are important components of the SCCT model, the focus of the present study was the model of interest development, specifically, the development of primary interest for psychologists to work with older adults, as such the rest of the review of the SCCT literature will focus on this model of interest development and the personal and contextual inputs that comprise SCCT (see Figure 2). However, for clarity the domains of the three models have been outlined in Figures 1, 2, and 3. Interest development is then thought to be the confluence of self-efficacy beliefs as well as outcome expectations, and values.

Self-efficacy beliefs refer to the self-assessment of one’s ability to perform the required actions to reach a certain goal or level of performance (Bandura, 1977). This judgment is presumably based upon information gathered from four types of learning experiences: personal performance accomplishments based on their own aptitudes, abilities and accomplishments; vicarious learning based on efficacy information provided from observing the performance of others; social persuasion based on the influence that social norms, values, or pressures have on what a person learns; and information one receives from his or her bodily reaction to certain situations and performances (i.e., physiological or emotional states) (Tokar, Thompson, Plautcan, & Williams, 2007). In Bandura’s original social cognitive framework, these four sources of learning inform self-efficacy beliefs. Self-efficacy beliefs are susceptible to change as they represent a dynamic concept that is influenced by a myriad of different domain specific self-efficacy
beliefs (Gainor & Lent, 1998). Following SCCT, changes in self-efficacy would likely change expectation regarding future performance in a specific area or domain and may change the likelihood that a person will pursue experiences in this domain.

Outcome expectations regarding career interest and choice refer to personal beliefs about the results or outcomes of performing different career related behaviors. Outcome expectations are also partly influenced by self-efficacy beliefs. In other words, individuals must have a degree of belief in their ability to accomplish a goal so as to have some expectation regarding the outcome of this performed behavior or event (Diegelman & Subich, 2001; Lent et al., 1994). Additionally, outcome expectations regarding career choice are also influenced by other determinants, including direct learning experiences with regard to the outcomes of certain career related actions, a person’s values, as well as vicarious learning experiences and the consequences that result from performing certain behaviors (Bieschke, Bishop, & Garcia, 1996; Lent et al., 1994). In this way, expectations are formed in relation to relevant past experiences and knowledge regarding outcomes is acquired through exposure to various possible outcomes and consequences.

Values in SCCT are defined in terms of preference for reinforcers in the work or academic environment (Rounds, Dawis, & Lofquist, 1987), and are thought to be acquired through some of the basic learning processes already recounted (e.g. vicarious learning and personal performance accomplishments and evaluative experiences). Over time people develop proclivities for certain reinforcers based on what they have come to value. SCCT states that these values can be extrinsic (e.g. money or power) but they may also be more intrinsic, self-evaluative ones (e.g. self-satisfaction or autonomy). SCCT proposes that understanding the combination of a person’s values, self-efficacy beliefs,
and outcome expectations are important in any career relevant choice. For example, in choosing to work with older adults it would be important to have a combination of placing value in interacting with this population as well as the ability to conduct professional work with this population using the necessary skills. Importantly, this view of the roles of value and aptitude development allows for intervention and stresses the importance of exposure and experiences in the development of interest.

In SCCT, the relationships among variables within the model of interest development are outlined in a series of propositions. Proposition 1 states that "an individual’s occupational or academic interests at any point in time are reflective of his or her concurrent self-efficacy beliefs and outcome expectations" (Lent et al., 1994, p. 91). This will be reflected in a positive relationship or set of relationships among vocationally relevant self-efficacy beliefs, outcome expectations, and interests. As it pertains to clinical practice with older adults, proposition 1 then would suggest that if individuals believe themselves capable of working with older adults and expect that such work would result in positive outcomes, they will likely become more interested in pursuing such behaviors and may develop interests related to further pursing this work. Additionally, and important due to the current concerns regarding the shortage of trained geropsychologists, changes in either self-efficacy or outcome expectations may result in a change in interests with regard to pursuing clinical work and training. Proposition 2 states that "an individual’s occupational interests also are influenced by his or her occupationally relevant abilities, but that this relationship is mediated by one’s self-efficacy beliefs" (Lent et al., 1994, p. 92). While proposition 2 highlights an important
aspect of the SCCT model it was not formally investigated in the present study due to its reliance on measures of vocational ability, which were not included in this study.

Lent et al. (1994) included propositions in their model that clarify the experiential sources of self-efficacy beliefs and outcome expectations. Proposition 10 states that “self-efficacy beliefs derive from performance accomplishments, vicarious learning, social persuasion, and physiological reaction (e.g., emotional arousal) in relation to particular educational and occupationally relevant activities” (Lent et al., 1994, p. 103). Thus, this would then suggest a positive relationship between self-efficacy and learning experiences, including personal accomplishments with older adults, vicarious learning experiences (e.g., specialized geropsychology faculty and supervisors, favorable social communications with regards to the importance or value of choosing to work with older adults), and physiological states (e.g. being relaxed while in clinical practice with an older adult). Furthermore, Lent et al. (1994) proposed that direct, personal performance experiences account for more variance than the other informational sources. In this way, actual positive personal experiences in clinical practice with an older adult would provide more compelling information regarding one’s self-efficacy beliefs. Proposition 11 states “as with self-efficacy beliefs, outcome expectations are generated through direct and vicarious experiences with educational and occupationally relevant activities” (Lent et al., 1994, p. 103). Proposition 11 was not evaluated with respect to the current study because of its reliance on self-evaluative judgments made in the course of learning, something that cannot be assessed with the current measures. Proposition 12 states that “outcome expectations are also partially determined by self-efficacy beliefs, particularly when outcomes (e.g., successes, failures) are closely tied to the quality or level of one’s
performance” (Lent et al., 1994, p. 104). According to this proposition, there will be a positive relationship between positive outcome expectations and occupationally relevant self-efficacy beliefs. In this instance, when a person successfully completes an evaluation of an older adult, they would not only have enhanced belief in their self-efficacy but they would also have a positive expectation regarding the outcome of future evaluations.

The purpose of this study was to examine the proposed relationships among interest in working with older adults as a psychologist and self-efficacy and outcome expectations regarding working with older adults, consistent with the model of interest development within SCCT proposed by Lent et al. (1994). In light of the SCCT model of interest development, the following hypotheses were examined:

H1. There will be a positive relationship between geropsychology relevant self-efficacy beliefs and interests.

H2. There will be a relationship between outcome expectations and expressed interest.

H3. There will be a positive relationship between occupationally relevant positive outcome expectations and self-efficacy beliefs.

H4. Direct experience with older adults (i.e. clinical hours) will account for variance in self-efficacy beliefs beyond that accounted for by indirect experience (i.e. coursework and research hours).

Consistent with the model proposed by Lent et al., this study also investigated the possible contribution of person and environmental variables to geropsychology self-efficacy beliefs and outcome expectations. Specifically, three types of person variables (i.e., age, gender, and race) and two types of environmental influence variables (i.e., geropsychology coursework and geropsychology practicum experience) were included.
APPLYING SCCT TO INTEREST IN GEROPSYCHOLOGY

In addition to the analyses suggested by the Lent et al. (1994) model, the current study also investigated the effect of knowledge regarding aging as measured by the Palmore’s Facts on Aging, 2nd version (Harris & Changas, 1994; Palmore 1981; Palmore, 1986; Palmore & Kivett, 1977). This measure was included as an exploratory element of the study, and in an attempt to expand the model. Based on the model (see Figure 3), knowledge regarding aging is proposed to be included in the learning experiences section and is likely to be related to vicarious learning experiences (i.e., geropsychology coursework).

Methods

Participants

A total of 188 graduate students responded to an invitation disseminated through the American Psychological Association of Graduate Students, APA Chapter 12 (Clinical Psychology) list-serv and through the Directors of Clinical Training (DCT) list-serv to participate in an on-line study. The study was initially shared among the DCT’s associated with the National Council of School and Programs of Professional Psychology (NCSPPP). The NCSPPP represents 66 member institutions and 20 affiliate institutions with programs in professional psychology. The invitation email was later shared with the Council of University Directors of Clinical Psychology (CUDCP), which counts 253 institutions and programs among its ranks.

Of the 188 participants who initially responded, 54 individuals did not provide responses to any of the measures. Eight subjects were deleted because they did not meet inclusion criteria for the study insofar as they did not identify themselves as pursuing doctoral degrees in clinical psychology. Following these deletions, a sample size of 126
individuals was obtained. Given occasional missing data, the sample size for the statistical procedures varied.

Of the 126 participants included in the study, the majority were female and Caucasian. The mean age of participants was 28 years. Over 90% were from PsyD programs. Nearly 16% came from programs with a formal geropsychology track, while 45% identified a geropsychological component to their program (i.e., specialized faculty, coursework or practicum opportunities). While nearly 16% identified some means of obtaining training in geropsychology via mentor, practicum or research experience, nearly a quarter of the participants were enrolled in programs in which none of these opportunities were available. Of the entire sample, a little over 5% were enrolled in a formal geropsychology track. However, 17.5% identified older adults as a primary patient population of interest. The clinical setting in which the most participants gained experience in geropsychological practice included outpatient mental health settings (n=44, 35%) and a community setting (n=22, 17.5%). Nursing home experience (n=13) and experience in assisted living facilities (n=14) made up 10.3% and 11.1% of participant geropsychology experience, respectively. The majority of students, (n=104, 82.5%), indicated that their current primary area of interest had remained unchanged since beginning their graduate training. Participants were asked to provide additional information in the form of personal and educational training (see Appendix D). Demographic data for the 126 study participants are outlined in Table 1.
Measures

**Geropsychology Self-Efficacy Scale (GSES).** This scale uses 55 items to measure an individual’s perceived ability to perform various tasks related to competent psychological practice with older adults (see Appendix B). The construction of this measure was based on the recommendation presented by Lent and Brown (2006), Betz (2007), as well as on personal communication with one prominent SCCT researcher K. Bieschke (personal communication, December 11, 2008), regarding self-efficacy measure construction. These sources suggest that self-efficacy measures should be based on domain specific content. To inform the creation of a measure that was domain specific for working with older adults, items were selected and adapted from the Pike’s Peak Evaluation Tool model for training in professional geropsychology (Karel, et al., 2010 ; Knight et al., 2009). Items were selected from the five different domains of the measure that reflected knowledge and skills identified by the model as important in providing care for older adults. The domains identified by the Pike’s Peak Tool are: General knowledge regarding geropsychological practice, foundational knowledge and skills, and knowledge and skills relating to intervention, assessment, and consultation. Items from the Pike’s Peak Tool were reviewed and selected by the present author and her dissertation chair. Participants were asked to rate the degree to which they agree that they are able to accomplish each item on an 11 point Likert scale ranging from 0 (no confidence) to 100 (complete confidence). The measure was piloted on 3 clinical psychologists and 2 clinical psychology doctoral students. Internal consistency (coefficient alpha) of the self-efficacy measure for the complete sample was .91.
Geropsychology Outcome Expectation Scale (GOES). The geropsychology outcome expectations scale (see Appendix C) is a 20-item scale consisting of positive and negative outcomes that might result from pursuing professional practice with older adults. This measure was also based on the recommendations provided by Lent and Brown (2006), in that they adhere to the underlying constructs of outcome expectations but have also been made specific to outcomes that are relevant to the practice of psychology with older adults. Outcome expectation measures from other areas of interest were reviewed (Bishop & Bieschke, 1998; Lent et al., 2006; Lent et al., 2008) and item creation for the GOES was informed from both these previous measures as well as consideration of Bandura’s (1984) original theory regarding the proposed components of outcome expectation. These theorized components were identified as material or financial gain expectations, self-evaluative and self-appraisal expectations, and anticipatory social approval experiences. Participants are instructed to indicate their degree of agreement with each statement using an 11 point Likert scale 0 (strongly disagree) to 100 (strongly agree). The measure was piloted on 3 clinical psychologists and 2 clinical psychology doctoral students. Coefficient alpha of this measure for the present sample is .92.

Geropsychology Interest Scale (GIS). The GIS scale is composed of 5 items, each a description of different roles or activities that a psychologist could engage in practice with older adults (see Appendix D). These items were selected by the present author and her dissertation chair and were based on their relevance to the clinical psychology graduate student population. Respondents use an 11-point Likert scale ranging from 0 (very disinterested) to 100 (very interested) to indicate their degree of interest in these activities. A not applicable (N/A) response option was present on this measure. The
measure was piloted on 3 clinical psychologists and 2 clinical psychology doctoral students. Coefficient alpha of this measure, based on the present sample is .96.

