DISSERTATION

THE WORKING WITH OLDER ADULTS SCALE (WOAS): DEVELOPMENT OF A MEASURE OF ATTITUDE, SUBJECTIVE NORM, PERCEIVED BEHAVIORAL CONTROL, AND INTENTION TO WORK WITH OLDER ADULTS

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ABSTRACT

THE WORKING WITH OLDER ADULTS SCALE (WOAS): DEVELOPMENT OF A MEASURE OF ATTITUDE, SUBJECTIVE NORM, PERCEIVED BEHAVIORAL CONTROL, AND INTENTION TO WORK WITH OLDER ADULTS

The expanding population of older adults in the United States, coupled with provider hesitance to work with this population, is expected to result in a large service gap, particularly in the healthcare field. Research on provider hesitancy has largely focused on the impact of attitudes toward older adults and professional competency, with some recent explorations of social influences. There is currently no comprehensive measure that includes all of these areas. The present study outlines the development of the Working with Older Adults Scale (WOAS), which is grounded in the theory of planned behavior as applied to working with older adults. The WOAS is composed of 20 items, rated on a 7-point Likert scale, that make up four subscales: 1) Attitude, 2) Subjective Norm, 3) Perceived Behavioral Control, and 4) Intention. Results indicated that, for the young adult college student sample it was developed with, the measure has an excellent factor structure and good internal reliability and construct validity. Consistent with the theory of planned behavior model, intention to work with older adults was significantly predicted by attitudes, subjective norm, and perceived behavioral control, with subjective norm accounting for the greatest amount of variance. Further analyses revealed differential effects of age, gender, and experience on the WAOS subscales. The WOAS, and underlying theory, offers new insights and ideas for future exploration of the service gap between older adults needs and professional availability across health service fields.

TABLE OF CONTENTS

ABSTRACT ... ii

Chapter I: Introduction ... 1
Population Surge of Older Adults ... 1
Mental Healthcare and Older Adults ... 2
Attitudes Toward Older Adults ... 4
Attitudes Toward Older Adults in Healthcare Settings ... 5
Competency and Experience Working with Older Adults ... 7
Social Influences and Working with Older Adults ... 8
Existing Measures ... 8
Measuring Attitudes ... 8
Measuring Knowledge and Competency ... 9
Development of a Framework for a Measure of Working with Older Adults ... 10
Current Study ... 12

Chapter II: Method ... 14
Participants ... 14
Procedure ... 14
Construction of the Working with Older Adults Scale (WOAS) ... 14
Attitude ... 14
Subjective Norm ... 15
Perceived Behavioral Control ... 15
Behavioral Intention ... 15
Content Validity and Item Pretesting ... 16
Convergent and Discriminant Evidence ... 16
Attitudes Toward Older Adults ... 16
Ageism ... 17
Knowledge ... 17
Self-Efficacy ... 17
Attitudes Toward Marriage ... 18
Administration ... 18

Chapter III: Results ... 19
Item Analyses ... 19
Initial Confirmatory Factor Analysis ... 19
Model Fit ... 19
Scale Revision ... 20
Confirmatory Factor Analysis on Revised WOAS ... 21
Reliability ... 21
Model Fit ... 21
The Final WOAS ... 22
Confirmatory Factor Analysis on Final WOAS ... 22

Reliability 22
Model Fit 22
Convergent and Discriminant Validity 23
Theory of Planned Behavior Framework Check 24
Working with Older Adults Scale (WOAS) 24
Further Analyses using the Final WOAS 25

Chapter IV: Discussion 28
Limitations 32
Clinical Implications and Directions for Future Research 33
Conclusion 34

Tables 36
Table 1: Demographic Characteristics of Participants 36
Table 2: Text and Descriptive Statistics for Initial WOAS items 37
Table 3: WOAS Items and Item Sub-Scales Correlation Matrix 39
Table 4: Initial WOAS Scale Items and Factor Loadings 41
Table 5: Revised WOAS Scale Items and Factor Loadings 43
Table 6: Final WOAS Scale Items and Factor Loadings 44
Table 7: Model Fit Statistics for Initial, Revised, and Final WOAS 45
Table 8: Correlations Between Revised and Final WOAS and Other Variables 46
Table 9: Regression Analyses TPB Antecedents on Intention for the Final WOAS 47
Table 10: Regression Analyses of Participant Variables onto Final WOAS 48

Figures 49
Figure 1: Theory of Planned Behavior Model 49

References 50

Appendices 60
Appendix A: WOAS Final Measure 60

CHAPTER I

Introduction

As the population of older adults in the United States continues to expand, there is growing concern about the readiness of the health service industry to provide for the needs of these individuals (American Psychological Association, 2014). With decades of research showing that health service providers (e.g., psychologists, physicians, psychiatrists, etc.) exhibit hesitance to work with older adults (Karel, Gatz, &Smyer, 2012), a gap between need and service delivery seems inevitable. Research has explored the impact of general attitudes toward older adults, perceived lack of competency, and hesitance to work with older adult clients (e.g., James & Haley, 1996; Tomko & Munley, 2013). Although these explorations have increased insight into the problem, they are often missing a comprehensive model of the phenomenon of hesitance to work with older adults. The development of a theory-grounded measure assessing intention – and underlying antecedents – to work with older adults is needed to fully assess provider hesitance and assist with developing and evaluating interventions geared toward increasing interest in and openness to working with this population.

Population Surge of Older Adults

Life expectancy estimates around the world have risen well above 60 years of age for the first time in history (World Health Organization, 2015). This increase in longevity is, in part, a result of the vast global socioeconomic improvements over the past 50 years – that in turn have decreased childhood mortality rates and improved survival into old age (World Health Organization, 2015). In America today, life expectancy at birth is estimated to be 78.8 years, a record high, with 65 year olds expected to live 17 more years for men and 20 more years for women (National Institute on Aging, 2007). Discussion of the aging population surge in the

United States inevitably includes an introduction to the Baby Boomers, the 76 million babies born after WWII, who started turning 65 in 2010. Approximately 10,000 Baby Boomers turn 65 every day, contributing to an age wave that is expected to reach 82 million (22% of the population) by 2040 (Federal Interagency Forum on Aging-Related Statistics, 2016). Older adults currently represent around 14 percent of the total United States population, approximately 45 million people (Federal Interagency Forum on Aging-Related Statistics, 2016). As this population expands, so does the need for health and mental healthcare services for older adults.

Mental Health Care and Older Adults

Rates of anxiety, mood, and substance use disorders have been found to be lower in older as compared to younger age groups, with prevalence rates falling as a function of age: from around 27% among 18–44 year olds; around 22% among 45–64 year olds; around 10% among 65–74 year olds; and around 7% for 75 year olds and older (Gum et. al., 2009). However, general estimates indicate that around 20% of older adults (65+) meet criteria for a mental disorder, a rate that has remained consistent over the past several decades (from Karel, Gatz, & Smyer, 2012). While the rate of mental health disorders will likely remain steady, the increase in total population over 65 years of age will ultimately increase the total number of older adults in need of mental health services.

Depression and cognitive decline are the most common concerns amongst older adults. In general, rates of depression decrease over the course of adulthood although there is an increase of depression in adults 85 years and older (Byers, Yaffe, Covinsky, Friedman, & Bruce, 2010). Around 16 percent of the suicide deaths in 2013 involved adults 65 years and older, with white males over 85 having the highest suicide rate of any group (Conwell, 2014). There is also a strong comorbidity between mental health issues (e.g., depression, anxiety, and agitation) and

cognitive disorders among older adults (Lyketsos, 2002). As of 2010, there were an estimated 35.6 million people living with dementia (World Health Organization, 2012), with some projections forecasting an increase of 1.5 million over next decade (Karel, Gatz, & Smyer, 2012). These estimates further predict a need to expand services geared toward assessing and treating these mental health disorders.

Mental health interventions can also help alleviate sub-diagnostic distress such that even older adults who do not have a clinical disorder may also benefit from mental healthcare (Ciechanowski et al., 2004). Specifically, mental and behavioral interventions can also be beneficial for those experiencing physical health problems including chronic pain and disability - a common occurrence in older adulthood (Qualls & Benight, 2007). Because older adults tend to present with mental health issues in primary care versus mental healthcare settings, it is likely that a myriad of health providers across care settings will increasingly be called upon to address these needs (Bartels et al., 2004). Fortunately, psychological health and well-being are more frequently being considered and addressed within the larger healthcare system (Karel, Gatz, & Smyer, 2012). Integration of physical and mental healthcare serves as a means to increase older adult accessibility to necessary psychological treatment.

Unfortunately, older adults often do not get the mental health care that they need, with research indicating that they tend to receive specialized mental health treatment at a much lower rate than younger adults, even when diagnosed with a clinical disorder (Karel, Gatz, &Smyer, 2012). Konnert and Petrovic-Poljak (2014) offer several potential explanations for this discrepancy, positing that it may be partly due to lower perceived need among older adults. Specifically, many older adults simply opt to ‘handle problems’ themselves. Despite the barriers of stigma and low perceived need, research indicates that older adults hold generally positive

views of mental health services, especially among the baby boomer generation. Older adults over 75 year old may be the most hesitant to engage in treatment and perceive the least need for treatment – indicative of a possible cohort effect. While there have been some efforts to educate and encourage older adults to utilize needed services, the problem seems to be larger than just client attitudes, with clinicians also indicated as a factor in the discrepancy between need and service delivery.

