

2014

# Substance Abuse in Older Adults: An Exploratory Study

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## Recommended Citation

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Substance Abuse in Older Adults: An Exploratory Study

By

Rachael Hawn

**THESIS**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF

Master of Sciences in Family and Consumer Sciences

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY  
CHARLESTON, ILLINOIS

2014

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### **Abstract**

The increasing number of older adults in the United States, due in part to the Baby Boomer generation, means that there is also an increase in the number of older adults dealing with substance abuse problems. The compounded effects of multiple legal medications with alcohol, illicit drugs, or abused prescription drugs on the withdrawal process are likely to make delineating between legitimate medication side effects and withdrawal symptoms incredibly difficult for medical professionals working with older adults. With the average older adult legally using 17 medications from nine different medical professionals, the physical effects of substance abuse might easily go unnoticed.

To determine medical professionals' knowledge of substance abuse in older adults and how they assess it, this study focused on nursing students in central Illinois as well as other health care and social science professionals regarding substance abuse in the older adult population. The study sought to determine how nursing students' knowledge of substance abuse in older adults varies according to the type of nursing degree being pursued and their nursing focus, determine how nursing students' knowledge of substance abuse in older adults varies according to their progress in their degree program, and determine how nursing students' knowledge of substance abuse in older adults varies as a result of their previous experience working/spending time with older adults or person with substance abuse issues.

The study found that nurses and nursing students had less knowledge about older adults with substance abuse issues than any other profession. This is an alarming finding considering that nurses are often on the frontline in identification of substance abuse

issues in older adults. The study also found that more time spent in both personal and professional interactions with older adults had no significant relation to overall knowledge of older adults with substance abuse issues. There is a necessity of acknowledgement that substance abuse in older adults is a growing issue, that there is a need for addiction treatment programs tailored to older adults, and that proper diagnostic measures of substance abuse symptoms in older adults are created as soon as possible. Future research should focus on the knowledge of physicians and other direct health care professionals working with older adults and sample from a more diverse population of medical and social science professionals. More research also needs to be done on the effectiveness of substance abuse diagnosis for older adults, and which, if any, methods of treatment are the most effective for this specific population.

### Table of Contents

CHAPTER 1. INTRODUCTION	
Statement of the Problem .....	5
Purpose of the Study .....	6
Research Objectives .....	7
Limitations of the Study .....	8
Terminology .....	8
CHAPTER 2. LITERATURE REVIEW	
Theoretical framework .....	12
Behaviorism .....	13
Combining Behaviorism with the Disease Model of Addiction .....	14
Assessment and Diagnosis .....	14
Diagnosis of Substance Abuse .....	16
Types of Substances Abused .....	18
Treatment .....	19
CHAPTER 3. METHOD	
Design .....	23
Participants .....	25
Variables .....	25
Instrumentation .....	25
Demographic Questions .....	25
Substance Abuse Questions .....	26
Procedure .....	26
Analysis .....	27
CHAPTER 4. RESULTS	
Research questions .....	29
Conclusion .....	34
CHAPTER 5. DISCUSSION	
Limitations .....	38
Future Research .....	38
Summary .....	39
References .....	40
Appendices	
Appendix A .....	45
Appendix B .....	48

## **Chapter 1. Introduction**

### **Introduction**

January 1<sup>st</sup>, 1946 was the beginning of the largest generation that the United States has seen to date. Between then and December 31<sup>st</sup>, 1964, over seventy-six million people were born, resulting in a generation called the Baby Boomers. This generation was the richest, most active, and most physically fit generation up to that time (Jones, 1980). They grew up in a time of great social change in America: the Vietnam War, the Civil Rights Movement, and social, sexual, and drug experimentation (Jones, 1980).

Many Baby Boomers used, dealt, and trafficked drugs, and as a result the Drug Enforcement Administration (DEA) was formed in 1973 as the culmination of several new laws and anti-drug units (Drug Enforcement Agency [DEA], 2013). While these new laws stopped some Baby Boomers, research shows that there will be an estimated 5.7 million adults aged 50 and older with a substance abuse disorder by 2020. Baby Boomers use more illicit and nonmedical drugs than any previous generation, with marijuana, cocaine, and opioid analgesics (painkillers) being the most commonly abused substances (Wu & Blazer, 2011). The Grant Study, which followed 268 men for 75 years, found that alcohol was the single strongest cause of divorce, that alcoholism was strongly related to neurosis and depression, and was the greatest cause of morbidity when coupled with cigarette smoking (Vailant, 2012).