**Palmore’s Facts on Aging Questionnaire (FAQ2: Harris & Changas, 1994).** As an exploratory measure to investigate the role of knowledge regarding aging and age related phenomena, participants were also administered the Palmore’s Facts on Aging Questionnaire, second edition (FAQ2) (see Appendix F). Permission to use this measure was granted by D. Harris (personal communication, September 3, 2010). The FAQ2 has a possible score of 25. A higher score on the instrument indicates increased knowledge of aging and age related phenomenon (Harris & Changas, 1994; Palmore 1981; Palmore, 1986; Palmore & Kivett, 1977). A previous study focused on scale development found a coefficient alpha for this measure of .36 (Harris & Changas, 1994). In the current study, coefficient alpha for the FAQ2 was .36.

**Procedure**

The study was reviewed and approved by Xavier University’s Institutional Review Board (IRB: See Appendix A). Survey questions were digitally uploaded to Survey Monkey, an online survey site. The study was then piloted. Following this, the link to the online survey was emailed to the training directors at doctoral programs in clinical psychology. The directors were asked to disseminate the link to their students. The link was also shared with APAGS, Division 12 (Clinical Psychology) members. All students who were willing to participate were offered a $5 gift certificate to one of three businesses based on their completion of the survey (i.e., Kmart, Barnes & Noble, and Amazon.com). Participants were informed of this incentive and of the purpose and rationale of the study. The method of solicitation of participants did not allow for the
computation of a response rate as there was no way of knowing how many graduate
students received the solicitation email/communication. Individuals who chose to
respond were asked to complete the demographic information (see Appendix E), as well
as the GSES, the GOES, GIS scale, and the FAQ2. Upon completion of the survey they
were redirected to a separate survey, which allowed them to choose the business from
which they wanted to receive their gift card. They were also asked to provide their email
addresses where the electronic gift card could be sent. The participants’ responses on the
questionnaire and their contact information were collected separately and could not be
associated with one another.

Results

Primary Analyses

Prior to analyses, all dependent variables were examined for normality using the
Shapiro Wilk test as well as consideration of the normal Q-Q plot and frequency
histogram. No significant violations were noted. The following specific hypotheses were
tested:

**Hypothesis One.** Hypothesis one predicted that self-efficacy would correlate positively
with interest (see Table 2). Correlational analyses revealed a significant, approaching
moderate, positive relationship between geropsychology related self-efficacy beliefs and
interest in pursuing geropsychology with higher total self-efficacy score being correlated
with higher total interest \( r(100) = .29, p = .002. \)

**Hypothesis Two.** Hypothesis two predicted that outcome expectation would correlate
with interest (see Table 2). Correlational analyses revealed a significant, strong, positive
relationship between outcome expectation and interest in pursuing geropsychology with
more positive outcome appraisals regarding future work in geropsychology being correlated with higher interest score \( r(100) = .62, p < .001 \).

**Hypothesis Three.** Hypothesis three predicted that occupationally relevant positive outcome expectations would correlate positively with self-efficacy beliefs (see Table 2). Correlational analyses revealed a significant, moderate positive relationship between outcome expectations and self-efficacy beliefs with more positive outcome appraisals regarding future work in geropsychology being correlated with higher self-efficacy beliefs \( r(124) = .30, p < .001 \).

**Hypothesis Four.** Hypothesis four predicted that direct experience with older adults (i.e. geropsychology practicum experience) would account for variance in self-efficacy beliefs beyond that accounted for by indirect experience (i.e. coursework). A two-step, hierarchical regression analysis was conducted to examine the relationship between self-efficacy scores and courses in geropsychology and practicum experiences with the older adult population. Due to the distribution of the experience variables, experience was coded as either being present or absent. Specifically, the variables were dichotomized, such that those individuals who had taken one or more courses in geropsychology were placed into one group, while those reporting no coursework were placed in another group. Similarly, those who had experienced at least one practicum placement were grouped together as were those who had not had any geropsychology practicum experiences. To examine the contribution of direct versus indirect geropsychology experience in the explanation of self-efficacy, a hierarchical multiple regression analysis was performed. The experience variables were entered in two steps, with total self-efficacy score as the dependent variable. In step 1, indirect experience in the form of
geropsychology course work was entered as the independent variable. In step 2, direct experience in the form of practicum placement was entered.

Before the hierarchical multiple regression analysis was performed, the independent variables were examined for collinearity. Results of the variance inflation factor (all less than 2.0), and collinearity tolerance (equal .93) suggest that the estimated $\beta$s are well established in the following regression model. Inspection of standardized residuals did not indicate a curvilinear relationship. The results of step 1 indicated that the variance accounted for ($R^2$) with the first independent variable of indirect experience equaled .036 (adjusted $R^2 = .029$), which was significantly different from zero ($F(1, 124) = 4.70, p = .032$, $\beta = .032$ $p < .05$). In step 2, direct experience was entered into the regression equation. The change in variance accounted for ($\Delta R^2$) was equal to .095, which was significantly different from zero ($F(1, 123) = 13.44$ $p < .001$, $\beta = .313$, $p < .05$). The unstandardized regression coefficients ($B$) and intercept, the standardized regression coefficients ($\beta$), for the full model are reported in Table 6. Similar results were obtained when the analysis was performed with the experience variables being continuous.

Knowledge on Aging: Palmore’s Facts on Aging Quiz (FAQ2: Harris & Changas, 1994). Out of the 126 participants who completed the study, all answered the FAQ2 questions. They had a mean total score of 11.29 out of 25 (SD=2.6; Range=0-17).

**Person Inputs.** The variables of gender, age, race, and performance on the Palmore’s Facts on Aging Questionnaire (FAQ2) were examined against the total score on the Geropsychology Self-Efficacy Scale (GSES), the Geropsychology Outcome Expectation Scale (GOES), and the Geropsychology Interest Scale (GIS) using independent samples
t-tests. Higher scores on the GSES, GOES, and GIS represent greater efficacy, more positive outcome expectations, and greater interest, respectively. Due to the small numbers of minority survey participants in this sample and in order to avoid inflation of the results, the category of race was collapsed such that the groups were divided into white/non-Hispanic individuals and other. The variable of age was split into two groups, those 27 and under and those 28 and above. Splitting the variable at this value separated the data into two, roughly equal sized, groups. With respect to the FAQ2 groups, participants were divided into a high scoring group (M ≥ 10) and a low scoring group (M ≤ 9), which would then classify those achieving the mean scores and those who scores were below the observed mean. No significant mean differences were found between the variables of age, gender, race, and score on FAQ2 when measured against the total scores on the GSES, GOES, and GIS measures. The results of the independent t-tests can be viewed in Tables 3, 4, and 5. Due to the continuous nature of the variables of age and knowledge score, the relationship of these variables to GSES, GOES, and GIS were also measured using correlational analyses. Results of a one-tailed analysis revealed that scores on GSES were significantly, albeit weakly, correlated with the variable of age, \( r(123) = 0.18, p = 0.039 \). Scores on the GSES showed a weak negative correlation, with scores on the FAQ2, \( r(-0.152), p = 0.045 \). Scores on the GOES and GIS measures were not significantly correlated with age or knowledge, as measured by the FAQ2 (see Table 2).

Factor Analyses of Measures Created for this Study

Given that the dependent variables were based on newly created measures, each questionnaire was subjected to an exploratory factor analysis, utilizing a sample size of 126 for the GSES and GOES and a sample size of 102 for the GIS. Principal component
analysis (PCA) and principal-axis factoring (PAF) procedures were utilized. Both Varimax and oblimin oblique rotations were used for comparative purposes. The literature on SCCT suggests the use of PAF with oblimin or oblique rotations due to the nature of the SCCT variables and the likelihood that they will be correlated (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Gorsuch, 1997; Lent, Hill, & Hoffman, 2003). Eigenvalue, scree, percentage of variance, and interpretability criteria were used to determine the appropriate factor structure. The literature on factor analysis reveals several common practices with respect to correlations and common factor loading. One common practice is to retain items that load highly on an item and are beyond a certain criteria; a cut-off of .4 is often used (Gorsuch, 1997). While, it is preferable for items to load highly on only one factor, cross-loadings have frequently been found to occur in the assessment of psychological constructs as well as in the SCCT literature (Forester, Kahn, & Hesson-McInnis, 2004; Lent et al., 2003). Given the possibility of cross loadings and the available literature on factor analysis of similar measures, items that yielded factor loadings above .50 and showed a difference of >.10 between the factor on which they loaded most highly and other factors, were retained. The rationale behind using these criteria was based on previous SCCT factor analyses, which sought to seek a balance between cross-loadings and the detection of coherent factors (Lent et al., 2003).

Geropsychology Self-Efficacy Scale (GSES). The dimensionality of the 55 items from the self-efficacy scale was analyzed using principal axis factoring. Due to the fact that this is a newly created measure, both the PCA and PAF factoring procedures were utilized with both a Varimax and an oblimin rotation of all of the questions from the self-efficacy scale for comparative purposes. These procedures yielded different results and
loadings. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was factorable (KMO = .896). Utilizing the Kaiser (1974) recommendations, this number tells us that there are significant relationships between the variables that are to be analyzed. This test is significant and therefore factor analysis is appropriate.

A PAF procedure was utilized. The solution yielded nine factors with Eigenvalues greater than 1. These items could not be rotated using the oblique rotation at either 9, 8, 7, or 6 factors. Many of these items had significant crossloadings among factors. A review of these items suggested that the content of the items may tap multiple dimensions of geropsychology self-efficacy. For example, “I can integrate testing results with information from the clinical interview with an older adult and collateral sources (i.e. family, behavioral observations) to formulate recommendations”, taps skills related to integration of testing results, interaction with client and families, as well as the formulation of recommendations. As there were several items that had similar difficulties, the dimensions of the GSES were not as distinct and the stability of the factors are in question. As such, the rotated factors were conceptually, difficult to account for.

Using all 55 items, a 5-factor solution, with oblimin rotation yielded the most conceptually sound factor solution. An informal collaborative process based on discussion of observed clustering of items as reflected in factor loadings, helped to inform selection of this solution. There were significant cross loadings between factors. The rotated factors did not strictly correspond to the domains that they were derived from in the Pike’s Peak Assessment Tool (Karel et al., 2010). There was one item that loaded
equally on two separate factors. The sixteen items that loaded onto Factor 1 are related to ethical and other special considerations in working with this population as well as advocacy efforts, it was labeled, “Ethical Considerations and Advocacy.” Factor 2 had eleven items that loaded onto it. These reflected flexibility in terms of clinical skills and knowledge that were both specific to this population and related to general clinical psychology and were labeled “Flexibility in Clinical Skills and Knowledge.” Thirteen items loaded onto Factor 3 and appear to represent assessment and knowledge of factors involved in functional limitations and cognitive impairments. This was labeled “Functional Concerns and Impairment.” There were four items that loaded onto Factor 4. These items were largely concerned with skills related to assessment and interventions with older adults and was labeled, “Assessment and Intervention Skills.” Ten items loaded onto Factor 5. These were largely concerned with work in multidisciplinary settings and the factor was labeled were labeled “Multidisciplinary Competence.” Items and factor loadings for the initial self-efficacy solution can be found in Table 7. Items with extreme cross loadings were deleted. Conceptual review of these items reflected content that identified or required participants to respond to one or more skill, piece of knowledge, or task. Items were deleted and a new rotation was performed. Significant cross loadings remained. The criteria for deletion, as outlined above was then performed. Several deletions were made and the result was a 19-item scale, with a 5 Factor rotation. These factors were labeled, “Ethical Considerations”, “Functional Concerns and Impairment”, “Appreciation of Diversity”, “Multidisciplinary Roles and Tasks”, and “Assessment Skills.” Item content and loadings for the factor analyzed measure are presented in Table 8.
Internal Consistency (coefficient alpha) of the initial self-efficacy measure was .93. Internal consistency (coefficient alpha) of the factor analyzed and reduced self-efficacy measure was .91.

**Geropsychology Outcome Expectations Scale (GOES).** The dimensionality of the 20 items from the outcome expectation scale was analyzed using the PCA and PAF factoring procedures, with an oblimin (oblique) rotation of all 20 of the questions from the outcome expectation scale was conducted. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was factorable \((KMO = .826)\). Utilizing the Kaiser (1974) recommendations, this number tells us that there are significant relationships between the variables that are to be analyzed. This test is significant and therefore factor analysis is appropriate. The rotated component loadings for the 20 items can be found in Table 9. The rotated solutions were similar using the PCA procedure.

The rotated solution yielded four factors, which were similar in content to those derived from an orthogonal rotation. Three of these factors correspond to the dimensions presented in previous SCCT research and those initially presented by Bandura (1986), material or financial gain expectations, self-evaluative and self appraisal expectations, and anticipatory social approval experiences. The six items that loaded onto Factor 1 appear to be related to anticipatory social approval and were labeled “Anticipatory Social Approval.” None of these items loaded heavily on more than one factor. The second factor had 3 items that loaded onto it. These reflected possible negative outcome expectations and were labeled “Negative Outcome Expectations.” None of these items loaded heavily onto any one of the other factors. Six items loaded onto Factor 3 and
appear to identify career gains expected from the pursuit of geropsychology practice. This was labeled “Expected Career Gains.” Of the six items, two did not meet the cut off criteria and so were deleted. The fourth factor had five items that loaded onto it. These items reflected self-evaluative expectations. This factor was labeled “Self Evaluative Expectations.” Of these five items, two did not meet the established cut-off criteria and were deleted. Following the deletions, a new factor analysis was conducted on the 16-item scale.