The need for mental health providers to work with older adults is clear – however there are very few professionals that specialize in working with older adults and training opportunities in this area are sparse (Karel, Gatz, & Smyer, 2012). Recent estimates suggest that about twice the number of psychologists are needed in order to meet the growing mental healthcare demands of older adults (American Psychological Association, 2014). A large national survey of psychologists indicated that a mere 3-4% of psychologists reported working with older adults as a primary clinical focus, although around 70% indicated that their practice included a few older adult clients (see Qualls, Segal, Norman, Niederehe, & Gallagher-Thompson, 2002, for a more thorough review). Despite the growing need for these types of services, research shows a consistent lack of interest and enthusiasm working with older adults (Karel, Gatz, & Smyer, 2012), highlighting the importance of assessing the intention and likelihood that newer professionals will be willing and able to work with this population.

Attitudes Toward Older Adults

An often-cited explanation for hesitance to work with older adults is the presence of biased attitudes toward this population, both in general and within professional contexts. Ageism – biases, stereotypes, and discrimination geared toward older adults – was first coined in Butler's seminal 1969 article. Butler (1980) later offered a conceptualization of the problem of ageism.

This model included both individual and systemic aspects of ageism: 1) prejudiced attitudes – wherein there is an emphasis on the negative aspects of aging and negative beliefs about older adults, 2) discriminatory practices – particularly within employment and social settings, and 3) institutional practices and policies – engendering differential and often harmful treatment of older adults. Since 1969 there has been relatively little correction of this phenomenon, leading some to claim that ageism is one of the most institutionalized and least recognized form of prejudice occurring today (Nelson, 2016a). Ageism is so pervasive that it may be more prevalent than racism or sexism (World Health Organization, 2015).

Attitudes toward older adults in healthcare settings. The impact of negative stereotypes on older adults' mental and physical health has been gaining more attention, with the White House citing it as a top four priority topic at the White House Conference on Aging (2015). Ageism can have a serious negative impact on older adults' cognitive, mental and physical health through a self-fulfilling prophecy wherein they internalize ageist messages about deficiency and frailty – even to the extent of impacting their will to live (see Nelson, 2016b for thorough review). Ageist attitudes also impact care providers, wherein providers spend less time with older adults and involve older adults less in health care decisions (See Levy & Macdonald, 2016 for review). Older adults' presenting concerns may also be prematurely labeled as a normal part of the aging process or dismissed as a reflection of the complaining-senior stereotype, resulting in less thorough medical treatment (Levy & Macdonald, 2016). Health care settings may also encourage providers to discharge complicated patients (e.g., those with multiple ailments) more quickly, resulting in systemic incentive for engaging in ageist attitudes and differential treatment of older adults (Kydd & Fleming, 2015). These ageist attitudes and practices have negative impact on the health and well-being of older adults.

Unfortunately, these biased attitudes and differential treatments are found to be similarly present within mental healthcare settings. Since the 1970's, numerous studies have explored the presence of biased clinical judgments against working with older adults among mental health professionals including psychiatrists, psychologists, social workers, and trainees (e.g., Danzinger & Welfel, 2000; Dye, 1978; Ford & Sbordone, 1980; Graham, 2016; Helmes & Gee, 2003 Hillman, Stricker, & Zweig, 1997; Ivey, Wieling, & Harris, 2000; James & Haley, 1995; Meeks, 1990; Perlick & Atkins, 1984; Ray, McKinney, & Ford, 1987; Settin, 1982**;** Tomko & Munley, 2013; Zivian, 1992). Most of these studies utilized a vignette format wherein client cases were identical in symptom presentation and varied only by age (e.g., young or old) in order to assess differential clinical judgments based solely on client age (e.g., James & Haley, 1995). While there was some variability across studies, results indicated that mental healthcare providers tend to exhibit more negative biases against older clients as compared to younger clients (Tomko & Munley, 2013). Specifically, providers tended to rate older adults as less appropriate for therapy (Dye, 1978; Graham, 2016; Helmes & Gee, 2003; Hillman, Stricker, & Zweig, 1997; James & Haley, 1995; Ray, McKinney & Ford, 1987; Settin, 1982). Providers also exhibited a preference toward working with younger clients and less interest in working with older clients (Dye, 1978; Ford & Sbordone, 1980; Helmes & Gee, 2003; Settin, 1982; Zivian, 1992). Older adult clients were often given a poorer prognosis than their younger counterparts (Danzinger & Welfel, 2000; Ford & Sbordone, 1980; Helmes & Gee, 2003; James & Haley, 1995; Meeks, 1990; Ray, McKinney, & Ford, 1987; Settin, 1982). In some cases, older adults were also less frequently diagnosed with clinical disorders than younger adults with the same symptom presentation (Perlick & Atkins, 1984; Ivey, Wieling, & Harris, 2000), a potentiality that may decrease referral and access to appropriate psychological treatment.

Competency and Experience Working with Older Adults

Provider competency has also been explored as a factor involved in self-selecting into or out of working with older adult clients. Self-perceived competency has been found to differ as a function of client age, with clinicians often rating themselves as less competent to work with older clients (Helmes & Gee, 2003; Tomko & Munley, 2013; Graham, 2016). The Council of Professional Geropsychology Training Programs developed the Pikes Peak Model as an aspirational, competency-based (e.g., competencies in attitudes, knowledge and skills) guide for training programs and professionals interested in geropsychological practice (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009). Although the efforts toward improving competency are an invaluable part of moving toward adequate mental healthcare and coverage of the older adult population, only a third of U.S. graduate programs offer a course on geropsychology (Pachana et al., 2010). This could indicate that there are other important components of this phenomenon that are being missed in the existing measures and efforts.

Increased training in aging and multicultural issues is positively related to perception of competence to work with older clients (Tomko & Munley, 2013; Graham, 2016), with training and experience working with older adult clients identified as a significant predictor of psychologist and trainees' competencies in attitude, knowledge, and skills for working with older adults (Karel et. al., 2012). One study found that training experiences in geropsychology led to increased knowledge about mental health in older adulthood, decreased negative attitudes toward older adults, and increased interest in working with older adults (Hinrichsen & McMeniman, 2002). This indicates that training and experience working with older adults may be an important piece of the puzzle, although training alone may not be able to overcome reluctance to work with older adults (Koder & Helmes, 2008).

Social Influences and Working with Older Adults

It has also been posited that the social influences present within educational and training experiences may negatively impact provider and trainee interest in and intention to work with older adult clients. Brown, Nolan, Davies, Nolan, and Keady (2008) conducted a large scale, longitudinal study to explore the impact of learning environments on nursing students' perceptions of working with older adult clients. Poor standards of care and negative staff attitudes toward their jobs and working with older adult patients were found to create an impoverished learning environment that reinforced the view that working with older adults was undesirable. In enriched environments students received good mentorship, witnessed excellent standards of care, were surrounded by positive attitudes, and were made to feel that their work was valued. In sum, enriched environments reinforced the value and significance of the student as well as the work (e.g., working with older adults). Impoverished learning environments were found to negatively impact interest in working with older adults in the future, despite many of these students exhibiting positive attitudes toward geriatric work prior to entering the practicum, whereas enriched environments seemed to reverse previously held negative views of working with older adults. Similarly, the presence of role models who work with older adults significantly increased medical students' interest in geriatrics whereas a perceived lack of prestige was a deterrent to working with older adults (Meiboom, de Vries, Hertogh, & Scheele, 2015). These findings highlight the importance of assessing, acknowledging, and changing social influences and norms within training settings.

Existing Measures

Measuring attitudes. There are several scales that have been developed to assess attitudes toward older adults. Among the most commonly used is the Aging Semantic

Differential (ASD; Polizzi, 2003) and Kogan's Attitude Towards Old People scale (Kogan, 1961). The Fraboni Ageism Scale was also developed to assess both cognitive and affective components of prejudice toward older adults, with the latter component being largely ignored in other ageism scales (Fraboni, Saltstone, & Hughes, 1990). The abovementioned scales are often used in research on provider attitudes toward older adults although they were developed to assess attitudes toward older adults *in general*, not within a health care context. There have been some scales developed specifically to assess attitudes toward older adult clients including the UCLA Geriatrics Attitudes Scale (GAS; Reuben et al., 1998), Maxwell Sullivan Attitude Scale (MSAS; Maxwell & Sullivan, 1980) and Health Professional Beliefs and Opinions about Elders (HPBOE; Robinson, Gunderson, Rosher, & Tomkowiack, 2003). Although measuring the specificity of attitude within a provider-client dynamic is an improvement above assessing attitudes in general, these attitude-only measures are often not good predictors of actual behaviors – indicating that the impact of attitudes is likely indirect, with other factors more closely related to specific behavior (Ajzen, 1991). Therefore, measuring attitudes alone may not be an adequate means of predicting providers' actual engagement in working with older adult clients.