### **Statement of the problem.**

With this generation's substance abuse comes the necessity of acknowledging that this is a growing issue, a need for addiction treatment programs tailored to older adults,

and the need for proper diagnostic measures of substance abuse symptoms in older adults. Chronic medical or psychological problems can be worsened by drug use and even mistaken as physical or psychological issues rather than addiction (Morgan & Brosi, 2011). Many abused drugs alter neurotransmission in the brain, and age-related changes in the brain can lead to dire consequences. Drug abuse is difficult to diagnose in older individuals because current diagnostic criteria were developed for young and middle-aged persons (Wu & Blazer, 2011).

### **Purpose of the study.**

The purpose of this study was to determine the overall knowledge of healthcare and social science professionals in the United States about substance abuse in older adults, as well as how education and time spent with older adults affected their overall knowledge on the subject.

Determining the ways substance abuse differentially presents itself in older adults is important. That potential knowledge can be used to help create screening instruments specifically for older adults so that there is less of a risk of them falling through the cracks in the criteria used for diagnosing the general population.

### **Research objectives.**

The objectives of this study were:

1. To explore the knowledge of nursing students regarding substance abuse in the older adult population.
2. To determine how nursing students' knowledge of substance abuse in older adults varies according to the type of nursing degree being pursued and their nursing focus.



3. To determine how nursing students' knowledge of substance abuse in older adults varies according to their progress in their degree program.
4. To determine how the knowledge of healthcare and social science professionals about older adult substance abuse compare to the knowledge of nursing students?
5. To determine how the knowledge of healthcare and social science professionals about older adult substance abuse differ?

**Limitations of the study.**

The limitations of this study included the sample size and the geographical location of the nursing students in the sample. The results from a small nursing school in Central Illinois will likely not be applicable to all nursing schools. Another limitation was the lack of empirical information on the phenomena of substance abuse in older adults.

In addition, there was also an issue with limited participation of the original target group. There was a lack of responses by the nursing students, so the researcher chose to expand the research to health and social science professionals in addition to nursing students both to expand the sample size and to gain a greater idea of the knowledge of older adult substance abuse issues among professionals in the field.

**Terminology**

**APA.** The American Psychiatric Association (APA). This governing body authorizes and publishes the Diagnostic and Statistical Manual of Mental Disorders (DSM) (APA, 2000/2013), whose shifting definitions of substance abuse are utilized in this study.

**Bachelor of Science in Nursing (BSN).** A four-year academic degree in the science and principles of nursing. The program prepares nurses for a professional coursework in nursing science, research, leadership, and nursing informatics. A BSN also provides the

student with general education in math, humanities and social sciences. This degree qualifies recipients for administrative, research, consulting and teaching positions (BLS, 2011).

**Basic Nurse Assistant.** Formerly called a Certified Nurse Assistant (CNA), a basic Nurse Assistant (BNA) is an entry-level nurse assistant who helps registered nurses (RNs) and licensed practical nurses (LPNs) with a wide variety of hands-on patient care (Bureau of Labor Statistics[BLS], 2011).

**Drug.** A substance that may have medicinal or intoxicating effects when taken or put into the human body, and is not considered a food. Pharmacological drugs are those prescribed to treat illnesses or disorders, and recreational drugs are chemicals that affect the central nervous system of the human body.

**Drug Abuse.** Any use of an illicit drug, or over and/or misuse of a prescription drug. This includes taking more of a prescription medication than the recommended dose, or taking it more often or for a longer period of time than prescribed. For the purpose of this research, nicotine addiction is not addressed.

**Healthcare Professional.** For the purpose of this study, a healthcare professional is an individual in the medical field that is neither a nurse or a nursing student. This does not include mental health professionals.

**Illicit drug.** Substance that is considered to be illegal, or not *licit*.

**Licensed Practical Nurse (LPN).** An individual with one year of training who cares for sick, injured, convalescent, or disabled individuals under the supervision of registered nurses and physicians (BLS, 2011)

**Licensed Practical Nurse (LPN) to BSN.** A degree program for individuals who are working as LPNs and want to earn a bachelor's degree in nursing (BLS, 2011).

**Master of Science in Nursing (MSN).** An advanced-level postgraduate degree for RN's. The MSN may be used as a prerequisite for doctorate-level nursing education, and previously was required to become an advanced practice registered nurse such as a nurse practitioner, clinical nurse specialist, nurse anesthetist, or nurse midwife. The master's level advanced practice registered nurse programs have already, or are in the process of, transitioning to the requirements of the Doctor of Nursing Practice. This graduate-level degree may focus on one or more of many different advanced nursing specialties such as acute care, adult, family, geriatrics, neonatal, palliative care, pediatric, psychiatric, obstetrics and gynecological nursing, among others (BLS, 2011).