Internal Consistency (coefficient alpha) of the initial geropsychology outcome expectation measure was .92. Internal consistency (coefficient alpha) of the factor analyzed outcome expectation measures was .89. Items and factor loadings for the initial GEOS and the factor analyzed GEOS are show in Table 9 and Table 10, respectively.

**Geropsychology Interest Scale (GIS).** The dimensionality of the 5 items from the interest measure was analyzed using both the PCA and the PAF factoring procedures. This was based on responses from 102 participants. The analysis revealed that the interest measure loaded on one factor. No rotation was then required. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was factorable (KMO = .891).

Internal Consistency (coefficient alpha) of the geropsychology interest measure was .96. Items and factor loadings for the geropsychology interest measure are show in Table 11.

**Results of Factor Analyzed Scales and Analyses**

The hypothesis tests were re-run with the factor analyzed version of the scales. The pattern of results was identical to what was observed with the full scales.
Discussion

The increase in the older adult population has implications for the demand for psychological services. Despite this, evidence suggests there are few psychologists choosing to specialize in working with older adults (Karel, Molinari, Gallagher-Thompson, & Hillman, 1997; Koder & Helmes, 2008). While several factors have been linked to interest in working with this underserved population (Gatz et al., 1991; Koder & Helmes, 2008; Qualls, 1998; Shmotkin et al., 1992), to date, no prior studies have used a comprehensive career choice theory-driven approach to study the factors influencing clinician’s interest in and choice to work with older adults. Social Cognitive Career Theory (SCCT) proposes a conceptual framework to explain how individuals develop career interests and make career decisions (Lent et al. 1994). Social cognitive theory purports that the beliefs people have developed about their ability to accomplish certain goal related tasks (i.e. self-efficacy) together with the expectations they have regarding the consequences of performing these behaviors (i.e. outcome expectations) ultimately influence their interest in pursuing this career goal. The present study evaluated whether components of the SCCT model of interest development are applicable to clinical psychology doctoral students’ interest in geropsychology, particularly with respect to self-efficacy beliefs, outcome expectations, person and environmental inputs.

SCCT Model of Interest Development

Consistent with hypothesis one, the results evidenced a significant, approaching moderate, positive relationship between geropsychology relevant self-efficacy beliefs and interest in working with older adults. Thus, those who perceive themselves as more capable of performing tasks specific to the practice of geropsychology expressed greater
interest in pursuing future experiences with this population. This relationship is consistent with the Lent et al. (1994) model, which highlights self-efficacy as a central concept in the theory of career choice and interest development. The positive relationship found in the current study is consistent with results of studies utilizing the same model to account for interest in other domains (e.g., Bishop & Bieschke, 1998; Gainor & Lent, 1998; Hackett, Betz, Casas, & Rocha-Singh, 1992; Lent et al., 2003). These results are consistent with results reported by Koder and Helmes (2008) who identified Australian psychologists’ confidence in ability to work with the older adult population as being related to their increased interest in working with older adults. This has important implications in terms of directing future training approaches, as the model predicts that improvement in self-efficacy would likely change expectation regarding future performance in this area and may increase the likelihood that a person will pursue experiences working with this population. While the data show a significant, approaching moderate, relationship between self-efficacy and interest, previous studies in different interest domains, utilizing different outcome measures and with different professions, have found the correlation between self-efficacy and interest to be greater in magnitude (Gelso & Lent, 2000; Lent et al., 1994; O’Brien 1995). The difference in the strength of relationship between these variables across studies could reflect differences in the samples and measures. Additionally, while the centrality of self-efficacy in the SCCT model is often highlighted, the model suggests that self-efficacy and outcome expectations may differentially affect behavior based on the nature of the activity or goal (Lent et al., 1994) Specifically, when the nature of the goal or activity relies on the quality of the performance, self-efficacy has been found to be more of a causal factor in...
performing and interest (Bandura, 1986; Lent et al., 1986). Alternatively, when the quality of the performance is less central to achieving the goal, outcome expectations have been identified as the causal factor (Bard, Bieschke, Herbert, & Eberz, 2000; Bieschke et al., 1995; Lent et al., 1994). In considering the current data, this may help to explain the increased strength of the correlation between outcome expectations and interest versus that obtained between self-efficacy and interest. Presumably individuals in a doctoral program may be more inclined to place the emphasis on the outcome of their goals as they turn toward becoming practitioners. Indeed, the results of studies focused on promoting research interests in counseling doctoral students and faculty also found evidence to suggest that outcome expectations may have a greater influence on research than self-efficacy in those beginning their doctoral careers (Bard et al., 2000; Bieschke et al., 1995)

Consistent with hypothesis two, the results found a correlation between outcome expectations and interest. The correlation obtained in the present study was strong and positive. While directionality of the correlation was not proposed, the results obtained in the present study are consistent with the model, as positive outcome expectations are purported to be related to increased interest. In the present study those individuals who anticipated more positive outcomes from pursuing a career in geropsychology indicated an increased level of interest. While predicted by the model, this relationship has received limited attention in the SCCT literature, as the majority of the SCCT studies have focused primarily on self-efficacy (Forester, Kahn, & Hesson-McInnis, 2004; Gelso & Lent, 2000). The strength of this relationship suggests that addressing students’ expectations regarding a career in geropsychology is likely an important area for future
intervention. Given that outcome expectations can be based on both vicarious and direct experiences, interventions that focus on both types of experiences would be important. While not investigated in this study, the SCCT model outlines an inverse relationship between negative outcome expectations and interest, such that as negative outcome expectations increase, reports of interest are proposed to decrease. Given that an individual’s outcome expectations are based on prior learning experiences and individual values, it would be important to identify these values and provide training experiences that would be consistent with those values. For example, if a student placed value on working with higher functioning individuals, exposing them to older adults who are primarily lower functioning or impaired would likely create a negative outcome expectation regarding future work with this population. This may then have a negative impact on student interest. Indeed, training experiences with older adults that were rated positively by master’s level students were also identified as a significant predictor of interest in working with older adult clients (Cummings, Adler & DeCoster, 2005).

Consistent with the third hypothesis, the results revealed a significant, moderate, positive correlation between outcome expectations and self-efficacy beliefs. Specifically, those with strong self-efficacy in their ability to work with this population are likely to have positive outcome expectations regarding future work with older adults. SCCT posits that if individuals have a belief in their ability to accomplish a goal, they are likely to have some expectation regarding the outcome of performing this behavior or event (Diegeman & Subich, 2001; Lent et al., 1994). Given this relationship, as well as those relationships between these variables and interest, as outlined above, the model of interest development as outlined by Lent et al. (1994) appears to be a useful framework for
understanding interest in geropsychology practice among clinical psychology doctoral students. While the SCCT model identifies outcome expectations as a construct, the importance of expectations regarding future practice with underserved populations, including older adults, was identified in a sample of psychologists (Kruse & Canning, 2002). Practitioners who indicated greater interest in a population had fewer perceptions of barriers and increased anticipation of rewards and satisfaction. Those who endorsed more rewards anticipated in working with a population also tended to be more engaged in practice with that group. Interestingly, practice with older adults was not viewed favorably by the majority of those sampled (Kruse & Canning, 2002).

Consistent with the fourth and final hypothesis, the results showed that that direct experience with older adults, as measured by practicum placements with geropsychology training, accounted for variance in self-efficacy beliefs beyond that accounted for by indirect experience (i.e. coursework). While the current study provides support for providing direct clinical experience with older adults, it also leaves room for inquiry into other important variables. Specifically, the role of direct and indirect experience with the older adult population together, accounted for only 13.1% of the variance in self-efficacy, in the present study. This suggests that there are other variables that contribute to geropsychology self-efficacy. In terms of interventions, it would be important to identify these other variables. As suggested by both Betz (2000) and Bishop and Bieschke (1998), the exploration of other sources of self-efficacy as outlined by Bandura (1977), including personal contact experiences, verbal reinforcement, and emotional arousal may explain the formation of geropsychology self-efficacy. The role of mentorship has also
been raised as a possible area of inquiry as it relates to verbal reinforcement (Bishop & Bieschke, 1998; Gelso & Lent, 2006).

The investigation of direct experience versus indirect experience on future decision to work with older adults has yielded mixed results in the literature. While there is evidence for the role of contact in interest formation among undergraduate students (Gorelik, Damron-Rodriguez, Funderburk, & Solomon, 2000) and professional practice with older adults in social work graduate students (Robert & Mosher-Ashley, 2000), other studies indicate that contact and interaction with older adults among nursing and physical therapy students (Dunkle & Hyde, 1995) and among Australian psychologist (Koder & Helmes, 2008) has less of a role to play in professional interest development. The current study did not address the role of personal contact. It does highlight the importance of professional contact with older adults, both direct and indirect in terms of self-efficacy scores. A survey of psychology externs and interns in the US, (Hinrichsen, 2000) found that those with positive attitudes toward older adults and who have plans to begin a geropsychology practicum, report greater interest in geropsychology. Regarding graduate level practica placement, Psy.D. and Ph.D. students who completed a geropsychology placement for nine months maintained higher interest in geropsychology, held fewer negative attitudes toward the elderly, and displayed greater knowledge of aging and mental health than trainees without a geropsychology placement (Hinrichsen & McMeniman, 2002). Similarly, Zank (1998) found a significant positive correlation between clinical experience with older adults and interest in working with elderly clients among psychologists providing psychotherapy. These studies support the importance of direct professional contact with older adults in interest and provide support for the
present study which suggests the importance of direct contact via practicum placement with respect to student self efficacy. These findings highlight the importance of making coursework and increased interaction opportunities with older adults available to students.

It was originally proposed that research experience with this population would be included in the analysis as a vicarious experience. The way in which the data regarding research experience were collected did not allow for direct comparisons to be made. Additionally, there was only 12 individuals of the 126 participants that indicated having research experience with this population. In order to allow for direct comparisons across all participants, research was not included in the analysis.

**Person Inputs**

The variables of gender and age were not found to be significant in terms of differentiating scores on the measures of self-efficacy, outcome expectations, or interest in working with older adults. Secondary analysis revealed that the variable of age was significantly, albeit weakly, correlated with self-efficacy. The relationship of increased age and self-efficacy has been shown in academic performance (Multon, Brown, & Lent, 1991), career constructs (Church, Teresa, Rosebrook, & Szendre, 1992), and work-related behavior (Sadri & Robertson, 1993). This relationship has been hypothesized as being based on the opportunity to acquire the requisite skills, which inform efficacy beliefs (Bandura, 1991; Multon, Brown, & Lent, 1991). Interestingly, year in program was not found to be related to geropsychology self-efficacy beliefs, though year in program and age were positively correlated. This suggests that increased age may not necessarily represent psychology related experience or performance accomplishments. Instead,
increased age may provide the opportunity to gain greater information related to one's
general sense of efficacy or abilities (Bandura, 1991). Age was not related to
geropsychology outcome expectation or interest. This is in contrast to Shmotkin, Eyal
and Lomraz (1993), who found that psychologists treating older clients were, themselves
generally older. Shmotikin et al. (1993) and others have also found evidence to suggest
that women are more likely to be attracted to careers in gerontology than men (Fitzgerald,
Wray, & Halter, 2003, 2006; Gorelik et al., 2000; McKillip, 1980). That was not the case
in this sample, though the sample itself was biased in terms of both gender and age, with
the majority of the population being females under the age of 30. While this does bias
the sample, it may be more representative of the population of clinical psychology
doctoral students on the whole (American Psychological Association Commission on
Accreditation, n.d.).

Race was not found to account for significant differences between measures in the
present study. That being said, this study was marked by homogeneity with respect to
race as the sample was predominantly Caucasian. Given the limited data available from
minority participants, the group was collapsed across the races, thus eliminating the
possibility of race specific distinctions. The lack of measurable difference with regard to
interest in working with older adults found in the present study is consistent with the
results found for Caucasian, African American, and Hispanic social work students
inclined to work with older adults (Curl, Simons, & Larkin, 2005). However, the
available literature has yielded mixed results regarding the role of race and ethnicity
(Shimamoto & Rose, 1987). This discrepancy is difficult to account for. Work involved in
looking at differences between races and ethnicities is often complicated by the fact that
the populations themselves differ in many respects and that studies may often have a
tendency to confound ethnicity or racial identity with cultural norms and values.
Additionally, a review of self-efficacy in diverse populations (Lindley, 2006) noted that
increased research on the application of SCCT in minority populations is needed.