Measuring knowledge and competency. Measures of knowledge, skills, and competencies are also frequently cited within the literature. One of the most commonly used measures is the Facts on Aging Quiz (FAQ; Palmore, 1977; Palmore, 1981; Harris, Changas, & Palmore, 1996), which evaluates an individual's knowledge about aging. Other measures of knowledge and skills are geared specifically toward working with older adults with dementia (e.g., Arnautovska, Robleda, Jackson, & Pachana, 2016) and are therefore less applicable to evaluating working with older adults across a variety of presenting problems. Within the field of psychology, the Pikes Peak Geropsychology Knowledge and Skill Assessment Tool (Council of

Professional Geropsychology Training Programs, 2013) was developed as a means of evaluating competency working with older adults, their families, and related care systems based on the Pikes Peak Model. Preliminary analyses indicated good internal consistency and therefore this measure may serve a promising means of assessing and identifying areas of growth for oneself and supervisees (Karel, et al., 2012). However, the length and specificity of the Pikes Peak Geropsychology Knowledge and Skill Assessment Tool makes it better suited for psychologists planning to or already working extensively with older adults and therefore may not be as helpful in assessing emerging providers' general perception of competency working with older adults.

Development of a Framework for a Measure of Working with Older Adults

Taken together, the literature indicates that provider attitudes, competencies, and social norms may play a role in provider interest in working with older adults. However, there is not currently a theoretical framework or even a method to measure all of these factors. The present study seeks to fill this gap by applying a well-supported, comprehensive theory to the development of a measurement of intention to work with older adult clients.

The theory of planned behavior (Ajzen, 1991), and its predecessor theory of reasoned action (Ajzen & Fishbein, 1980), seeks to explain and predict behavior within specific contexts. The theory of planned behavior based on an individual's intention relating to that behavior (e.g., motivation, willingness, effort, interest). Generally speaking, the stronger the intention the more likely the individual is to engage in the behavior. According to the theory of planned behavior, the variance in intention is largely determined by three variables: 1) attitudes toward the behavior, 2) subjective norms about the behavior, and 3) perceived behavioral control over the behavior. Attitude toward the behavior "refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, pg. 188).

Subjective norm “refers to the perceived social pressure to perform or not to perform the behavior” (Ajzen, 1991, pg 188). Perceived behavioral control is the “perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Ajzen, 1991, pg 188). Simply put, more positive attitudes and subjective norms about the behavior and the greater the perceived behavioral control to engage in the behavior results in more intention to engage in the behavior. In the theory of planned behavior model (Figure 1), intention directly precedes the actual behavior and can therefore serve as a proxy for behavior. Within the context of the present study, the purpose is not only to attempt to predict behavior (e.g., working with older adult clients) through intention but also to assess the antecedents of intention in order to intervene and develop ideas for how to improve attitudes, social norms, and perceived behavioral control in order to increase intention to work with older adults. Of course it is also important to assess the *actual* control that the individual has over the behavior (Ajzen, 2011), which in the case of working with older adults may include access to training and clinical experience with this population. As these factors are often beyond the individual’s control, a deficit in this area would highlight the need to offer these opportunities, particularly regarding students and professionals-in-training.

Although the theory of planned behavior is most frequently used in health behavior research (e.g., smoking cessation, exercise, medication adherence), it has been utilized within a larger vocational context in order to assess intention toward acquiring additional vocational training (Norman & Bonnett, 1995) and selecting a particular career path (Arnold, Loan-Clarke, Coombs, Wilkinson, Park & Preston, 2006). The theory of planned behavior has also been used to assess providers’ intention to engage in a specific behavior within the healthcare field. A meta-analysis of studies utilizing the theory of planned behavior framework to predict healthcare

professionals intentions and behaviors in implementing new research findings into practice revealed a moderate prediction of engagement in the behavior and a strong prediction of intention (Godin, Bélanger-Gravel, Eccles, & Grimshaw, 2008). A theory of planned behavior framework was successfully utilized in the mental healthcare field to predict the intention and later reported adoption of empirically supported treatments into practice (Williams, 2016) and to guide the creation of a continuing education course for mental health providers (Casper, 2007). Theory of planned behavior models have also been used to explore mental health providers' intention to work with specific populations including individuals with Autism Spectrum Disorders (Werner, 2011) and dual diagnoses of intellectual disability and mental illness (Werner, 2012). To date, only a few studies have utilized a theory of planned behavior framework to assess intention to work with older adults. Specifically, theory of planned behavior has been used to assess intention to work with older adults in the medical field (e.g., nursing students; Natan, et al., 2015; McKinlay & Cowan, 2003) and with high school students volunteering with older adults (Reuveni & Werner, 2015). Many of these studies used author-created scales developed using recommendations set forth by Ajzen (2006) and Francis et al., (2004), however, none completed a solid psychometric study or created a psychometrically validated measure that could be applied across disciplines and contexts.

Current Study

The purpose of this study is to address this gap in the literature by developing a psychometrically sound instrument that measures attitudes, subjective norms, perceived behavioral control, and intention to work with older adults. The theory of planned behavior framework used in this context has the potential to add to the predicted trajectory of the client care gap (i.e., intention to engage in work with older adults), with the specificity of subscales

offering the ability to identify the best areas for intervention to increase intention (e.g., negative attitudes, social influences, competency). The present study outlines the development and validation of the Working with Older Adults Scale (WOAS).

CHAPTER II

Method

Participants

Students were recruited from psychology, social work, and human development and family studies courses at Colorado State University. Data were excluded from a total 35 participants (12 for inconsistent responding and 23 for completing less than 30% of the survey). The final sample consisted of 759 participants. The average age of the sample was 20.93 years (SD = 4.683, range = 17 – 61). The majority of participants self-identified as female (77.5%), although male (21.9%) and other genders (0.7%; i.e., agender, queer, non-binary) were also represented. The majority of participants self-identified as White (75.2%), although Hispanic (11.6%), Asian/Pacific Islander (7.6%), Black or African American (2.2%), Native American (0.8%), and other ethnicities (2.5%; i.e., Arab-American, biracial, multiracial) were also represented (see demographics in Table 1). Many of the students were compensated with extra course credit for their participation (e.g., the psychology department's research pool) and some of the students had the option of being in a lottery to win $25 gift card. The two recruitment pools were merged into a single dataset prior to analyses.

Procedure

Construction of the Working with Older Adults Scale (WOAS)

The development of the WOAS followed the process outlined by Ajzen (2006) and Francis et al. (2004) to create four subscales encompassing the four behavioral predictors (e.g., attitude toward the behavior, subjective norm, perceived behavioral control, and behavioral intention) within the theory of planned behavior framework:

Attitude. This subscale consists of items regarding the degree to which an individual has a favorable or unfavorable evaluation of working with older adults. This type of attitude measure

differs from other ageist attitude measures in that it assesses attitudes toward a *specific behavior* (e.g., working with older adults), not attitudes toward an *object* (e.g., older adults) – with the former thought to be a better predictor of behavior. As recommended by Ajzen (2006), items included measures of *instrumental* (e.g., usefulness) and *experiential* (e.g., pleasantness) attitudes toward working with older adults – along with a general assessment of whether the behavior is considered good or bad.

Subjective norm. This subscale consists of items regarding perceived social norms around working with older adults. These items assess the extent to which the individual perceives approval from social influences (e.g., family, colleagues, mentors, and the world at large) to work with older adults. As recommended by Ajzen (2006), items were created to include *descriptive* norms such as whether important others (e.g., mentors, respected colleagues) work with older adults themselves in addition to the *injunctive* norms described above.

Perceived behavioral control. This subscale consists of items regarding the perceived ease or difficulty of working with older adults. Items include measures of perceived *capability* (Ajzen, 2006) of working with older adults. This aspect of perceived behavioral control is akin to self-rated competency, which was outlined in the previous literature review (page 9). As recommended by Ajzen (2006), items were also created to assess *controllability* (e.g., whether or not working with older adults is within their control).

Behavioral intention. This subscale consists of items regarding an individual's intention to work with older adults (e.g., interest, willingness, motivation). Given the growing population of older adults and the need for more healthcare providers, the true behavior of interest is *working with older adults*. However, it was not within the scope of the present study to assess the actual behavior of working with older adults. Thus, fitting with the theory of planned behavior

model, intention to engage in the behavior is used as a proximal measure of actual engagement in the behavior. Since intentions consist of the motivational factors that impact behavior, it is assumed that the stronger the intention to work with older adults the more likely the individual is going to work with older adults (e.g., the target behavior; Ajzen, 1991).

Content Validity and Item Pretesting

Following initial item development, 46 scale items were reviewed by four subject matter experts (SMEs) along with operational definitions of the desired constructs and an overview of the theory of planned behavior. SMEs were asked to indicate which construct each item most closely aligns with in order to establish content validity. SMEs also provided edits, additions, and general feedback on the items (e.g., readability). 10 items were removed based on this preliminary feedback. The remaining 36 items were then administered to a purposeful sample of approximately 10 representatives of the desired sample (e.g., undergraduate students interested in working in a healthcare-related field). These pretest participants were asked for feedback regarding readability, clarity and an overall evaluation of the scale. Following minor revisions, the resulting 36-item scale (Table 2) was used in the subsequent data collection and confirmatory factor analysis. Each item was rated on a 7 point Likert scale (1 = strongly disagree, 7 = strongly agree).