**Older Adult.** Any individual with a chronological age of 60 years and older.

**Registered Nurse (RN).** An individual with a Bachelor of Associate's degree in nursing that has passed the mandatory licensing examination, the NCLEX-RN (BLS, 2011).

**Social Science Professional.** An individual that works in a field relating to human relationships and society, such as academics and mental health professionals.

## Chapter 2. Literature Review

In January of 2011, Baby Boomers started turning 65 years old at a rate of 10,000 per day, and will continue to do so for the next twenty years. This enormous generation, born between 1946 and 1964, will double the number of individuals aged 65 and older in the United States (U.S.) by 2050. With 88.5 million individuals over sixty-five and 19 million over eighty-five years old, one in five Americans is over 65 years old or older (United States Census Bureau, 2012). With older adults using more health care resources than younger adults, this shift in the age of the population of the U.S. will have a marked effect on the medical field. While older adults are not considered as a high risk group for substance abuse when compared to younger generations, the issue of substance abuse among the older population is still a serious one.

Substance abuse is considered a psychiatric disorder, and is therefore diagnosed by medical and mental health providers using the criteria found in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). As of 2013, The fifth edition (DSM-V) (American Psychiatric Association (APA), 2013) combines what the now phased out DSM-IV (APA, 2000) considered to be two separate substance abuse related conditions (substance abuse and substance dependence) into a single category of Substance-Related Disorders (APA, 2013). One reason for this new combination in the DSM-V is research showing that the symptoms of people with substance use problems do not fall neatly into two discrete disorders, but demonstrate different severity levels of the same syndrome (APA, 2013).

According to the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), eight and a half percent of adults in the United States (U.S.) met

the criteria for an alcohol use disorder, while only two percent met the criteria for other drug use disorders (Office of Applied Studies, 2003). Alcohol is the second most commonly abused drug in the U.S., preceded only by nicotine (National Institute on Drug Abuse, 2011). Likely because of its legality and prevalence, alcohol also appears to be the most studied of abused substances among older adults. There is more data available about older adults and alcohol abuse than any other drug. There is also more research on older veterans and their substance abuse compared to any other subset of older adults. Overall, there is a shortage of information regarding all older adults and the prevalence of drug abuse in that population, and many researchers have suggested that most estimates gleaned from studies are far lower than the actual number (Kuerbis & Sacco, 2013).

Morgan and Brosi (2011) found that substance abuse in older adults is often misdiagnosed as a physical condition rather than as a substance abuse disorder. A heart that has weakened with age shares many of the characteristics of a heart affected by cocaine use, and unless a physician has other means with which to assess the cause of the physical condition such as voiced concerns by the patient or family member, or evidence of substance use during home visits, such a patient might very well be treated for a heart condition and rather than an addiction.

With Baby Boomers using more psychoactive drugs than previous generations (Gossop & Moos, 2008; Han, Gfroerer, & Colliver, 2009) as a result of being members of a generation that tested social norms (Outlaw, Marquart, Roy, Luellen, & Moran, 2012), the need for an accurate estimate of older adults with substance abuse issues, a modified method of diagnosis for substance abuse in older adults, and proper treatment procedures is vital. In 2002, Korper found that recent literature suggested that aging adults use (and

will probably continue to use) alcohol and psychoactive medications at a much higher rate than the previous generations, which was “beginning to present larger issues for the health care system and the intervention and treatment communities” (Blow & Barry, 2012, p. 310).

### **Theoretical Framework**

There are two models that accurately frame the issue of substance abuse and older adults; Behaviorism (Peele & Alexander, 1995) and the Disease Model of Addiction (Lowinson, 2005). Each have their strengths related to understanding addiction in older adults, and when combined they provide a solid base to explore the specific issue of diagnosis of substance abuse in the older adult population.

Prior to the twentieth century, alcoholism and other drug addictions were considered to be a moral issue, the result of a sinful nature, and weak will (Lowinson, 2005). However, scientific research made possible by recent technological advancements has shed light on the biological underpinnings of addiction, leading to the Disease Model of Addiction (Musto, 2005).

The Disease Model of Addiction approaches the recovery and treatment of individuals with addictions with far less moral implication. This empirically based stance also removes the stigma and blame that the moral model placed on those with addiction. To a generation accustomed to testing social and personal limits, treatment that focused on the fact that they are inherently flawed would likely be less effective than treatment that focused on addiction as an unfortunate biopsychosocial side effect of the personal choices they may have made (Miller & Gianinni, 1990).

**Behaviorism.**

Behaviorist theory (Peele & Alexander, 1995) claims that individuals start, and then continue to use and abuse substances because they are available, there is a lack of reinforcement for alternative behavior, and there is a lack of punishment for experimenting with the substance. For example, a college student has access to illicit drugs, their peer group condones, supports, or tolerates the drug use, and the student is never caught, fined, or arrested for using the substance, and so they continue to use it. With a large focus of the current research focused on Baby Boomers, conceptualizing a model of addiction based on this generation will cover a large cohort of older adults.