Knowledge

Knowledge, as measured by the Palmore’s FAQ2, was found to be negatively,
albeit weakly, correlated with ratings of self-efficacy in the present sample. FAQ2
performance was not positively correlated with outcome expectations or interest in
working with older adults. This is somewhat at odds with the Lent et al. (1994) model, in
which knowledge regarding factual information about aging would likely be involved in
learning experiences, which are proposed to inform both self-efficacy beliefs and
outcome expectations. Given the relationship between self-efficacy and outcome
expectations, the model suggests that greater knowledge would have positive
implications for both self-efficacy and outcome expectations and through these variables,
interest or behavioral intention to work with this population. The present study did not
find a significant relationship between increased knowledge regarding age related
phenomenon, as measured by the FAQ2, and scores on the GOES or GIS. This suggests
that increased knowledge of facts regarding aging is not a significant factor in these
constructs. Numerous studies have looked at the link between knowledge regarding
aging, attitudes, and interest in aging and working with the aging population (Cottle &
Glover, 2009; Stuart-Hamilton & Mahoney, 2003). The current study’s results are
consistent with previous studies, which found that increased knowledge about aging does
not necessarily encourage interest in working with older adults (Dunkle & Hyde, 1995;
MacNeil, 1991; Moriello et al., 2005; Murphy, 2005; Robert & Mosher-Ashley, 2000). However, the present study found a significant positive relationship between geropsychological coursework and self-efficacy. Presumably, the learning derived from coursework, which has at its focus the older adult population, would involve both factual knowledge regarding aging and the aging process as well as the application of this knowledge and its implications for practice. Given these data, graduate coursework based solely on increased factual knowledge regarding aging does not appear to be sufficient in terms of fostering increased self-efficacy, outcome expectations, or interest in geropsychological practice.

Implications of the Study and Current Training Initiatives

As of 2002, the American Psychological Association’s Committee on Aging (CONA) had set forth several initiatives to increase the number of psychologists prepared to meet the mental health needs of the growing elderly population, such as integrating aging information into current curriculum, advocating for federal policies and funding for geropsychology training, and developing training opportunities for providers and researchers (APA, 2004; DiGilio & Levitt, 2002). In regard to increasing the number of professionals in geropsychology, CONA’s current focus is on undergraduate education in an effort to spark interest in geropsychology. With respect to the current study, the majority of the sample indicated that their current population of primary interest had remained unchanged since entering graduate school. This suggests that earlier intervention with respect to fostering professional interest in this population at the undergraduate level may be an effective point of intervention. Additionally, this may lend to greater understanding of the longitudinal development of self-efficacy, outcome
expectations and interest in geropsychological practice and expertise.

The APA Education Policy Office has successfully lobbied policymakers to make a psychology provision to the Older American Acts to include support for training programs for mental health professionals. In March 2002, the APA Education Policy Office in conjunction with CONA and the Office on Aging, launched the Graduate Training in Geropsychology (GTG) Appropriations Initiative and began requesting funding for training of health service psychologists enrolled in APA-accredited programs to provide services to older adults (APA, 2010). Given the results of the current study and the limited numbers of individuals who identified a preference for working with this population, the need to focus efforts on fostering interest in older adults is clear.

Additionally, the present study suggests that both direct and indirect experience with this population have an impact on reported self-efficacy. In accordance with the model, this study found that students with direct clinical experience in the form of practicum placement experience with the geriatric population reported significantly higher scores on the Geropsychology Self-Efficacy Scale (GSES). The important role of experience with this population as highlighted above has been identified in previous studies with this population (Hinrichsen, 2000; Qualls et al., 2002; Zank, 2009), which certainly has implications for training initiatives, curriculum, practicum requirements, and by extension funding of these programs.

While professionals in the field have outlined training objectives, four specific barriers to obtaining training have been identified (Lewinsohn et al., 1984; Qualls, 1998). First, a professional’s belief that older adults are not so very different from young adults may prevent the professional from seeing the need for additional training. In this way,
they may believe that the very same clinical tools and theories may be used with both populations, without considering appropriate standards of care (Qualls, 1998). Inaccurate beliefs regarding an individual’s ability to work with this population may set the stage for a negative learning experience, which has implications for self-efficacy and outcome expectations regarding future practice with this population within the SCCT model.

Second, the limited number of expert geropsychologists and geropsychology faculty available to help others develop the necessary clinical skills is a barrier to implementing proposed plans to increase geropsychology training at the predoctoral level (Center for Health Workforce Studies, 2006; Lewinsohn et al., 1984). The lack of access to competent mentors would be an important barrier to overcome, given the importance of mentorship and feedback in the formation and development of self-efficacy beliefs. The role of mentorship and receiving appropriate feedback in the course of skill development has been highlighted by other SCCT studies, investigating different disciplines (Betz, 2007; Bishop & Bieschke, 1998).

The third barrier is related to funding. More specifically, the low rate of Medicare reimbursement for mental health services has been identified as a significant obstacle for providers. While medical service providers receive 90%, mental health providers were receiving only 50% reimbursement from Medicare (Lewinsohn et al., 1984; Qualls, 1998). With the recent changes in reimbursement for mental health services, providers and trainees must now become familiar with the insurance carriers, as well as new policies (Karel et al., 2012; Qualls, 1998). These changes in policy may help to create more positive outcome expectations regarding compensation for geropsychological practice. Similar concerns regarding practice with older adults have been found in
medical school students, who also anticipate lower compensation in working with this population (Bagri & Tiberius, 2010). Interestingly, the majority of the sample believed themselves to have low to moderate confidence in their self-efficacy pertaining to Medicare and Medicaid. Practical curriculum aimed at education of the rules and regulations, which govern Medicare practice, will likely be beneficial to all trainees.

A final “barrier” identified in the literature (Qualls, 1998) is the flexibility required in geropsychological practice. Specifically, geropsychologists must be flexible enough to go out of their familiar settings into the sometimes complex systems and settings in which older adults are embedded. The importance of flexibility calls for education and practice that exposes trainees to a multidisciplinary approach to care, including practice with interaction with other health care providers, administrators, and social service providers. The importance of multidisciplinary care approaches has been highlighted in the older adult literature (APA, 2010; Karel et al., 2009) as well as in the allied health care literature (Grant et al., 1995; Tresolini et al., 1995). Training which emphasizes these experiences are likely to inform geropsychology efficacy beliefs and outcome expectations and will likely increase the validity of efficacy beliefs and outcome expectations in trainees.

Limitations

One limitation is representativeness of the population of clinical psychology doctoral students. Specifically, this sample was predominantly composed of Caucasian females enrolled in PsyD programs. Thus, clinical psychology doctoral students in Ph.D. programs were not well-represented. Despite the face validity of the project as one interested in geropsychology, there did not appear to be a self-selection bias towards
individuals primarily interested in the older adult population, as those primarily interested in geropsychology represented as small percentage of our sample. Furthermore efforts to generalize the findings of this sample should pay attention to the education, sex, and racial components of our sample. Also of note is the reliance of the present study on self-report measures, which may reflect responses that the individuals deem appropriate or required and thus may not reflect an individual's true belief or assessment. Additionally, and specific to self-report of self-efficacy, is a tendency to misread or misreport capabilities (Bandura, 1997). This tendency is especially evident under conditions in which there is uncertainty or a lack of knowledge for task demands (O’Brien et al., 1995). This may have implications for reports of self-efficacy for those who are naïve or uninformed regarding the demands of geropsychological practice.

Another major limitation to the study was the measures used to collect information regarding self-efficacy, outcome expectation, and interest. As this study was the first of its kind, it required the creation of geropsychology specific measures. In utilizing previous SCCT measures as a guide, the measures were based on scores ranging from 0 to 100, with a “moderate” option being provided on the scale. This means that there was no true middle to the scales, which may have implications for participant responses. While this is of concern, the data collected were not dramatically skewed in one way or the other nor was there evidence of extreme kurtosis. Furthermore, items for the self-efficacy measure were drawn from the Pike’s Peak assessment tool (Karel et al., 2010). The results of our factor analysis revealed that the items themselves were highly intercorrelated across factors, thereby hampering identification of the underlying constructs. In reviewing the content of the items, it appears that some of these items
APPLYING SCCT TO INTEREST IN GEROPSYCHOLOGY

contained more than one skill, belief, knowledge set, or action. Furthermore, the
appropriateness of conducting factor analysis with this sample size bears further
explanation. While there are no hard and fast rules regarding appropriate sample size,
“rules of thumb” have been used to identify appropriate sample sizes based on subject to
item ratios and the nature of the data (Costello & Osborne, 2005; Fabrigar et al., 1999;
MacCallum, Widaman, Zhang, & Hong, 1999). Specifically, subject to item ratios
suggested for appropriate factor analysis have been highlights as 5:1 and 10:1. These
criteria were not met in the present sample, which is closer to 2:1. Lower ratios have
been found to be accurate with “stronger data”, which is data in which the factor analysis
yields high communalities without cross loadings, which have been suggested as rare
(Costello & Osborne, 2005; Muliak, 1990).

Given the small sample size, the stability of the factors in the present study is in
doubt. Future studies will need to refine these items and utilize an adequate sample size
so that each factor clearly and accurately reflects the underlying construct. Given that
this is a preliminary effort, the GSES measure provides useful information going forward
in geropsychology specific SCCT measurement construction. This is an important area
of future exploration as an accurate assessment of geropsychology abilities may help
faculty in identifying a given student’s self-efficacy and identify strengths and
weaknesses with respect to practice with older adults. This could then help to facilitate
training and practice guidance through interventions targeting areas of low efficacy.

In other disciplines, SCCT and its components have been utilized to create
interventions targeting the sources of self-efficacy in order to bring about a change in
domain specific efficacy (Luzzo, Hasper, Albert, Bibby, & Martinelli, 1999; Lent et al.,
1996). Luzzo and colleagues (1999) found evidence to suggest that interventions focusing on performance accomplishments and vicarious learning were useful in increasing undergraduate students' self-report of mathematics efficacy in a pre and post treatment design. Of the two learning experiences, performance accomplishments were found to be superior with respect to influence on self-efficacy and reports of interest in pursuing further mathematical education. While the study investigated these two sources of learning experiences, they did highlight the possibilities of interventions focused on other learning experiences, including verbal persuasion and emotional arousal. In extending this to doctoral students and geropsychology, those who report relatively high efficacy in therapeutic intervention with older adults but low efficacy in assessment of older adults may benefit from an accurate assessment of these abilities and interventions targeting the domain or task that has lower efficacy.

Recommendations and Future Research

The present study was exploratory, in that it was the first of its kind to utilize SCCT in the application of clinical psychology doctoral students' interest in geropsychology. The above analyses provide support for many of the propositions identified by Lent et al., (1994) in the interest model (see Figure 2). Given this support, it would be important to test the SCCT model as a whole in regard to this population. Increased understanding of the model will inform the question of geropsychology interest development. Given the myriad applications of SCCT to the question of developing interest, there are many possible directions for future research based on the model and its constructs.
Before extending the model, more work with respect to measurement construction and development needs to be done. The current study has set the foundation for future work with geropsychology specific measures. Despite the limitations listed above, the results of the factor analyses of the Geropsychology Self-Efficacy Scale (GSES), the Geropsychology Outcome Expectation Scale (GOES), and the Geropsychology Interest Scale (GIS) measures provide important information for future measurement development. As evidenced by the current factor analysis, future work with self-efficacy measures would likely benefit from the inclusion of more foundational geropsychology skills. In the current study, total scale scores were utilized. Further scale development and factor analysis of the underlying constructs of the measures may provide better estimates of the variables contributing to geropsychology self-efficacy.