Convergent and Discriminant Evidence

In order to assess the construct validity of the WOAS, participants completed additional measures, including:

Attitudes toward older adults. The refined Aging Semantic Differential (ASD; Polizzi & Millikin, 2002) is a 24-item scale consisting of bipolar adjectives used to describe an attitudinal target (e.g., older adults) on a 7-point scale. Higher scores are indicative of more

negative attitudes. The ASD exhibits good internal reliability (α =.93-.94; Laditka, Fischer, Laditka, & Segal, 2004). Reliability in the present study was also good (α =0.94). The ASD was selected as it has been found to be psychometrically superior to the Kogan Attitudes Toward Old People Scale (Kogan OP Scale; Iwasaki & Jones, 2008). It was expected that the ASD would negatively correlate with the WOAS, with the strongest relationship found between the ASD and the Attitude subscale of the WOAS.

Ageism. The Fraboni Ageism Scale (FAS; Fraboni, Saltstone, & Hughes, 1990) is a measure of ageism consisting of 29 statements rated on a 4-point Likert scale from strongly agree to strongly disagree. Higher scores are indicative of higher levels of ageism. The FAS exhibits good internal reliability (α =.86, Fraboni, Saltstone, & Hughes, 1990) and consists of three subscales that relate to different levels of ageism including Antilocution (e.g., "Many old people just live in the past"), Avoidance (e.g., "I don't like it when old people try to make conversation with me"), and Discrimination (e.g., "Most old people should not be trusted to take care of infants"). Reliability in the present study was also good (α =0.87). It was expected that the FAS would negatively correlate with the WOAS, with the strongest relationship found between the FAS and the Attitude subscale of the WOAS.

Knowledge. The Facts on Aging Quiz (FAQ; Palmore, 1977, 1981) is a measure of factual knowledge about older adults and aging. The multiple-choice format of the FAQ was selected because it has exhibited less measurement error (Harris et al., 1996). It was expected that the FAQ would positively correlate with the WOAS, with the strongest relationship found between the FAQ and the Perceived Behavioral Control subscale of the WOAS.

Self-efficacy. The New General Self-Efficacy Scale (NGSE; Chen, Gully, Eden, 2001) is an 8-item scale that measures belief in one's capabilities. Items are rated on a Likert scale from strongly disagree (1) to strongly agree (5), with higher scores indicating greater self-efficacy. Reliability was assessed at several time points by the authors with good reliability indicated (α = .87, .88, and .85; Chen, Gully, Eden, 2001). Reliability in the present study was also good (α = 0.93). It was expected that the NGSE would positively correlate with the WOAS, with the strongest relationship found between the NGSE and the Perceived Behavioral Control subscale of the WOAS.

Attitudes toward marriage. The General Attitudes towards Marriage Scale (GAMS) is a 10-tem scale that measures negative and positive attitudes toward marriage (Park & Rosén, 2013). Items are rated on a Likert scale from 0 (strongly disagree) to 6 (strongly agree). Reliability estimates indicate good internal consistency (α = .82). Reliability in the present study was also good (α =0.86). It is expected that the GAMS would not exhibit strong correlations with the WOAS as a demonstration of good discriminant validity.

Administration. Approval from Colorado State University's internal review board (IRB) was obtained prior to administration. The surveys were administered through an online data collection service (i.e., Qualtrics). Participants were provided a survey link through a posting on the psychology department's research pool and/or distributed by professors via email or through in-class recruitment presentations. The participants were told that the study concerned attitudes, experiences, and future intentions about working with older adult patients within a health care job and their informed consent for participation was obtained. The initial survey consisted of 36 items for the WOAS along with five other measures, and demographic questions. All WOAS items were randomized and given prior to the other measures.

CHAPTER III

Results

Item Analyses

Initial Item Analyses were completed in SPSS. Descriptive statistics for the initial WOAS items were used to assess item response variability as represented by the item mean (Table 2). It is preferable to have a mix of item variability, however social desirability factors can influence participants from giving low ratings on items (DeVellis, 2012). The items of the WOAS showed good response variability, with means ranging from 2.82 to 6.22 on a 7-point Likert scale. Item discriminations, the correlation between the individual item's score and the total subscale score, were also calculated (Table 3), with more highly correlated items better predicting that factor total. All item-subscale correlations were significant at a $p < .01$, with correlations ranging from 0.185 to 0.890 on the subscales. No items were dropped from the scale prior to factor analysis.

Initial Confirmatory Factor Analysis

Given that the WOAS items and subscales were intentionally developed based on a specific, well established, theory (e.g., the theory of planned behavior), a confirmatory factor analysis (CFA) was completed to assess initial factor structure. Based on the theoretical construction of the WOAS, initial factor structure was analyzed in MPlus on the four subscales: Attitude, Subjective Norm, Perceived Behavioral Control, and Intention. The MPlus default of maximum likelihood estimation (MLE) was used to handle missing data throughout the following analyses. Factor loadings for the initial WOAS items can be seen in Table 4.

Model fit. A CFA was performed in order to assess the goodness of fit for the data in the hypothesized scale structure. The Chi Square statistic of model fit was significant, indicating that the model may not be a good fit for the data (χ^2 (588) = 3294.288, $p < .001$). The Comparative

Fit Index (CFI) and Tucker-Lewis Index (TLI) similarly indicated an unsatisfactory model fit (CFI = 0.846; TLI = 0.835) while the Root Mean Square Error of Approximation (RMSEA) was acceptable (RMSEA = 0.078). In sum, the initial WOAS did not adequately fit the data indicating that scale revisions (e.g., dropping items) were advisable.

Scale Revision

Scale revisions were made based on factor loadings, standardized discrepancies, and item wording. Seven items were dropped (items 12, 14, 17, 19, 26, 27, and 28) after the initial CFA. Item 12 ("I feel under social pressure to work with older adults") was dropped because it loaded relatively low on the Subjective Norm factor (0.325), with a review of wording indicating that "social pressure" may have been too strongly worded. Item 14 ("People I look up to do not want me to work with older adults") was dropped because it loaded poorly on the Subjective Norm factor (0.003) with a review of wording indicating that "people I look up to" may have been too vague. Item 17 ("My family would approve of me working with older adults") was dropped because it loaded poorly on the Subjective Norm factor (0.228), with a review of wording indicating that the emphasis on "family" within this professional assessment may have impacted ratings. Item 19 ("My mentors do not want me to work with older adults") loaded poorly on the Subjective Norm factor (0.071), with a review of wording indicating that the negative wording may have been confusing. Item 26 ("I can become competent to work with older adults") (0.437), item 27 ("I can develop the skills necessary to work with older adults") (0.553), and item 28 ("I am not able to develop the skills necessary to work with older adults") (0.361) had low factor loadings on the Perceived Behavioral Control factor, with a review of wording indicating that the wording of these three items may speak more to ability to develop competency in general. Standardized discrepancies are determined by comparing the

hypothesized factor loadings to actual factor loadings. Discrepancies greater than an absolute value of 1 are considered unacceptable (Raykov & Marcoulides, 2011). No items were removed based on discrepancy values.

Confirmatory Factor Analysis on Revised WOAS

The revised WOAS consisted of 29-items. Items 1, 2, 3, 4, 5, 6, 7, and 8 were retained on the Attitude subscale. Items 9, 10 11, 13, 15, 16 and 18 were retained on the Subjective Norm subscale. Items 20, 21, 22, 23, 24 and 25 were retained on the Perceived Behavioral Control subscale. Items 29, 30, 31, 32, 33, 34, 35, and 36 were retained on the Intention subscale. A CFA was conducted on the revised WOAS, specifying the four-factor model including Attitude, Subjective Norm, Perceived Behavioral Control, and Intention. Factor loadings for this revised scale can be seen in Table 5.

Reliability. Internal reliability was assessed with the omega coefficient (ω), for each factor. Omega has been posited to be preferable to Cronbach Coefficent Alpha since Alpha can be inflated due to the length of the measure, with Omega more representative of item quality (Raykov & Marcoulides, 2011). The revised WOAS subscales independently exhibited good reliability (McDonald, 1999): Attitude Subscale ($\Omega = 0.894$); Subjective Norm Subscale ($\Omega = 0.861$); Perceived Behavioral Control Subscale ($\Omega = 0.722$); and Intention Subscale ($\Omega = 0.809$).

Model Fit. The Chi Square statistic of model fit was significant, indicating that the model may not be a good fit for the data (χ^2 (371) = 1890.072, $p < .001$), although the chi square value decreased from the original CFA. Given that Chi Square is vulnerable to sample size effects, other relative fit indices that compare the fit of the current model to a null model (Raykov & Marcoulides, 2011) were also utilized. Other relative fit indices indicated a good model fit (CFI = 0.904; TLI = 0.895; RMSEA = 0.073).

The Final WOAS

In order to increase the utility of the WOAS, five items per scale were selected utilizing the item information statistic (i.e., squared unstandardized factor loading divided by the error variance; McDonald, 1999), which identifies items that best represent the common factor. The final WOAS consists of 20-items. Items 1, 2, 5, 6 and 8 were retained on the Attitude subscale. Items 10, 13, 15, 16, and 18 were retained on the Subjective Norm subscale. Items 21, 22, 23, 24 and 25 were retained on the Perceived Behavioral Control subscale. Items 29, 32, 33, 34 and 35 were retained on the Intention subscale. A CFA was conducted on the final WOAS, specifying the four-factor model including attitudes, subjective norms, perceived behavioral control, and intention. Factor loadings for the final WOAS can be seen in Table 6.

Confirmatory Factor Analysis on Final WOAS

Reliability. Internal reliability was assessed with the omega coefficient (Ω) for each factor. The final WOAS subscales independently exhibited good reliability (McDonald, 1999): Attitude Subscale (Ω = 0.867); Subjective Norm Subscale (Ω = 0.845); Perceived Behavioral Control Subscale (Ω = 0.707); and Intention Subscale (Ω = 0.770).

Model Fit. The Chi Square statistic of model fit was significant, indicating that the model may not be a good fit for the data (χ^2 (165) = 579.252, $p < .001$), although the chi square value decreased from both the original and revised scale CFA. Other relative fit indices, that are less vulnerable to sample size effects, indicated a good model fit (CFI = 0.960; TLI = 0.954; RMSEA = 0.058).

Fit statistics for the initial, revised, and final WOAS are in Table 7. In sum, the WOAS exhibited an overall good fit for the data and further exploration of the validity of the subscales was warranted.

Convergent and Discriminant Validity

Evidence for convergent and discriminant validity was gathered by correlating the WOAS with other, related and unrelated, measures (Table 8). As hypothesized, the WOAS Attitude subscale was moderately, inversely correlated with the Aging Semantic Differential (ASD; $r = -0.531$, $p < 0.01$) and Fraboni Ageism Scale (FAS; $r = -0.563$, $p < 0.01$), such that higher scores on the ASD and FAS (i.e., more negative attitudes) were related to lower scores on the Attitude subscale of the WOAS (i.e., less positive attitudes). The ASD also exhibited small, negative correlations with the Subjective Norm ($r = -0.227$, $p < 0.01$), Perceived Behavioral Control ($r = -0.161$, $p < 0.01$), and Intention ($r = -0.300$, $p < 0.01$) subscales. The FAS exhibited small, negative correlations with Perceived Behavioral Control ($r = -0.229$, $p < 0.01$), and Intention ($r = -0.243$, $p < 0.01$) subscales. The Facts on Aging Quiz exhibited small, positive correlations with WOAS Attitude ($r = 0.216$, $p < 0.01$) and Perceived Behavioral Control ($r = 0.137$, $p < 0.01$) such that greater knowledge about older adults was related to more positive attitudes toward working with older adults and greater perceived ability to work with older adults. The New General Self-Efficacy Scale exhibited a similar pattern of relating to WOAS Attitude ($r = 0.273$, $p < 0.01$) and Perceived Behavioral Control ($r = 0.256$, $p < 0.01$). Regarding evidence for discriminant validity, General Attitudes towards Marriage scale was not strongly correlated with any of the WOAS subscales, only exhibiting a small correlation with the WOAS Attitude ($r = 0.285$, $p < 0.01$) and a fractional positive relationship with Intention ($r = 0.098$, $p < 0.01$). See Table 8 for all correlations between the revised WOAS, final WOAS, and other measures.

Theory of Planned Behavior Framework Check

Based on the theory of planned behavior literature, attitude, subjective norm, and perceived behavioral control should serve as predictors of intention to work with older adults. The final WOAS subscales exhibited significant interrelationships, with correlations ranging from strong to moderate (Subjective Norm and Intention: $r = 0.705$, $p < 0.01$; Attitude and Intentions: $r = 0.560$, $p < 0.01$; Attitude and Perceived Behavioral Control: $r = .459$, $p < 0.01$; Perceived Behavioral Control and Intention: $r = 0.455$, $p < 0.01$; Subjective Norm and Perceived Behavioral Control: $r = 0.384$, $p < 0.01$; Attitude and Subjective Norm: $r = 0.327$, $p < 0.01$). A standard multiple regression analysis was calculated using SPSS to predict Intention to work with older adults based on Attitude, Subjective Norm, and Perceived Behavioral Control. Preliminary analyses were performed to ensure there was no violation of the assumption of normality, linearity, and multicollinearity, and homoscedascicity. In the case of missing data, the participant was only excluded from analyses when that variable was being used. The regression analysis indicated that the predictor variables (Attitude, Subjective Norm, and Perceived Behavioral Control) were significantly associated with intention to work with older adults ($F(3,734) = 403.375$, $p < .001$, $R^2 = 0.622$). The Intention subscale was most strongly predicted by Subjective Norm ($b = 0.653$; $t = 22.473$, $p < 0.001$) followed by Attitude ($b = 0.510$; $t = 13.014$, $p < 0.001$) and then Perceived Behavioral Control ($b = 0.105$; $t = 3.122$, $p < 0.01$) to a lesser extent (Table 9).

Working with Older Adults Scale (WOAS)

After factor analyses, reliability analyses, and the validity analyses, the final instrument of the WOAS consists of 20 items (five items for each of the four subscales), rated on a 7-point Likert scale (1 to 7; ranging from 1 = strongly disagree to 7 = strongly agree). It is designed to

measure attitude, subjective norms, perceived behavioral control, and intention to work with older adult clients within a health service context. Potential scores can range from 5 to 35 on each of the four subscales: Attitude, Subjective Norm, Perceived Behavioral Control, and Intention. Higher scores on the Attitude subscale reflect more positive attitudes about working with older adults. Higher scores on the Subjective Norm subscale reflect more positive social norms for working with older adults. Higher scores on the Perceived Behavioral Control subscale reflect more positive beliefs about one's capability of working with older adults. Higher scores on the Intention subscale reflect greater intention to work with older adults. See Appendix A for the final WOAS measure.

Further Analyses using the Final WOAS

Further analyses were conducted in SPSS to explore the impact of participant variables as predictors of WOAS scores (Means, standard deviations, and correlations in Table 7, Regression analyses in Table 10). Age of participant significantly predicted Attitudes toward working with older adults ($F(1,729) = 15.588$, $p < .001$, $R^2 = 0.021$) such that older participants expressed more positive views, but the effect was very small. Participant age did not predict Social Norm ($F(1,730) = 0.193$, $p = .661$), Perceived Behavioral Control ($F(1,729) = 2.742$, $p = .098$), or Intention ($F(1,733) = 0.626$, $p = 0.429$). Women endorsed slightly more positive attitudes about working with older adults than did men (Women: M = 26.93, SD = 4.89; Men: M = 26.07, SD = 4.31; $t(741) = -2.027$, $p < .05$). Given the small ratio of non-binary gender responses ($n = 5$), only the participants who identified as male or female were included in this analysis ($n = 754$). Stronger participant interest in working in a health-related field significantly predicted higher scores on all of the WOAS subscales, however, these effects were very small (Intention, $F(1,750) = 10.506$, $p < .01$, $R^2 = 0.014$; Attitude, $F(1,746) = 5.627$, $p < .05$, $R^2 = 0.007$; Social Norm,

$F(1,747) = 4.914$, $p < .05$, $R^2 = 0.007$; and Perceived Behavioral Control, $F(1,746) = 4.287$, $p < .05$, $R^2 = 0.006$).

Standard multiple regression analyses were calculated to predict each of the WOAS subscales according to participants' experience working with older adults (i.e., current work with older adults, access to working with older adults, past experience working with older adults). Preliminary analyses were performed to ensure there was no violation of the assumption of normality, linearity, and multicollinearity, and homoscedascicity. A significant regression equation was found for Attitude ($F(3,739) = 18.787$, $p < .001$, $R^2 = 0.071$), with participant's attitudes about working with older adults most strongly predicted by past work with older adults ($b = 0.373$; $t = 3.460$, $p < 0.01$). Current work with older adults ($b = 0.207$; $t = 1.870$, $p = 0.062$) and opportunity to work with older adults ($b = 0.194$; $t = 1.674$, $p = 0.095$) were not significantly predictive of Attitude. A significant regression equation was found for Subjective Norm ($F(3,738) = 66.048$, $p < .001$, $R^2 = 0.212$). The Subjective Norm subscale was most strongly predicted by current work with older adults ($b = 0.906$; $t = 6.872$, $p < 0.001$) and opportunity to work with older adults ($b = 0.545$; $t = 3.931$, $p < 0.001$). Past work with older adults ($b = 0.204$; $t = 1.577$, $p = 0.115$) was not significantly predictive of Subjective Norm. A significant regression equation was found for Perceived Behavioral Control ($F(3,737) = 80.591$, $p < .001$, $R^2 = 0.247$). The Perceived Behavioral Control subscale was significantly predicted by all of the experience variables, with past work with older adults ($b = 0.960$; $t = 8.257$, $p < 0.001$) and opportunity to work with older adults ($b = 0.449$; $t = 3.596$, $p < 0.001$) being the strongest predictors. Current work with older adults also significantly predicted Perceived Behavioral Control but to a lesser degree ($b = 0.299$; $t = 2.508$, $p < 0.05$). A significant regression equation was found for Intention ($F(3,740) = 69.741$, $p < .001$, $R^2 = 0.220$). The Intention subscale was

predicted by current work with older adults ($b = 0.988$; $t = 6.470$, $p < 0.001$), opportunity to work with older adults ($b = 0.579$; $t = 3.611$, $p < 0.001$), and past work with older adults ($b = 0.456$; $t = 3.053$, $p < 0.01$).