Another valuable extension of the current data would be to study self-efficacy in relation to objective measures of performance (Betz, 2007). Direct, personal performance experiences have been proposed by the model to inform self-efficacy (Lent et al., 1994). One issue with self-efficacy, as outlined by Bandura (1997), is the tendency for individuals to misread or misreport their capabilities, especially under conditions when there is a lack of knowledge for task demands (Bandura, 1997; O’Brien et al., 1997). Ideally then, a supervisor or other observer would reliably assess self-efficacy in order to help the individual form realistic expectations regarding their efficacy. Additionally, individuals may also use their general sense of self-efficacy as it pertains to their clinical skills and thus extend them to items that reflect a more specialized skill set (Forester et al., 2004). There is danger in this, in that unrealistically high self-efficacy beliefs may encourage people to assume roles and responsibilities that they are less than
prepared for. Within the SCCT model, unrealistically high self-efficacy beliefs may result in negative outcomes for both the trainee and the patient insofar as this negative experience may create a negative outcome expectation regarding future experience with this population. These findings suggest that positive experiences with the older adult population, both with respect to direct and indirect experiences, are important in fostering the development of interest in working with older adults.
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_Social Work, 40_(3), 31-50. doi:10.1300/J083v40n03_04


### Table 1

**Demographics Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N(%)</th>
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</thead>
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<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>104(82.5)</td>
</tr>
<tr>
<td>Black/Non-Hispanic</td>
<td>5(4.0)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5(4.0)</td>
</tr>
<tr>
<td>Asian</td>
<td>4(3.2)</td>
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<tr>
<td>Native American/Alaskan</td>
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</tr>
<tr>
<td>Biracial</td>
<td>5(4.0)</td>
</tr>
<tr>
<td>Other</td>
<td>2(1.6)</td>
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<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Female</td>
<td>97(77.0)</td>
</tr>
<tr>
<td>Male</td>
<td>29(23.0)</td>
</tr>
<tr>
<td><strong>Geropsychology Courses</strong></td>
<td></td>
</tr>
<tr>
<td>No Courses</td>
<td>30(23.8)</td>
</tr>
<tr>
<td>One Course</td>
<td>52(41.3)</td>
</tr>
<tr>
<td>Two Courses</td>
<td>26(20.6)</td>
</tr>
<tr>
<td>Three Courses</td>
<td>8(6.3)</td>
</tr>
<tr>
<td>Four Courses</td>
<td>8(6.3)</td>
</tr>
<tr>
<td>Five Courses</td>
<td>1(0.8)</td>
</tr>
<tr>
<td>Seven Courses</td>
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<tr>
<td><strong>Geropsychology Practicum</strong></td>
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<tr>
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<td>65(51.6)</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>1 Practica</td>
<td>39(31.0)</td>
</tr>
<tr>
<td>2 Practicum</td>
<td>13(10.3)</td>
</tr>
<tr>
<td>3 Practicum</td>
<td>3(2.4)</td>
</tr>
<tr>
<td>5 Practicum</td>
<td>6(4.8)</td>
</tr>
</tbody>
</table>

Year in Graduate Training

<table>
<thead>
<tr>
<th>1&lt;sup&gt;st&lt;/sup&gt; Year</th>
<th>17(13.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Year</td>
<td>29(23.0)</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Year</td>
<td>23(18.3)</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; Year or greater</td>
<td>34(27.0)</td>
</tr>
<tr>
<td>Internship</td>
<td>20(15.9)</td>
</tr>
<tr>
<td>Post-Internship</td>
<td>3(2.4)</td>
</tr>
</tbody>
</table>
Table 2

*Summary of Intercorrelations, Means, and Standard Deviations for Study Measures*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Geropsychology Self-Efficacy</td>
<td>-</td>
<td>.300**</td>
<td>.291**</td>
<td>.178*</td>
<td>-.152*</td>
<td>63.22</td>
<td>14.36</td>
</tr>
<tr>
<td>Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Geropsychology Outcome</td>
<td>-</td>
<td></td>
<td>.619**</td>
<td>-.034</td>
<td>.028</td>
<td>52.34</td>
<td>14.21</td>
</tr>
<tr>
<td>Expectation Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Geropsychology Interest Scale</td>
<td>-</td>
<td></td>
<td>.018</td>
<td>.062</td>
<td>43.16</td>
<td>28.77</td>
<td></td>
</tr>
<tr>
<td>4 Age</td>
<td>-</td>
<td></td>
<td></td>
<td>.174</td>
<td>28.72</td>
<td>5.43</td>
<td></td>
</tr>
<tr>
<td>5 Palmore’s Facts on Aging</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>11.37</td>
<td>2.57</td>
<td></td>
</tr>
</tbody>
</table>

For all scales higher scores are indicative of more extreme responding in the direction of the construct assessed. *p < .05, **p < .01.
Table 3

*Independent Sample t-tests for GSES*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N(%)</th>
<th>Mean</th>
<th>t value</th>
<th>p value</th>
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<tr>
<td>Race/Ethnicity</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>White/Non-Hispanic</td>
<td>104(83.2)</td>
<td>63.40(13.88)</td>
<td>-.583</td>
<td>.561</td>
</tr>
<tr>
<td>Other</td>
<td>21(16.8)</td>
<td>61.40(16.52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 and Above</td>
<td>58(47.9)</td>
<td>65.90(15.50)</td>
<td>-.195</td>
<td>.053</td>
</tr>
<tr>
<td>27 and Below</td>
<td>63(52.1)</td>
<td>60.80(13.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>97(78.0)</td>
<td>63.19(15.30)</td>
<td>.039</td>
<td>.969</td>
</tr>
<tr>
<td>Male</td>
<td>29(23.0)</td>
<td>63.31(10.86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAQ2 Scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 and Above</td>
<td>37(29.4)</td>
<td>64.27(12.27)</td>
<td>.528</td>
<td>.598</td>
</tr>
<tr>
<td>9 and Below</td>
<td>89(70.6)</td>
<td>62.78(15.19)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean scores presented above are the mean values of the mean GSES score.
Table 4

*Independent Sample t-tests for GOES*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N(%)</th>
<th>Mean</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>104(83.2)</td>
<td>52.32(13.82)</td>
<td>.038</td>
<td>.970</td>
</tr>
<tr>
<td>Other</td>
<td>21(16.8)</td>
<td>52.45(16.69)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 and Above</td>
<td>58(47.9)</td>
<td>53.04(14.65)</td>
<td>-.477</td>
<td>.634</td>
</tr>
<tr>
<td>27 and Below</td>
<td>63(52.1)</td>
<td>51.79(14.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>97(78.0)</td>
<td>52.08(14.49)</td>
<td>.367</td>
<td>.714</td>
</tr>
<tr>
<td>Male</td>
<td>29(23.0)</td>
<td>53.19(13.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAQ2 Scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 and Above</td>
<td>37(29.4)</td>
<td>51.32(14.80)</td>
<td>-.514</td>
<td>.608</td>
</tr>
<tr>
<td>9 and Below</td>
<td>89(70.6)</td>
<td>52.76(14.02)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean scores presented above are the mean values of the mean GOES score.
Table 5

*Independent Sample t-tests for GIS*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N(%)</th>
<th>Mean</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>85(83.3)</td>
<td>44.05(28.58)</td>
<td>-.697</td>
<td>.487</td>
</tr>
<tr>
<td>Other</td>
<td>17(16.7)</td>
<td>38.71(30.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 and Above</td>
<td>43(43.4)</td>
<td>43.26(29.50)</td>
<td>-.102</td>
<td>.919</td>
</tr>
<tr>
<td>27 and Below</td>
<td>56(56.6)</td>
<td>43.86(28.75)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>78(76.5)</td>
<td>44.18(29.85)</td>
<td>-.645</td>
<td>.520</td>
</tr>
<tr>
<td>Male</td>
<td>24(23.5)</td>
<td>39.83(25.22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAQ2 Scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 and Above</td>
<td>31(30.4)</td>
<td>41.42(27.88)</td>
<td>-.401</td>
<td>.689</td>
</tr>
<tr>
<td>9 and Below</td>
<td>71(69.6)</td>
<td>43.92(29.31)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean scores presented above are the mean values of the mean GIS score.
Table 6

*Hierarchical Multiple Regression Analysis*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geropsychology Coursework</td>
<td>352.71</td>
<td>162.81</td>
<td>.191*</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geropsychology Coursework</td>
<td>255.32</td>
<td>157.47</td>
<td>.138</td>
</tr>
<tr>
<td>Geropsychology Practicum</td>
<td>492.06</td>
<td>134.21</td>
<td>.313*</td>
</tr>
</tbody>
</table>

Note. $R^2 = .036$ for Step 1. $\Delta R^2 = .095$, for Step 2 (ps < .05). *p<.05.
### Table 7

**Oblimin Rotated Component Loading for 55 Geropsychology Self-Efficacy Survey Items**

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Factor 4</th>
<th>Factor 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel able to stay current regarding research on adult development and aging.</td>
<td>.205</td>
<td></td>
<td>.350</td>
<td>.134</td>
<td>.281</td>
</tr>
<tr>
<td>2. I can assess older adult’s ability to provide informed consent for psychological evaluation.</td>
<td>.133</td>
<td>.167</td>
<td>.290</td>
<td>.118</td>
<td>.465</td>
</tr>
<tr>
<td>3. I can recognize situations in which a medical evaluation would be required to rule out underlying medical or pharmacological causes of presenting symptoms in older adults.</td>
<td></td>
<td>.119</td>
<td>.148</td>
<td></td>
<td>.523</td>
</tr>
<tr>
<td>4. I am able to appreciate the methodological considerations in cross-sectional and longitudinal research in older adults.</td>
<td>.151</td>
<td>.181</td>
<td>.388</td>
<td></td>
<td>.269</td>
</tr>
<tr>
<td>5. I am mindful of the biopsychosocial perspective in understanding an older person’s physical and psychological development.</td>
<td></td>
<td></td>
<td></td>
<td>.216</td>
<td>-.106</td>
</tr>
<tr>
<td>6. I can appreciate the differences between normal aging and disease as it pertains to physical, mental and cognitive changes.</td>
<td>.240</td>
<td>.546</td>
<td>.192</td>
<td>.290</td>
<td></td>
</tr>
<tr>
<td>7. I can appreciate the diversity of the older adult population.</td>
<td>.262</td>
<td>.398</td>
<td></td>
<td>.287</td>
<td></td>
</tr>
<tr>
<td>8. I understand that there are historical influences affecting particular cohorts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I can appreciate the differences between common types of dementia and mild cognitive impairment in older adults.</td>
<td>.126</td>
<td>.780</td>
<td>.137</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I am able to provide strategies that would be useful in helping</td>
<td>.231</td>
<td>-.160</td>
<td>.593</td>
<td></td>
<td>.258</td>
</tr>
</tbody>
</table>
older adults cope with functional impairments.