CHAPTER IV

Discussion

The primary purpose of this study was to develop and validate an instrument that would encompass the intention to work with older adults as well as allowing for specificity to assess the unique impact of each of the factors impacting intention (i.e., attitudes, competency, social norms). The Working with Older Adults Scale (WOAS) was constructed based on the theory of planned behavior (Ajzen, 1991), with items developed according to the recommendations outlined by Ajzen (2006) and Francis et al., (2004). Given the strong theoretical basis of the theory of planned behavior, a confirmatory factor analysis (CFA) was conducted on a four-factor structure: 1) Attitude toward working with older adults, 2) Subjective Norm about working with older adults, 3) Perceived Behavioral Control related to working with older adults, and 4) Intention to work with older adults. The final WOAS subscales exhibited good reliability and, as expected, were all significantly correlated with each other. The results of the confirmatory factor analysis indicated that model fit was good overall. The final, 20-item scale appears to be a psychometrically sound instrument that measures attitude, subjective norms, perceived behavioral control, and intention to work with older adults.

In order to establish construct validity, the WOAS subscales were compared to related measures from the literature. There are no existing known or established measures that specifically examines attitude, subjective norm, perceived behavioral control, and intention to work with older adults within a general healthcare context. Therefore, comparison measures were selected according to those most commonly used in the literature and most likely to relate to the constructs targeted by the WOAS subscales. Attitudes toward older adults are among the most common variables cited as rationale for professional hesitancy to work with older adults (e.g., Tomko & Munley, 2013; Nelson, 2016b; Levy & Macdonald, 2016). Some of the most

commonly used measures of attitudes toward older adults include the Aging Semantic Differential (ASD) and Fraboni Ageism Scale (FAS). As hypothesized, both of these measures were strongly correlated with the Attitude subscale of the WOAS. This finding supports that the WOAS Attitude subscale is addressing a similar construct as the ASD and FAS (i.e., attitudes); in fact the WOAS Attitude subscale was more strongly correlated with the ASD and FAS than they were correlated with one another. The ASD and FAS also exhibited small correlations with most of the WOAS scales. These differential findings offer support for the convergent and discriminant validity of the WOAS subscales. Professional competency and self-efficacy are also well researched in connection with unwillingness to work with older adults (e.g., Helmes & Gee, 2003; Tomko & Munley, 2013; Graham, 2016). A measure examining general self-efficacy related to working with older adults could not be found in the literature. Of note, although the Pikes Peak Model (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009) offers an assessment of competency related to working with older adults in a psychology context, it was deemed to be too specific to psychology and advanced training for use in the present study. The Facts on Aging Quiz (FAQ) and New General Self-Efficacy Scale (NGSE) were selected to assess construct validity. As expected, the FAQ and NGSE were significantly correlated with the WOAS Perceived Behavioral Control, however the relationships were small. These findings may be a result of the FAQ being an assessment of knowledge rather than a measure of self-rated competency and the NGSE being a rating of general efficacy without a specific context. The FAQ and NGSE also exhibited weak relationships with the WOAS Attitude scale. As a measure of discriminant validity, the WOAS was compared to the General Attitudes towards Marriage Scale (GAMS). As expected, the GAMS was not strongly correlated with any of the WOAS subscales. A small correlation was found between the GAMS and the WOAS Attitude subscale.

Comparison with the moderate correlation between the WOAS Attitude subscale with the abovementioned attitudes toward older adults scales (i.e., ASD and FAS) lends more support for this as discriminant evidence. The GAMS was also very weakly correlated with WOAS Intention. Overall, the WOAS exhibited good construct validity.

Given healthcare professionals' consistent lack of interest in working with older adults (Karel, Gatz, & Smyer, 2012) and the growing gap between need for services and ready professionals (American Psychological Association, 2014), it is becoming increasingly important to assess and address the factors influencing this discrepancy. The theory of planned behavior model provides a strong theoretical basis for the evaluation of intention to work with older adults and related antecedents. A multiple regression analysis revealed that all the antecedent WOAS subscales (Attitude, Subjective Norm, and Perceived Behavioral Control) were predictive of Intention to work with older adults. This is commensurate with research establishing the relationship between attitudes, competency, and professional context on provider interest in working with older adults (see Introduction for more thorough review). Within the theory of planned behavior framework, the predictive strength of the antecedents of behavioral intention is thought to vary across behaviors and context (Ajzen, 1991). Interestingly, perceived norms about working with older adults was the strongest predictor of intention to work with older adults. This finding lends support to research on the impact of social influences (e.g., the culture within educational and training experiences) on interest in working with older adults (Brown, Nolan, Davies, Nolan, & Keady, 2008; Meiboom, de Vries, Hertogh, & Scheele, 2015) and highlights the importance of considering the messaging and culture within healthcare training programs. One's attitude toward working older adult clients was also strongly predictive of intention to work with older adults, which is consistent with the wealth of literature highlighting the impact

of negative attitudes toward older adults (e.g., Tomko & Munley, 2013; Nelson, 2016b; Levy & Macdonald, 2016). Perceived Behavioral Control was also predictive of intention, however, it was only a small effect. This may be a function of the hypothetical and general nature of the WOAS items as compared with more applied vignette studies. Overall the theory of planned behavior based structure of the WOAS was supported and the relative predictive strength of the Subjective Norm subscale on intention offers new insights into what factors may be underlying professional hesitance to work with older adults.

Additional analyses explored the relationship between specific participant factors and the WOAS subscales. Similar to other research findings (e.g., Laditka, Fischer, Laditka, & Segal, 2004; Kite, Stockdale, Whitley, & Johnson, 2005), a positive relationship was found between participant age and attitude toward working with older adults such that older participants expressed more positive attitudes. Participant age did not predict subjective norm, perceived behavioral control, or intention. Gender was also predictive of attitude toward working with older adults (i.e., women expressed more positive attitudes), an effect that has had some support (e.g., Funderburk, Damron-Rodriguez, Storms & Solomon, 2006; Gellis, Sherman, & Lawrance, 2003; Rupp, Vodanovich, & Crede´, 2005) and some mixed findings (e.g., Kite, Stockdale, Whitley, & Johnson, 2005; Tomko & Munley, 2013) within the literature. Gender was not significantly related to any other WOAS subscales.

Increased training and exposure to working with older adults has been identified as having a positive impact on provider interest in working with this population (e.g., Hinrichsen & McMeniman, 2002; Karel et. al., 2012; Tomko & Munley, 2013). Within the present study, exploratory analyses were run to examine the impact of participant experience working with older adults (past work, current work, and available opportunities) on the WOAS subscales. The

Intention subscale was significantly associated with past work, current work, and available opportunities to work with older adults, which offers more support for the beneficial influence of experience. Perceived behavioral control was also correlated with the experience items, further highlighting the impact of training and education on competency. Attitudes were associated with past experience, which is consistent with research indicating that exposure to working with older adults is related to more positive attitudes. The Subjective Norm subscale was most strongly correlated with current availability to work with older adults, which is likely related to the fact that if opportunities to work with older adults are present in a particular setting then that setting likely values this kind of work. As a whole, these findings offer support for the positive influence of experiences and opportunities for working with older adults.

Limitations

The present study has several limitations including the use of a convenience sample of primarily undergraduate students at a large university in the west. Although the use of a student sample is a reasonable target for this type of scale based on the applicability of the WOAS to training and education, future studies should include a more diverse sample of students (e.g., graduate, undergraduate), trainees (e.g., interns, fellows), and professionals that vary geographically and by area of interest (e.g., medical, mental health). This study was also cross sectional and thus utilized intention as a proxy for actual engagement in the behavior (e.g., working with older adults). Although this is common in the theory of planned behavior and justifiable given that the primary focus of the present study was scale development, future research could engage in longitudinal assessment in which actual engagement in work with older adults is assessed.

Clinical Implications and Directions for Future Research

The application of the theory of planned behavior to the anticipated service gap between older adults needs and professional availability offers new insights and directions for future exploration. Specifically, if intention can serve as proxy for behavior then utilizing the WOAS Intention subscale may help to predict the likelihood of professional engagement in work with older adults. This could be used broadly to support the estimations of the deficit in professional availability (American Psychological Association, 2014). Utilized within training and educational settings, the WOAS could also help to identify students, trainees, and programmatic factors that may influence intention to work with older adults. Once identified, interventions could be developed to target these variables, with repeated administrations of the WOAS serving to evaluate the impact of these interventions. For example, if a student endorses negative attitudes about working with older adult clients he or she may benefit from being given the opportunity to engage with older adults in a positive way. Similarly, providing education about working with older adults may bolster competence in a trainee whom endorses low perceived behavioral control related to working with older adults. Further, if the subjective norm within a training program is identified as contributing to an individual's lack of interest in working with older adults then interventions could be developed to assess and address factors that may be contributing to negative norms around working with older adults. The latter example may be a particularly novel and fruitful line of research given the predictive strength of the WOAS Subjective Norm subscale on intention to work with older adults within the present study and the scarcity of research in this area. The brevity of the WOAS allows for quick administration and therefore well suited for program evaluation and intervention effectiveness studies. Further, the general phrasing of the WOAS items means that this measure can be easily used, as written,

across a variety of settings and disciplines (e.g., psychology, medical, physical therapy, dentistry, etc). This use of a common scale may offer a way of connecting and comparing research and interventions employed within these related, yet often disconnected, fields.

Future researchers can also easily incorporate the WOAS into different research models. A longitudinal study utilizing the WOAS at different time points could offer a more complete exploration of the theory of planned behavior within the context of working with older adult clients. This line of research could test the predictive strength of intention of working with older adults at an initial time point on actual engagement in work with older adults at a later time point (e.g., the target behavior). Such a model could also more thoroughly explore the impact of *actual* control (e.g., access to training and clinical experiences working with older adults) on eventual engagement in the behavior. Additionally, the specificity provided by the WOAS regarding the antecedents of intention may offer new insights into research on age-related differential clinical judgments often explored in vignette-model studies (e.g., James & Haley, 1996, Tomko & Munley, 2013).

Conclusion

The Working with Older Adults Scale (WOAS) consists of 20 items across four subscales: 1) Attitudes toward working with older adults, 2) Subjective Norm about working with older adults, 3) Perceived Behavioral Control related to working with older adults, and 4) Intention to work with older adults. The results of the present study indicate that the WOAS exhibited good reliability and validity within a sample of college students. Imbedded within the theory of planned behavior, the WOAS may offer new and interesting insights into efforts to promote careers in health care serving older adults. Future studies should work to further validate

the WOAS in new samples and explore the utility of the scale for use in program evaluation and health service research.

** Authors note: A free copy of the WOAS is available by contacting the first author, Kirsten L. Graham, at kirgraham@gmail.com.

Tables

Table 1

Demographic Characteristics of Participants (*n =759)*

Characteristic	M	SD	Range	n	%
Age (years)	20.93	4.683	17-61		
Gender					
Male				166	21.9
Female				588	77.5
Other				5	0.7
Ethnicity					
White				571	75.2
Hispanic or Latino				88	11.6
Black or African American				17	2.2
Native American				6	0.8
Asian/Pacific Islander				58	7.6
Other				19	2.5

Note: gender other includes Agender, Genderqueer, Non-binary. Ethnicity other includes Arab-American, biracial, multiracial.

Table 2

Text and Descriptive Statistics for Initial WOAS Items

Items				95% Confidence Interval	
#	Text	*M*	*SD*	*Lower*	*Upper*
1	Working with older adults is pleasant	4.97	1.221	5.05527894406464	4.88122899244331
2	Working with older adults is unpleasant	5.29	1.299	5.38229008250757	5.19672718176866
3	Working with older adults is useless	6.17	1.015	6.23929760247002	6.09447723196707
4	Working with older adults is good	5.62	1.024	5.69429679742411	5.54844726590043
5	Working with older adults is a bad experience	5.66	1.198	5.74676398918373	5.57598733356759
6	Working with older adults is valuable	5.84	0.993	5.91123866627981	5.76992075401004
7	Working with older adults is worthless	6.22	1.020	6.29594546758706	6.15055387191095
8	Working with older adults is enjoyable	4.97	1.211	5.05723251067504	4.88464331495246
9	My coworkers/colleagues want me to work with older adults	3.84	1.376	3.94107967109521	3.74534984142125
10	Most people want me to work with older adults	3.74	1.422	3.84501115219640	3.64243931015498
11	It is expected of me to work with older adults	3.70	1.728	3.82720190441140	3.58098832015928
12	I feel under social pressure to work with older adults	2.82	1.449	2.92324033752661	2.71649476181113
13	People who are important to me want me to work with older adults	3.89	1.431	3.98825671287788	3.78423005960889
14	People I look up to do not want me to work with older adults	5.44	1.291	5.53250366288630	5.34844871806607
15	My mentors want me to work with older adults	3.96	1.354	4.05951040625590	3.86641551967003
16	Most people who are important to me expect me to work with older adults	3.59	1.534	3.70279684018978	3.48395812669764
17	My family would approve of me working with older adults	5.76	1.076	5.83228804915351	5.67894048453209
18	My role models want me to work with older adults.	3.84	1.416	3.93706322175524	3.73532779541782
19	My mentors do not want me to work with older adults	5.33	1.235	5.42035974803115	5.24454790368388

20	I am confident that I could work with older adults	5.60	1.144	5.68518226919783	5.52221535299503
21	I am competent to work with older adults	5.35	1.229	5.43762982789466	5.26250227250163
22	I possess the skills necessary to work with older adults	5.11	1.358	5.20482472357532	5.01153411547481
23	I lack the knowledge to work with older adults	4.96	1.516	5.06837313930031	4.85226178133462
24	I do not have the skills to work with older adults	5.14	1.449	5.24721266247836	5.04076620145824
25	I have the knowledge to work with older adults	5.00	1.400	5.10122700455170	4.90142551534220
26	I can become competent to work with older adults	5.72	1.091	5.79306781083484	5.63739576532410
27	I can develop the skills necessary to work with older adults	5.95	0.936	6.01782101535261	5.88455365483209
28	I am not able to develop the skills necessary to work with older adults	5.82	1.275	5.90813139556560	5.72630569052712
29	I am interested in working with older adults	4.39	1.554	4.49789705643444	4.27680650087780
30	Working with older adults does not interest me	4.49	1.627	4.60995856929397	4.37815239503893
31	I have little personal interest in working with older adults	4.29	1.619	4.40549266843235	4.17498226560458
32	I have significant personal interest in working with older adults	3.88	1.587	3.99161535050386	3.76564058617160
33	I intend to work with older adults	4.21	1.642	4.32571118457922	4.09172606773255
34	I have no intention of working with older adults	4.65	1.711	4.77011950678415	4.52617678951216
35	I plan to work with older adults	4.19	1.664	4.31043545024272	4.07316243335517
36	I will try to work with older adults	4.63	1.537	4.73603900070795	4.51725915232636

Table 3

WOAS Items and Item Sub-Scales Correlation Matrix

Item	Attitude Subscale	Subjective Norm Subscale	Perceived Behavioral Control Subscale	Intention Subscale
1	.766**			
2	.778**			
3	.741**			
4	.716**			
5	.781**			
6	.756**			
7	.704**			
8	.788**			
9		.777**		
10		.795**		
11		.754**		
12		.406**		
13		.824**		
14		.185**		
15		.836**		
16		.812**		
17		.354**		
18		.817**		
19		.239**		
20			.732**	
21			.759**	
22			.793**	
23			.766**	
24			.737**	
25			.793**	
26			.535**	
27			.632**	
28			.496**	
29				.858**
30				.840**
31				.801**
32				.841**
33				.886**

34	.862**
35	.890**
36	.813**

*p<.05, **p<.01, ***p<.001

Table 4

Initial WOAS Scale Items and Factor Loadings

Scale	
Attitude Subscale	
Item number	Factor loading (SE)
1	.753 (.02)
2	.744 (.02)
3	.665 (.02)
4	.666 (.02)
5	.734 (.02)
6	.710 (.02)
7	.624 (.03)
8	.788 (.02)
Subjective Norm Subscale	
Item number	Factor loading (SE)
9	.774 (.02)
10	.808 (.01)
11	.719 (.01)
12	.325(.03)
13	.834 (.01)
14	.003 (.04)
15	.843 (.01)
16	.821(.01)
17	.228 (.04)
18	.829 (.01)
19	.071(.04)
Perceived Behavioral Control Subscale	
Item number	Factor loading (SE)
20	.701 (.02)
21	.727(.02)
22	.797 (.02)
23	.732 (.02)
24	.694 (.02)
25	.804 (.02)
26	.437 (.03)
27	.553 (.03)
28	.361 (.03)
Intention Subscale	
Item number	Factor loading (SE)
29	.832 (.01)
30	.795 (.01)
31	.737 (.01)
32	.816 (.01)
33	.889 (.01)

34	.830 (.01)
35	.893 (.01)
36	.789 (.02)

Table 5

Revised WOAS Scale Items and Factor Loadings

Scale	Omega (SE)
Attitude Subscale	0.894 (0.006)
Item number	Factor loading (SE)
1	.754 (.02)
2	.745 (.02)
3	.662 (.02)
4	.665 (.02)
5	.734 (.02)
6	.709 (.02)
7	.622 (.03)
8	.790 (.02)
Subjective Norm Subscale	0.861 (0.007)
Item number	Factor loading (SE)
9	.775 (.02)
10	.810 (.01)
11	.718 (.01)
13	.835 (.01)
15	.842 (.01)
16	.821 (.01)
18	.829 (.01)
Perceived Behavioral Control Subscale	0.722 (0.013)
Item number	Factor loading (SE)
20	.664 (.02)
21	.709(.02)
22	.810 (.02)
23	.761 (.02)
24	.715 (.02)
25	.827 (.01)
Intention Subscale	0.809 (0.009)
Item number	Factor loading (SE)
29	.832 (.01)
30	.796 (.01)
31	.738 (.02)
32	.816 (.01)
33	.889 (.01)
34	.830 (.01)
35	.893 (.01)
36	.789 (.02)