<table>
<thead>
<tr>
<th>Question</th>
<th>Spearman's Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. I can define and assess activities of daily living (ADL’s) and Instrumental Activities of Daily Living (IADL’s).</td>
<td>.230 - .214 .391 -.146 .242</td>
</tr>
<tr>
<td>12. I understand the impact of aging stereotypes on an older adult’s functional status.</td>
<td>.521 .257 .127 .165</td>
</tr>
<tr>
<td>13. I am confident in my ability to handle the ethical and legal issues, which arise in the context of impaired functional status and decision-making capacity.</td>
<td>.688 -.202 .124 .211</td>
</tr>
<tr>
<td>14. Recognizing and acting on situations and signs that suggest risk for abuse and neglect of older adults are things that I feel able to do.</td>
<td>.802 .101</td>
</tr>
<tr>
<td>15. I am comfortable talking about issues of death and dying with my older adult clients.</td>
<td>.540 .136</td>
</tr>
<tr>
<td>16. I can assess situations and recognize signs that suggest risk for abuse and neglect.</td>
<td>.881</td>
</tr>
<tr>
<td>17. I understand the importance of teamwork in geriatric settings to address the biopsychosocial needs of older adults.</td>
<td>.580 .154 .125 .267</td>
</tr>
<tr>
<td>18. I can use rapport and empathy to facilitate interactions with older adults, families, and care teams.</td>
<td>.233 .531</td>
</tr>
<tr>
<td>19. I feel able to seek continuing education, training, supervision, and consultation to enhance competencies related to working with older adults.</td>
<td>.140 .402 .124 .147</td>
</tr>
<tr>
<td>20. I am able to appreciate the interaction of common mental illnesses with the more common medical illnesses and medications and implications involved for assessment and treatment of older adults.</td>
<td>.145 .258 .536 -.124</td>
</tr>
<tr>
<td>Question</td>
<td>Correlation</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>21. Working within the Medicare and Medicaid system is something I feel confident I can do.</td>
<td>.193</td>
</tr>
<tr>
<td>22. I can advocate for the older adult clients’ needs in interdisciplinary and organizational environments when appropriate.</td>
<td>.333</td>
</tr>
<tr>
<td>23. I can gather and integrate collateral information from family, friends, and caregivers with appropriate consent, when cognitive impairment in older adults is suspected.</td>
<td>.188</td>
</tr>
<tr>
<td>24. I am able to differentiate goals and models of care in long-term, rehabilitation, acute, primary, home, assisted living, and hospice, care settings.</td>
<td>.422</td>
</tr>
<tr>
<td>25. I can collaborate with clients, families, and other organizational and community providers to improve client (older adults’) access to services.</td>
<td>.142</td>
</tr>
<tr>
<td>26. I possess the flexibility in my professional role to adapt to the realities of work in a variety of aging or healthcare delivery systems.</td>
<td>.362</td>
</tr>
<tr>
<td>27. I monitor those internal thoughts and feelings that may influence professional behavior and can adjust behavior accordingly.</td>
<td>.679</td>
</tr>
<tr>
<td>28. I can consider assessment measures and techniques with the view to how they have been developed, normed, and validated and how psychometrically suitable they are to use with older adults.</td>
<td>.117</td>
</tr>
<tr>
<td>29. I am able to conduct differential diagnoses, including considerations of co-morbid medical issues that may influence</td>
<td>.197</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>30. I can appreciate that there are a range of potential individual factors that may affect assessment performance in older adults (e.g. medications, medical conditions, culture, language etc.).</td>
<td>-.105</td>
</tr>
<tr>
<td>31. I am able to review and apply scientific literature to case conceptualization, treatment planning, and intervention for older adult clients.</td>
<td>.160</td>
</tr>
<tr>
<td>32. I can translate cognitive testing results into practical conclusions and recommendations for older adult clients, families, and other care providers.</td>
<td>.257</td>
</tr>
<tr>
<td>33. I can develop strategies for community-based training/education for promoting preventive interventions in the care of older adults.</td>
<td>.439</td>
</tr>
<tr>
<td>34. I recognize situations in which geropsychological consultation is appropriate.</td>
<td>.364</td>
</tr>
<tr>
<td>35. I can define learning goals and objectives as a basis for developing educational sessions that are relevant to older adults.</td>
<td>.425</td>
</tr>
<tr>
<td>36. I can appreciate the common types of dementia in terms of onset, etiology, risk factors, clinical course, associated behavioral features, and medical management of these disorders.</td>
<td></td>
</tr>
<tr>
<td>37. I feel able to understand characteristics and causes of mild cognitive impairment and reversible cognitive impairment in older adults.</td>
<td>-.179</td>
</tr>
<tr>
<td>38. I can appreciate the unique presentation associated with features, age of onset, and course of the common psychological</td>
<td>.154</td>
</tr>
</tbody>
</table>
disorders in older adults.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>39. I can appreciate the diversity in ethnic, cultural, and spiritual beliefs and rituals involved in the death and dying process.</td>
<td>.103</td>
<td>.564</td>
<td>.101</td>
<td>-.143</td>
</tr>
<tr>
<td>40. I am aware of the multiple pathways of interaction between medical illness and psychopathology in late life.</td>
<td>.229</td>
<td>.224</td>
<td>.401</td>
<td>-.218</td>
</tr>
<tr>
<td>41. I can integrate testing results with information from the clinical interview with an older adult and collateral sources (i.e. family, behavioral observations) to formulate recommendations.</td>
<td>.228</td>
<td>.159</td>
<td>.136</td>
<td>-.556</td>
</tr>
<tr>
<td>42. I can identify risk factors for harm to self or others in older adults.</td>
<td>.521</td>
<td>.153</td>
<td></td>
<td>-.204</td>
</tr>
<tr>
<td>43. I feel able to address the ethical and legal issues, which may accompany caring for older adults.</td>
<td>.643</td>
<td></td>
<td></td>
<td>-.206</td>
</tr>
<tr>
<td>44. I am capable of screening and comprehensively assessing suicide risk in older adults.</td>
<td>.659</td>
<td></td>
<td></td>
<td>-.167</td>
</tr>
<tr>
<td>45. I am able to identify risk of elder abuse in emotional, physical, sexual, financial, and neglect domains.</td>
<td>.831</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. I can appreciate the impact of late life medical problems and sensory changes on treatment approaches.</td>
<td>.322</td>
<td>.376</td>
<td>.432</td>
<td>-.111</td>
</tr>
<tr>
<td>47. I feel able to adapt my interventions to make them appropriate to a particular setting.</td>
<td>.498</td>
<td>.233</td>
<td></td>
<td>-.117</td>
</tr>
<tr>
<td>48. I have the ability to communicate results within the confines of federal, state, and institutional privacy and confidentiality rules and regulations.</td>
<td>.144</td>
<td>.391</td>
<td>-.261</td>
<td>.123</td>
</tr>
<tr>
<td>49. I am familiar with state and organizational laws and policies covering elder abuse, advance</td>
<td>.233</td>
<td></td>
<td>-.150</td>
<td>.258</td>
</tr>
<tr>
<td>Item</td>
<td>Loading 1</td>
<td>Loading 2</td>
<td>Loading 3</td>
<td>Loading 4</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>50. I am able to choose evidence-based treatment for older adult clients based on diagnosis and other relevant client characteristics.</td>
<td>.187</td>
<td>.251</td>
<td>-.176</td>
<td>.356</td>
</tr>
<tr>
<td>51. I appreciate the roles and potential contributions, of a wide range of healthcare professionals in the assessment and treatment of older adults with mental disorders.</td>
<td>-.156</td>
<td>.608</td>
<td>.226</td>
<td>-.138</td>
</tr>
<tr>
<td>52. I can provide clear and concise written and oral communication of geropsychological conceptualizations and recommendations.</td>
<td>.259</td>
<td>.333</td>
<td>-.261</td>
<td>.249</td>
</tr>
<tr>
<td>53. I am able to appreciate and integrate feedback from interdisciplinary team members into case conceptualizations.</td>
<td>.247</td>
<td>.362</td>
<td>-.327</td>
<td>.186</td>
</tr>
<tr>
<td>54. I am able to work with a team to create smooth and efficient transitions across health care settings for older adults and their families.</td>
<td>.350</td>
<td>.263</td>
<td>-.350</td>
<td>.226</td>
</tr>
<tr>
<td>55. I can identify the client and explain the expectations of the relationship at the outset of the consultation.</td>
<td>.419</td>
<td>.399</td>
<td>-.108</td>
<td>.142</td>
</tr>
</tbody>
</table>

**Eigenvalues**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.57</td>
<td>2.86</td>
<td>2.53</td>
<td>1.70</td>
</tr>
</tbody>
</table>

**Percent of total variance**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>46.49</td>
<td>5.20</td>
<td>4.60</td>
<td>3.09</td>
</tr>
</tbody>
</table>

**Number of test measures**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16/17</td>
<td>11</td>
<td>13</td>
<td>4/5</td>
</tr>
</tbody>
</table>

*Loadings => .10 represented. Highlighted numbers represent highest absolute value of factor loadings.*
### Table 8

**Oblimin Rotated Component Loading for 19 Geropsychology Self-Efficacy Survey Items**

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. I can appreciate the diversity of the older adult population.</td>
<td>-.140</td>
<td>.671</td>
<td>-.107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I understand that there are historical influences affecting particular cohorts.</td>
<td></td>
<td></td>
<td></td>
<td>.826</td>
<td>.106</td>
</tr>
<tr>
<td>9. I can appreciate the differences between common types of dementia and mild cognitive impairment in older adults.</td>
<td>-.749</td>
<td>.216</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I am able to provide strategies that would be useful in helping older adults cope with functional impairments.</td>
<td>-.540</td>
<td>.110</td>
<td>.204</td>
<td>.109</td>
<td></td>
</tr>
<tr>
<td>14. Recognizing and acting on situations and signs that suggest risk for abuse and neglect of older adults are things that I feel able to do.</td>
<td>.830</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I am comfortable talking about issues of death and dying with my older adult clients.</td>
<td>.704</td>
<td></td>
<td>-.118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I can assess situations and recognize signs that suggest risk for abuse and neglect.</td>
<td>.883</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Working within the Medicare and Medicaid system is something I feel confident I can do.</td>
<td></td>
<td>-.114</td>
<td>-.134</td>
<td>.596</td>
<td></td>
</tr>
<tr>
<td>22. I can advocate for the older adult clients’ needs in interdisciplinary and organizational environments when appropriate.</td>
<td>.172</td>
<td>-.149</td>
<td></td>
<td>.617</td>
<td></td>
</tr>
<tr>
<td>23. I can gather and integrate collateral information from family, friends, and caregivers with appropriate consent, when cognitive impairment in older adults is suspected.</td>
<td></td>
<td></td>
<td>.230</td>
<td>.570</td>
<td>.332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>25. I can collaborate with clients, families, and other organizational and community providers to improve client (older adults') access to services.</td>
<td>.161</td>
<td>.693</td>
<td>.138</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I can consider assessment measures and techniques with the view to how they have been developed, normed, and validated and how psychometrically suitable they are to use with older adults.</td>
<td></td>
<td></td>
<td></td>
<td>.685</td>
<td></td>
</tr>
<tr>
<td>32. I can translate cognitive testing results into practical conclusions and recommendations for older adult clients, families, and other care providers.</td>
<td>.100</td>
<td>-.180</td>
<td>-.105</td>
<td>.743</td>
<td></td>
</tr>
<tr>
<td>36. I can appreciate the common types of dementia in terms of onset, etiology, risk factors, clinical course, associated behavioral features, and medical management of these disorders.</td>
<td></td>
<td></td>
<td></td>
<td>-.942</td>
<td></td>
</tr>
<tr>
<td>37. I feel able to understand characteristics and causes of mild cognitive impairment and reversible cognitive impairment in older adults.</td>
<td></td>
<td></td>
<td>-.675</td>
<td>-.120</td>
<td>.123</td>
</tr>
<tr>
<td>38. I can appreciate the unique presentation associated with features, age of onset, and course of the common psychological disorders in older adults.</td>
<td></td>
<td>-.702</td>
<td></td>
<td>.171</td>
<td></td>
</tr>
<tr>
<td>41. I can integrate testing results with information from the clinical interview with an older adult and collateral sources (i.e. family, behavioral observations) to formulate recommendations.</td>
<td>.179</td>
<td></td>
<td></td>
<td>.175</td>
<td>.610</td>
</tr>
<tr>
<td>44. I am capable of screening and comprehensively assessing suicide risk in older adults.</td>
<td></td>
<td></td>
<td>.683</td>
<td></td>
<td>.167</td>
</tr>
<tr>
<td>45. I am able to identify risk of elder abuse in emotional, physical, sexual, financial, and neglect domains.</td>
<td></td>
<td>.819</td>
<td></td>
<td></td>
<td>.102</td>
</tr>
<tr>
<td>Eigenvalues</td>
<td>9.31</td>
<td>1.72</td>
<td>1.42</td>
<td>1.13</td>
<td>1.05</td>
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<tr>
<td>Percent of total variance</td>
<td>48.98</td>
<td>9.06</td>
<td>7.45</td>
<td>5.94</td>
<td>5.55</td>
</tr>
<tr>
<td>Number of test measures</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

*Loadings => .10 represented. Highlighted numbers represent highest absolute value of factor loadings.*
Table 9

Oblimin Rotated Component Loading for 20 Geropsychology Practice Outcome Expectation Survey Items

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Professional involvement with older adults will enhance my career</td>
<td>.682</td>
<td>.213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>opportunities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. People I respect will approve of my involvement with older adults.</td>
<td>.873</td>
<td>.112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Involvement with older adults will allow me to contribute to society.</td>
<td>.650</td>
<td>.182</td>
<td>.126</td>
<td>-.119</td>
</tr>
<tr>
<td>4. Working with older adults will increase my sense of self-worth.</td>
<td>.626</td>
<td>-.147</td>
<td>-.214</td>
<td></td>
</tr>
<tr>
<td>5. Involvement with older adults is valued by significant people in my</td>
<td>.619</td>
<td>-.187</td>
<td>-.151</td>
<td></td>
</tr>
<tr>
<td>life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. My peers will think highly of me if I become involved in working with</td>
<td>.657</td>
<td>-.261</td>
<td></td>
<td></td>
</tr>
<tr>
<td>older adults.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pursuing a career focused on working with older adults will enable me</td>
<td>.116</td>
<td>-.161</td>
<td>-.661</td>
<td></td>
</tr>
<tr>
<td>to associate with the kind of people I value most.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Working with older adults would be a good fit with my personality.</td>
<td></td>
<td></td>
<td></td>
<td>-.938</td>
</tr>
<tr>
<td>9. A career working with older adults will lead to a sense of satisfaction.</td>
<td>.167</td>
<td>.152</td>
<td>.154</td>
<td>-.681</td>
</tr>
<tr>
<td>10. My involvement with older adults will lead to meaningful contributions</td>
<td></td>
<td></td>
<td>.405</td>
<td>-.456</td>
</tr>
<tr>
<td>to the field of psychology.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. If I pursue a career working with older adults it will negatively</td>
<td></td>
<td></td>
<td>.578</td>
<td></td>
</tr>
<tr>
<td>impact my significant relationships.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I believe that pursuing a career working with older adults will lead</td>
<td>.218</td>
<td>.851</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to becoming well known and respected in the field.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. A career working with older adults will lead to increased financial</td>
<td></td>
<td></td>
<td>.713</td>
<td></td>
</tr>
<tr>
<td>opportunities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Working with older adults will lead to burnout.</td>
<td></td>
<td></td>
<td>.515</td>
<td></td>
</tr>
<tr>
<td>15. In pursuing a career working with older adults I will be fulfilling</td>
<td>.215</td>
<td>.524</td>
<td>-.205</td>
<td></td>
</tr>
<tr>
<td>a need in our society.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>16. If I pursue a career working with older adults it will negatively impact my leisure activities.</td>
<td>.128</td>
<td>.903</td>
<td>.130</td>
<td></td>
</tr>
<tr>
<td>17. I anticipate having other professionals being able to mentor me as I pursue education opportunities specific to working with older adults.</td>
<td>.162</td>
<td>.340</td>
<td>-.238</td>
<td></td>
</tr>
<tr>
<td>18. A career focused on working with older adults will provide me with the possibility to perform research in this field.</td>
<td></td>
<td>.114</td>
<td>.650</td>
<td>-.157</td>
</tr>
<tr>
<td>19. Pursuing opportunities to work with older adults will increase my competitiveness for internship positions.</td>
<td>.256</td>
<td></td>
<td>.479</td>
<td></td>
</tr>
<tr>
<td>20. Working with older adults will be interesting and challenging work.</td>
<td>.145</td>
<td>.235</td>
<td>.307</td>
<td>-.479</td>
</tr>
</tbody>
</table>

Eigenvalues

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8.37</td>
<td>2.33</td>
<td>1.51</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Percent of total variance

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>41.85</td>
<td>11.64</td>
<td>7.53</td>
<td>5.72</td>
</tr>
</tbody>
</table>

Number of test measures

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

*Loadings => .10 represented. Highlighted numbers represent highest absolute value of factor loadings.*
Table 10

*Oblimin Rotated Component Loading for 16 Geropsychology Practice Outcome Expectation Survey Items*

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Professional involvement with older adults will enhance my career opportunities.</td>
<td>.685</td>
<td>.212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. People I respect will approve of my involvement with older adults.</td>
<td>.852</td>
<td>.108</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Involvement with older adults will allow me to contribute to society.</td>
<td>.696</td>
<td>.189</td>
<td>.146</td>
<td></td>
</tr>
<tr>
<td>4. Working with older adults will increase my sense of self-worth.</td>
<td>.658</td>
<td></td>
<td>-1.35</td>
<td></td>
</tr>
<tr>
<td>5. Involvement with older adults is valued by significant people in my life.</td>
<td>.654</td>
<td>-1.77</td>
<td></td>
<td>-.115</td>
</tr>
<tr>
<td>6. My peers will think highly of me if I become involved in working with older adults.</td>
<td>.670</td>
<td>-.251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pursuing a career focused on working with older adults will enable me to associate with the kind of people I value most.</td>
<td></td>
<td>-.126</td>
<td>-.679</td>
<td></td>
</tr>
<tr>
<td>8. Working with older adults would be a good fit with my personality.</td>
<td></td>
<td></td>
<td></td>
<td>-.958</td>
</tr>
<tr>
<td>9. A career working with older adults will lead to a sense of satisfaction.</td>
<td>.224</td>
<td>.180</td>
<td>.184</td>
<td>-.593</td>
</tr>
<tr>
<td>11. If I pursue a career working with older adults it will negatively impact my significant relationships.</td>
<td></td>
<td></td>
<td></td>
<td>.583</td>
</tr>
<tr>
<td>12. I believe that pursuing a career working with older adults will lead to becoming well known and respected in the field.</td>
<td></td>
<td>-.215</td>
<td>.804</td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Loadings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. A career working with older adults will lead to increased financial opportunities.</td>
<td>.724</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Working with older adults will lead to burnout.</td>
<td>.510</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. In pursuing a career working with older adults I will be fulfilling a need in our society.</td>
<td>.126 .226 .517 -.167</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. If I pursue a career working with older adults it will negatively impact my leisure activities.</td>
<td>.123 .915 .102 .130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. A career focused on working with older adults will provide me with the possibility to perform research in this field.</td>
<td>.123 .656 -.133</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Eigenvalues**

<table>
<thead>
<tr>
<th></th>
<th>6.42</th>
<th>2.23</th>
<th>1.43</th>
<th>1.06</th>
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</thead>
</table>

**Percent of total variance**

<table>
<thead>
<tr>
<th></th>
<th>40.09</th>
<th>13.95</th>
<th>8.96</th>
<th>6.61</th>
</tr>
</thead>
</table>

**Number of test measures**

<table>
<thead>
<tr>
<th></th>
<th>6</th>
<th>3</th>
<th>4</th>
<th>3</th>
</tr>
</thead>
</table>

*Loadings => .10 represented. Highlighted numbers represent highest absolute value of factor loadings.*
Table 11

Principal Axis Factoring for 5 Geropsychology Interest Scale Items

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pursuing an internship that involves working with the older adult population.</td>
<td>.935</td>
</tr>
<tr>
<td>2. Being a member of a multidisciplinary team who assesses and/or treats older adults.</td>
<td>.940</td>
</tr>
<tr>
<td>3. Pursuing a practicum placement that involves working with the older adult population.</td>
<td>.962</td>
</tr>
<tr>
<td>4. Participating in continuing education opportunities and/or further course work focused on practice with older adults.</td>
<td>.916</td>
</tr>
<tr>
<td>5. Providing training for those working with the older adult population.</td>
<td>.903</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>4.34</td>
</tr>
<tr>
<td>Percent of total variance</td>
<td>86.76</td>
</tr>
<tr>
<td>Number of test measures</td>
<td>5</td>
</tr>
</tbody>
</table>
Figure Caption

*Figure 1.* Adapted figure of the sociocognitive determinants of career and academic interest and the manner in which SCCT suggest that interests promote career-related activity involvement and skill acquisition (Lent et al., 1994). Scope of the component models of SCCT included in this figure.

*Figure 2.* Adapted figure of the hypothesized paths of factors affecting professional interest in working with older adults, based on the Lent et al. (1994) model.

*Figure 3.* Adapted figure of the model of person, contextual, and experiential factors affecting career-related choice behavior (Lent et al., 1994). The numbers included in the figure denote the propositions of the model.
Figure 2

Person Inputs
- Gender
- Age
- Race

Working with Older Adults
Self-Efficacy
H1

Interest in Professional Practice with Older Adults
H2

Environmental Influences
- Vicarious Experiences
- Year in Program
- Gero-related Coursework

Direct Contact with Older Adults
H4

Working with Older Adults
Outcome Expectations
H3
Appendix A
September 23, 2010

Ms. Adrianna Zec
1130 N. Dearborn St. Apt. 3309
Chicago, IL 60610

Re: Protocol #1021: Applying social cognitive career theory to interest in geropsychology among clinical psychology doctoral students

Dear Ms. Zec:

The IRB has reviewed the materials regarding your study, referenced above, and has determined that it meets the criteria for the Exempt from Review category under Federal Regulation 45CFR46. Your protocol is approved as exempt research, and therefore requires no further oversight by the IRB. We appreciate your thorough treatment of the issues raised and your timely response.

If you wish to modify your study, including the addition of data collection sites, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

Please contact our office if you have any questions. We wish you success with your project!

Sincerely,

[Signature]

Morell E. Mullins, Jr., Ph.D.
Chair, Institutional Review Board
Xavier University

MM/sb

c: John Barrett, advisor
**Appendix B**

**Self-Efficacy Scale**

*Directions: Using the 100-point scale provided, please indicate the degree to which you agree with each statement as they apply to WORKING WITH OLDER ADULTS AS A PSYCHOLOGIST.*

N.B. Older adults refers to people over the age of 65.

<table>
<thead>
<tr>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Confidence</td>
<td>Moderate Confidence</td>
<td>Complete Confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I feel able to stay current regarding research on adult development and aging.
2. I can assess older adult’s ability to provide informed consent for psychological evaluation.
3. I can recognize situations in which a medical evaluation would be required to rule out underlying medical or pharmacological causes of presenting symptoms in older adults.
4. I am able to appreciate the methodological considerations in cross-sectional and longitudinal research in older adults.
5. I am mindful of the biopsychosocial perspective in understanding an older person’s physical and psychological development.
6. I can appreciate the differences between normal aging and disease as it pertains to physical, mental and cognitive changes.
7. I can appreciate the diversity of the older adult population.
8. I understand that there are historical influences affecting particular cohorts.
9. I can appreciate the differences between common types of dementia and mild cognitive impairment in older adults.
10. I am able to provide strategies that would be useful in helping older adults cope with functional impairments.
11. I can define and assess activities of daily living (ADL’s) and Instrumental Activities of Daily Living (IADL’s).
12. I understand the impact of aging stereotypes on an older adult’s functional status.
13. I am confident in my ability to handle the ethical and legal issues which arise in the context of impaired functional status and decision-making capacity.
14. Recognizing and acting on situations and signs that suggest risk for abuse and neglect of older adults are things that I feel able to do.
15. I am comfortable talking about issues of death and dying with my older adult clients.
16. I can assess situations and recognize signs that suggest risk for abuse and neglect.
17. I understand the importance of teamwork in geriatric settings to address the biopsychosocial needs of older adults.
18. I can use rapport and empathy to facilitate interactions with older adults, families, and care teams.
19. I feel able to seek continuing education, training, supervision, and consultation to enhance competencies related to working with older adults.
20. I am able to appreciate the interaction of common mental illnesses with the more common medical illnesses and medications and implications involved for assessment and treatment of older adults.
21. Working within the Medicare and Medicaid system is something I feel confident I can do.
22. I can advocate for the older adult clients' needs in interdisciplinary and organizational environments when appropriate.
23. I can gather and integrate collateral information from family, friends, and caregivers with appropriate consent, when cognitive impairment in older adults is suspected.
24. I am able to differentiate goals and models of care in long-term, rehabilitation, acute, primary, home, assisted living, and hospice, care settings.
25. I can collaborate with clients, families, and other organizational and community providers to improve client (older adults') access to services.
26. I possess the flexibility in my professional role to adapt to the realities of work in a variety of aging or healthcare delivery systems.
27. I monitor those internal thoughts and feelings that may influence professional behavior and can adjust behavior accordingly.
28. I can consider assessment measures and techniques with the view to how they have been developed, normed, and validated and how psychometrically suitable they are to use with older adults.
29. I am able to conduct differential diagnoses, including considerations of co-morbid medical issues that may influence presentation in older adults.
30. I can appreciate that there are a range of potential individual factors that may affect assessment performance in older adults (e.g. medications, medical conditions, culture, language etc.).
31. I am able to review and apply scientific literature to case conceptualization, treatment planning, and intervention for older adult clients.
32. I can translate cognitive testing results into practical conclusions and recommendations for older adult clients, families, and other care providers.
33. I can develop strategies for community-based training/education for promoting preventive interventions in the care of older adults.
34. I recognize situations in which geropsychological consultation is appropriate
35. I can define learning goals and objectives as a basis for developing educational sessions that are relevant to older adults.
36. I can appreciate the common types of dementia in terms of onset, etiology, risk factors, clinical course, associated behavioral features, and medical management of these disorders.
37. I feel able to understand characteristics and causes of mild cognitive impairment and reversible cognitive impairment in older adults.
38. I can appreciate the unique presentation associated with features, age of onset, and course of the common psychological disorders in older adults.
39. I can appreciate the diversity in ethnic, cultural, and spiritual beliefs and rituals involved in the death and dying process.
40. I am aware of the multiple pathways of interaction between medical illness and psychopathology in late life.
41. I feel able to identify and address ethical and legal issues that may arise in the care of older adults.
42. I can integrate testing results with information from the clinical interview with an older adult and collateral sources (i.e. family, behavioral observations) to formulate recommendations.
43. I can identify risk factors for harm to self or others in older adults.
44. I am capable of screening and comprehensively assessing suicide risk in older adults.
45. I am able to identify risk of elder abuse in emotional, physical, sexual, financial, and neglect domains.
46. I can appreciate the impact of late life medical problems and sensory changes on treatment approaches.
47. I feel able to adapt my interventions to make them appropriate to a particular setting.
48. I have the ability to communicate results within the confines of federal, state, and institutional privacy and confidentiality rules and regulations.
49. I am familiar with state and organizational laws and policies covering elder abuse, advance directives, conservatorship, guardianship, restraints, multiple relationships, and confidentiality.
50. I am able to choose evidence-based treatment for older adult clients based on diagnosis and other relevant client characteristics.
51. I appreciate the roles and potential contributions, of a wide range of healthcare professionals in the assessment and treatment of older adults with mental disorders.
52. I can provide clear and concise written and oral communication of geropsychological conceptualizations and recommendations.
53. I am able to appreciate and integrate feedback from interdisciplinary team members into case conceptualizations.
54. I am able to work with a team to create smooth and efficient transitions across health care settings for older adults and their families.
55. I can identify the client and explain the expectations of the relationship at the outset of the consultation.
Appendix C

Outcome Expectations Measure

Directions: Using the 100-point scale provided, please indicate the degree to which you agree with each statement as they apply to working with older adults as a psychologist.

N.B. Older adults refers to people over the age of 65.