Table 6

Final WOAS Scale Items and Factor Loadings

Scale	Omega (SE)
Attitude Subscale	0.867 (0.008)
Item number	Factor loading (SE)
1	.820 (.01)
2	.751 (.02)
5	.679 (.02)
6	.619 (.03)
8	.847 (.01)
Subjective Norm Subscale	0.845 (0.008)
Item number	Factor loading (SE)
10	.803 (.02)
13	.843 (.01)
15	.835 (.01)
16	.817 (.01)
18	.843 (.01)
Perceived Behavioral Control Subscale	0.707 (0.014)
Item number	Factor loading (SE)
21	.701 (.02)
22	.804 (.02)
23	.774 (.02)
24	.725 (.02)
25	.831 (.02)
Intention Subscale	0.770 (0.011)
Item number	Factor loading (SE)
29	.819 (.01)
32	.809 (.01)
33	.902 (.01)
34	.816 (.01)
35	.913 (.01)

Table 7

Model Fit Statistics for Initial, Revised, and Final WOAS

	Chi-Square	RMSEA	CFI	TLI
CFA- Initial Scale	3294.288 (588)***	0.078	0.846	0.835
CFA- Revised Scale	1890.072 (371)***	0.073	0.904	0.895
CFA- Final Scale	579.252 (165)***	0.058	0.960	0.954

***p<.001

Table 8

Correlations Between Revised and Final WOAS and Other Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Revised WOAS AT	-																	
2. Revised WOAS SN	.253**	-																
3. Revised WOAS PBC	.461**	.395**	-															
4. Revised WOAS IN	.550**	.694**	.500**	-														
5. Final WOAS AT	.960**	.302**	.492**	.603**	-													
6. Final WOAS SN	.279**	.981**	.389**	.688**	.327**	-												
7. Final WOAS PBC	.429**	.389**	.990**	.478**	.459**	.384**	-											
8. Final WOAS IN	.503**	.711**	.476**	.982**	.560**	.705**	.455**	-										
9. ASD	-.499**	-.199**	-.176**	-.331**	-.531**	-.227**	-.161**	-.300**	-									
10. FAS Total	-.589**	-0.034	-.248**	-.274**	-.563**	-0.063	-.229**	-.243**	.462**	-								
11. FAQ	.242**	-0.013	.151**	.082*	.216**	0.003	.137**	0.054	-.152**	-.263**	-							
12. NGSE	.307**	0.049	.270**	.087*	.273**	0.068	.256**	0.067	-.162**	-.291**	.200**	-						
13. GAMS	.277**	0.057	.158**	.120**	.285**	0.024	.156**	.098**	-.285**	-.272**	.114**	.261**	-					
14. Participant Age	.167***	-0.024	0.064	0.030	.145***	-.016	.061	.029	-.052	-.199***	.139***	.080*	-.007	-				
15. Interest Healthcare	.119**	.079*	.080*	.109**	.087*	.081*	.076*	.118**	-.018	-.126**	.055	.052	.019	.154***	-			
16. Past Experience	.213***	.310***	.462***	.349***	.239***	.307***	.460***	.345***	-.066	-.115**	.075*	.124**	.004	.100**	.057	-		
17. Current Opportunity	.191***	.384***	.390***	.383***	.216***	.387***	.392***	.389***	-.108**	-.134***	.014	.068	-.043	.100**	.110**	.542***	-	
18 Current Experience	.161***	.436***	.359***	.425***	.210***	.430***	.361***	.430***	-.154***	-.071	.016	.061	-.038	.062	.048	.504***	.605***	-
Mean (*SD*)	44.73 (6.78)	26.58 (8.55)	31.14 (6.46)	34.75 (10.99)	26.72 (4.78)	19.02 (6.19)	25.55 (5.71)	21.33 (7.20)	75.84 (21.05)	60.21 (9.06)	10.84 (2.61)	33.59 (5.24)	38.82 (9.85)	20.93 (4.68)	4.85 (2.19)	4.76 (1.94)	4.21 (1.96)	3.11 (2.00)

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.
Note: AT = Attitude; SN = Subjective Norm; PBC = Perceived Behavioral Control; IN= Intention; ASD = Aging Semantic Differential; FAS = Fraboni Ageism Scale; NGSE = New General Self-Efficacy Scale; GAMS = General Attitudes Toward Marriage Scales; Interest Healthcare = "I am interested in working in a health-related field (e.g., medical/nursing, therapy/psychology, physical/occupational/speech therapy, etc)"+; Past Experience = "I have worked with older adults in the past"+; Current Opportunity = "I currently have an opportunity to work with older adults if I wanted to"+; Current Experience = "I am currently working with older adults." Items rated on a 7 point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).

Table 9

Regression Analyses TPB Antecedents on Intention for the Final WOAS

	Intention	
	b	SE*(b)*
Attitude	0.510***	0.039
Subjective Norm	0.653***	0.029
Perceived Behavioral Control	0.105**	0.034

*p < .05. **p < .01. ***p < .001.

Table 10

Regression Analyses of Participant Variables onto Final WOAS

	Final WOAS Attitude		Final WOAS Subjective Norm		Final WOAS Perceived Behavioral Control		Final WOAS Intention	
	b	SE*(b)*	*b*	SE*(b)*	*b*	SE*(b)*	*b*	SE*(b)*
Age	0.148***	0.037	-0.023	0.052	0.075	0.045	0.045	0.057
Interest	0.189*	0.080	0.229*	0.103	0.198*	0.095	0.388**	0.120
Past Experience	0.373**	0.108	0.204	0.129	0.960***	0.116	0.456**	0.149
Current Opportunity	0.194	0.116	0.545***	0.139	0.449***	0.125	0.579***	0.160
Current Experience	0.207	0.111	0.906***	0.132	0.299*	0.119	0.988***	0.153

*p < .05. **p < .01. ***p < .001.

Figures

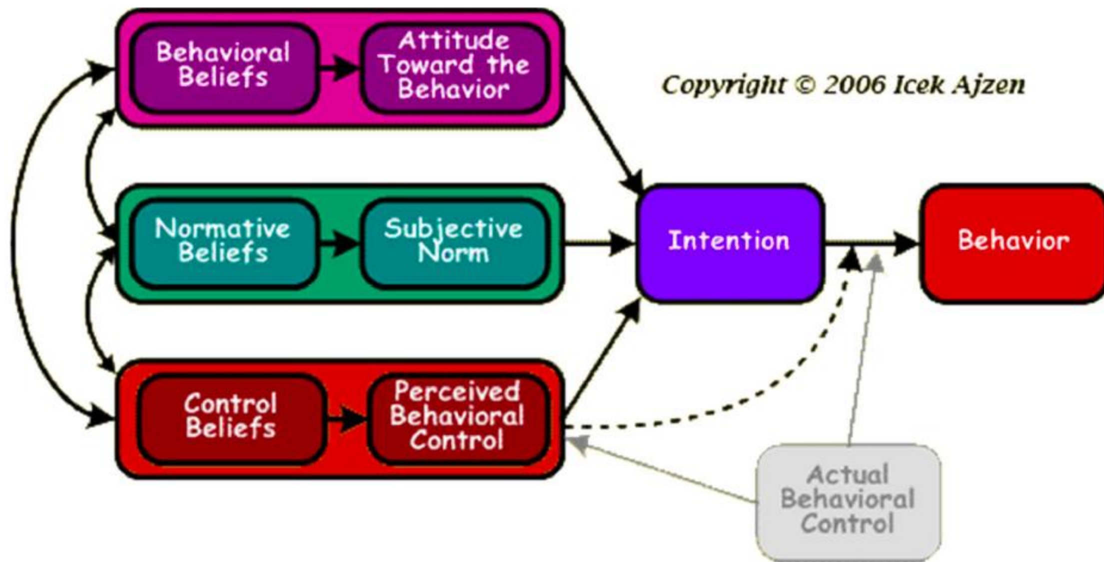

Figure 1

Theory of Planned Behavior (TPB) Model

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Appendices

Appendix A

Working with Older Adults Scale (WOAS)

Please read the following statements regarding your attitudes, experiences, and future intentions about working with older adult patients within a healthcare job and indicate the extent to which you agree or disagree with each. "Older Adults" means individuals 65 years and older. (Items rated on a 7 point Likert scale from 1 = strongly disagree 7 = strongly agree)

1. I intend to work with older adults

2. Working with older adults is valuable

3. My role models want me to work with older adults.

4. I do not have the skills to work with older adults

5. Most people who are important to me expect me to work with older adults

6. I am interested in working with older adults

7. I am competent to work with older adults

8. I lack the knowledge to work with older adults

9. Working with older adults is enjoyable

10. I have no intention of working with older adults

11. My mentors want me to work with older adults

12. I have significant personal interest in working with older adults

13. Most people want me to work with older adults

14. I have the knowledge to work with older adults

15. Working with older adults is unpleasant

16. Working with older adults is a bad experience

17. I plan to work with older adults

18. People who are important to me want me to work with older adults

19. Working with older adults is pleasant

20. I possess the skills necessary to work with older adults

WOAS Scoring instructions:

To calculate scores, sum the items in each subscale listed below:

Attitude: 2, 9, 15R, 16R, 19

Subjective Norm: 3, 5, 11, 13, 18

Perceived Behavioral Control: 4R, 7, 8R, 14, 20

Intention: 1, 6, 10R, 12, 17

R indicates the item is reverse scored such that:1 -> 7; 2 -> 6; 3 -> 5; 4 -> 4; 5 -> 3; 6 -> 2; 7 -> 1

Scores on each subscale can range from 5 to 25