<table>
<thead>
<tr>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strongly Disagree</strong></td>
<td><strong>Agree</strong></td>
<td><strong>Strongly Agree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Professional involvement with older adults will enhance my career opportunities.
2. People I respect will approve of my involvement with older adults.
3. Involvement with older adults will allow me to contribute to society.
4. Working with older adults will increase my sense of self-worth.
5. Involvement with older adults is valued by significant people in my life.
6. My peers will think highly of me if I become involved in working with older adults.
7. Pursuing a career focused on working with older adults will enable me to associate with the kind of people I value most.
8. Working with older adults would be a good fit with my personality.
9. A career working with older adults will lead to a sense of satisfaction.
10. My involvement with older adults will lead to meaningful contributions to the field of psychology.
11. If I pursue a career working with older adults it will negatively impact my significant relationships.
12. I believe that pursuing a career working with older adults will lead to becoming well known and respected in the field.
13. A career working with older adults will lead to increased financial opportunities.
14. Working with older adults will lead to burnout.
15. In pursuing a career working with older adults I will be fulfilling a need in our society.
16. If I pursue a career working with older adults it will negatively impact my leisure activities.
17. I anticipate having other professionals being able to mentor me as I pursue education opportunities specific to working with older adults.
18. A career focused on working with older adults will provide me with the possibility to perform research in this field.
19. Pursuing opportunities to work with older adults will increase my competitiveness for internship positions.
20. Working with older adults will be interesting and challenging work.
Appendix D

Interest in Professional Practice With Older Adults Measure

Directions: Using the 100-point scale provided, please indicate the degree of interest you have in the activities listed as part of your professional (post-PhD./PsyD) career.

N.B. Older adults refers to people over the age of 65.

0 10 20 30 40 50 60 70 80 90 100

Strongly Disinterested    Moderately Interested    Strongly Interested

NA
Please Use N/A if the following options do not apply

1. Pursuing an internship that involves working with the older adult population.

2. Being a member of a multidisciplinary team

3. Pursuing a practicum placement that involves working with the older adult population

4. Participating in continuing education opportunities and/or further course work focused on practice with older adults.

5. Providing training for those working with the older adult population
Appendix E

Demographic Questionnaire

1. What is your gender?
   Female
   Male
   Transgender Male
   Transgender Female

2. What is the year of your birth?

3. How would you describe your race/ethnicity? (Check all that apply)
   American Indian or Alaskan Native
   Asian
   Black/African American
   Spanish/Hispanic/Latino(a)
   Native Hawaiian or Pacific Islander
   White/Caucasian
   Other (please specify)

4. Have you completed your doctoral degree?
   Yes
   No, I am still in pre-doctoral training

5. What doctoral degree in psychology are you working towards?
   Ph.D.
   Psy.D.
   Ed.D.
   Other (please specify)

6. What population are you interest in working with?
   Adult
   Child
   Adolescent
   Forensic
   Older Adult (i.e. age 65+)

7. Was this your population of interest when you began your graduate training?
   Yes
   No
8. Does your graduate program have a geropsychology component or track?
   Yes, there is a formal geropsychology track (several faculty, coursework, practica placements, research opportunities)
   Yes, there is a geropsychology component (1-2 faculty, some coursework, possible practica)
   No, but I have found a geropsychology advisor/mentor and/or practicum experience and/or research experience outside my program
   None of the above

9. If your program does have a geropsychology track, are you currently enrolled in that track?
   Yes
   No

10. Please circle the number of courses you have had in graduate school which involved material devoted to working with older adults and the aging process.
    1
    2
    3
    4
    5
    6
    7+

11. What year are you in your graduate training?
    First
    Second
    Third
    Fourth or fifth, pre-internship
    Internship
    Post-internship, but predoctoral (i.e., ABD)

12. Please indicate in which of the following geropsychology training experiences you have had to date: (Mark all that apply)
    Graduate coursework
    Graduate research
    Practicum placement
    Internship rotation
    Specialized internship (more than 50% time devoted to geropsychology)
    Other (please specify)

13. Please indicate which of the following settings you have had some geropsychology experience/exposure (during your graduate education). Check all that apply.
    Private practice
    Other outpatient mental health clinic (agency, hospital)
    Primary/outpatient medical care setting
Inpatient medical setting (e.g., acute or rehab)
Psychiatric hospital/unit
Nursing home
Assisted living facility
Home-based care
Community Setting
Other (please specify)

14. How many practicum experiences have you had in which you provided supervised clinical service to older adults (i.e. direct clinical contact hours)?
None yet
0
1
2
3
4
5+

15. In your supervised clinical experience with older adults, roughly what proportion of your time has been spent doing the following clinical activities? (Please make sure the numbers add to 100%)
N/A (I have not yet had clinical experience with older adults):
Psychotherapy (individual, couple’s, family, group):
Assessment (e.g., diagnostic, cognitive/neuropsych, capacity, personality):
Consultation (e.g., staff/agency/team education, training, program development):
Clinical training/supervision (i.e., you being the supervisor, under supervision):
Other:

16. In what professional associations are you a student member?(Mark all that apply)
American Psychological Association (APA)
APA Division 12 (Society of Clinical Psychology)
APA Division 12, Section 2 (Clinical Geropsychology)
APA Division 17 (Society of Counseling Psychology)
APA Division 20 (Adult Development and Aging)
APA Division 22 (Rehabilitation Psychology)
APA Division 40 (Clinical Neuropsychology)
APA Division 38 (Health Psychology)
APA Division 42 (Psychologists in Independent Practice)
Gerontological Society of America (GSA)
Psychologists in Long Term Care (PLTC)
Council of Professional Geropsychology Training Programs (CoPGTP)
Other (please specify)
Appendix F

*Palmore’s Facts on Aging Quiz (FAQ2)*

1. In old age, a person’s height:
   a. does not change
   b. only appears to change
   c. tends to decline
   d. depends on how active one is

2. As compared to younger persons, more older persons (65 or over) are limited in their activity by which type of illnesses?
   a. acute illnesses (short-term)
   b. colds and flu
   c. infections
   d. chronic illnesses

3. Which type of illnesses do older persons have less frequently than younger persons?
   a. chronic illnesses
   b. colds and flu
   c. infections
   d. acute illnesses

4. Compared with younger persons, older persons have:
   a. more injuries at home
   b. have about the same number of injuries in the home
   c. have less injuries in the home
   d. are twice as likely to be injured in the home

5. Older workers:
   a. have higher rates of absenteeism than younger workers
   b. cannot be depended upon
   c. have about the same rates of absenteeism as younger workers
   d. have lower rates of absenteeism than younger workers

6. The life expectancy of African Americas at age 65:
   a. is higher than that of whites
   b. is lower than that of whites
   c. is the same as that of whites
   d. has never been determined

7. Men’s life expectancy at age 65 as compared to women’s life expectancy:
   a. is lower
   b. tends to be returning to what it was in the 1940s
   c. is about the same
d. is higher

8. What percent of medical expenses for the aged does Medicare pay?
   a. nearly 50 percent
   b. nearly 70 percent
   c. nearly 100 percent
   d. about 15 to 20 percent

9. Social security benefits:
   a. automatically increase with inflation
   b. are not subject to change
   c. are not adjusted to meet inflation
   d. are often cut back in times of inflation

10. Supplementary Security Income (SSI):
    a. guarantees a minimum income for the needy elderly
    b. provides extra income for all the elderly
    c. supplements the income of the elderly in nursing homes
    d. pays medical expenses for the elderly

11. As far as the aged getting their proportionate share of the nations’ income:
    a. most of the aged live below the poverty level
    b. the aged are the poorest group in our society
    c. the aged do get their proportionate share of income
    d. the income gap between the aged and other adult groups continues to widen

12. Compared to persons under 65, rates of criminal victimization among the elderly are:
    a. higher
    b. lower
    c. much the same
    d. steadily increasing

13. Regarding crime and the elderly:
    a. they are more fearful of crime than are younger persons
    b. they fear crime the same as other age groups
    c. they are less fearful of crime than are younger persons
    d. most elderly persons have no fear of crime

14. The most law abiding of all adult age groups are:
    a. the middle-aged
    b. persons in their 30s
    c. young couples
    d. the elderly

15. Regarding the number of widows and widowers among the aged:
    a. their numbers are about equal
b. there are nearly 5 times as many widows as widowers

c. there are about twice as many widowers as widows

d. the number of widows is rapidly increasing

16. When it comes to voter participation rates:
a. the aged seldom vote
b. those ages 35-44 tend to have higher rates than the elderly
c. college students have higher rates than do the elderly
d. older people have higher rates than the rest of the population

17. In reference to public office:
a. there is no relationship between age and public office
b. older people are seldom found in public office
c. there are proportionately more older persons in public office
d. there are proportionately more younger persons in public office

18. The proportion of African Americans among the aged is:
a. growing
b. declining
c. very small compared with other minority groups
d. staying about the same

19. Participation in voluntary organizations:
a. usually does not decline among health older persons
b. drops among healthy older persons
c. rises among healthy older persons
d. is highest among the youth

20. The majority of old people live:
a. alone
b. in institutions
c. with their spouses
d. with their children

21. The rate of poverty among the elderly
a. is lower than among those under 65
b. is higher than among those under 65
c. is the same as it is for the other age groups
d. is high as a result of their having fixed incomes

22. The rate of poverty among aged African Americans:
a. is less than that of whites
b. is about the same as that of whites
c. is about triple that of older whites
d. continues to increase
23. Older persons who reduce their activity tend to be:
   a. happier
   b. not as happy as those who remain active
   c. more well-adjusted than those who remain active
   d. healthier

24. When the last child leaves home, the majority of parents
   a. have serious problems of adjustment
   b. have higher levels of life satisfaction
   c. try to get their children to come back home
   d. suffer from the “empty nest” syndrome

25. The proportion of the widowed among the aged:
   a. is gradually decreasing
   b. is rapidly increasing
   c. has remained the same in the last half century
   d. is unrelated to increasing longevity
Summary

**Title:** Applying Social Cognitive Theory to Interest in Geropsychology among Clinical Psychology Doctoral Students

**Problem:** The projected increase in the number of older adults in the United States will likely challenge the mental health care system. Within this context of expected increased demand for mental health services, geropsychology stands to be a likely growth area of practice. Fostering student interest in pursuing specialized training with this underserved population is an important area of exploration. Social cognitive career theory (SCCT) provides a unifying framework for understanding the process of developing professional interest and career choice (Lent et al. 1994). The primary purpose of the present study was to examine the relationships between career interest development in the Lent et al. (1994) model of SCCT as they pertain to clinical psychology doctoral students and the field of geropsychology.

**Method:** The participants were 126 clinical psychology graduate students. The mean age of the sample was 28.13 years old. The sample was 82.5% Caucasian, 4% African Americans, 4% Latin Americans, 4% Biracial, 3.2% Asian Americans, and 1.6% other. This was a survey based study. The variables of the SCCT model of interest development, including geropsychology self-efficacy, outcome expectations, and interest were examined using correlational analyses. Additional factors such as age, gender, race, knowledge regarding aging were examined using independent sample t-tests. A hierarchical regression with self-efficacy scores as the dependent variable was conducted with direct and vicarious experience with older adults as independent variables.

**Findings:** Results revealed a positive relationship between geropsychology self-efficacy and interest in geropsychology ($r = .291$, $n = 102$, $p = .003$), a positive relationship between geropsychology self-efficacy and geropsychology outcome expectations ($r = .300$, $n = 126$, $p < .001$), and a positive relationship between geropsychology outcome expectations and interest ($r = .619$, $n = 126$, $p < .001$). Results indicated that the variance accounted for ($R^2$) by indirect experience equaled .036 (adjusted $R^2 = .036$), which was significantly different from zero ($F(1, 124) = 4.70$, $p = .032$, $\beta = .191$, $p < .05$). Direct experience was accounted for change in variance ($\Delta R^2 = .095$), which was significantly different from zero ($F(1, 123) = 13.44$, $p < .001$, $\beta = .313$, $p < .05$). The variables of age, gender, race, and knowledge regarding aging were not found to differ significantly with scores on the geropsychology outcome expectation, or interest scores. Secondary analyses revealed a weak positive relationship between age and self-efficacy scores ($r = .174$, $n = 126$, $p = .028$). A weak negative relationship was found between knowledge regarding facts on aging and self-efficacy scores ($r = -.152$, $n=126$, $p = .045$).

**Implications:** These analyses provide initial evidence that the model of SCCT can be used in understanding interest development in working with this population. The results are consistent with other SCCT studies, which have utilized interest development (Bishop & Bieschke, 1998; Gelso & Lent, 2005). The results are also consistent with recent
studies investigating factors related to clinical psychologists’ interest in working with the older adult population (Koder & Helmes, 2008; Qualls, 2002). These findings highlight the role of direct clinical experience as accounting for variance in self-efficacy beyond that accounted for by indirect experience in the form of geropsychology coursework. The SCCT model and the above analyses are an important area for future research, as it may provide a useful means by which to understand and explore the issue of interest development in working with this underserved population.