According to Outlaw et al., 2012, Baby Boomers are part of a generation committed to testing social norms. This includes experimentation with drugs, most of which were not yet illegal during the times that Baby Boomers were in their prime drug abuse ages of 18 to 24. The United States Department of Agriculture (USDA) explains that drug use usually occurs during late high school and early college years (ages 17-23).

Unlike those in other generations, the members of the Baby Boomers who used drugs likely did so because they were available, they were an acceptable part of their social group, and there were no punishments for experimenting with them. This supports the behaviorist model that says that availability, lack of reinforcement of alternative behaviors, and lack of punishment are the basis of use and addiction to substance. Many of the drugs used by the Baby Boomer generation in their youth have since become illegal, making the lack of punishment aspect of addiction less valid. In addition, the concept of *lack of punishment* is also applied to a delayed set of consequences such as

loss of job or career, marriage, relationships, and poor health, which tend not to occur until after a substance has been abused for an extended period of time.

### **Combining Behaviorism with the Disease Model of Addiction.**

The combination of a behaviorist approach to the beginning of addiction and a disease model to understanding and treating it seems to be supported by the current, but limited, research on older adults and substance abuse disorders (Winger, Woods, Galuska, & Wade-Galuska, 2005; Treisman & Clark, 2011). By supporting the idea that the initial substance use was a result of personal choice but that the subsequent addiction is a combination of physiological and social factors removes the blame from the person with the addiction, and will potentially help break down the stigma of treatment that might otherwise prevent them from seeking help. Because of the biological, psychological, and sociological issues discussed above, assessing and diagnosing a substance abuse disorder in an older person is a much different task than doing the same for a younger population.

### **Assessment and Diagnosis**

Assessing the overall health condition of an older adult is a much different process than doing the same for a younger person. “The older [patient] may ignore medical advice, refuse facility placement, experience isolation, suffer from self-neglect, drive dangerously, or live in an unsuitable environment” (Culo, 2011, p. 421). Because of this, the diagnosis of substance abuse in older adults is compounded on top of the many other risk factors with which older adults are faced. These risk factors can be external, such as lacking a social network, poverty, dependence on a care provider, living alone, and/or a lack of community resources. They may also be internal such as being of a



minority gender, race, class, nation, or sexual orientation (among others), having medical comorbidities such as other physical illnesses or diseases, mental illnesses, and cognitive or sensory impairment (Culo, 2011).

Since many older adults do not usually see a mental health professional as a part of their health regimen, it is often left to other medical professionals to see the warning signs of substance use and abuse in older patients and refer them to treatment. Primary Care Physicians, Geriatricians, Physician Assistants, Nurse Practitioners, and Registered Nurses (to name a few) all work with the general public on the frontlines of care, and therefore come into contact with older adults in their practice. It is thus up to these professionals to see the warning signs of substance abuse in older adults.

Nurses are often the first members of a medical team to suspect substance abuse in a patient (Berger, Shuester, & Von Roenn, 2007). The term nurse can apply to a wide spectrum of professionals, from those with a Basic Nurse Assistant (BNA) degree, a Bachelor of Science in Nursing (BSN) degree, a Licensed Practical Nurse (LPN) degree, and a Master of Science in Nursing (MSN) degree. Though the amount of education that each of these professionals have is vastly different, the contact they have with patients, specifically older adults, places them in a position to assess and diagnosis substance abuse and refer individuals to treatment.

Due to the limited target group, this study also was opened to other healthcare and social science professionals. Professionals in the medical field that also interact with older adults include physicians and pharmacists, who are both in a position to identify older adults with substance abuse issues. Social scientists included mental health professionals, academics that study and teach on topics related to older adults and/or

substance abuse, professionals involved in occupations heavily saturated with older adult clientele (such as nursing homes and retirement communities, and students in these fields.

### **Diagnosis of Substance Abuse**

As previously mentioned, the DSM-V combines the two DSM-IV defined disorders of substance abuse and substance dependence into a single category that is measured on a continuum ranging from mild to severe. Abuse of any substance (with the exception of caffeine) is assessed using the same criteria but are still regarded as separate use disorders. For example, an individual's abuse of morphine and abuse of cocaine are diagnosed using identical criteria, but are considered two separate disorders: addiction to morphine and addiction to cocaine.

The DSM-V contains eleven symptoms of substance abuse. A mild substance abuse disorder must have displayed two of the symptoms in the last 12 months whereas with the DSM-IV, an individual needed only to display one of the symptoms in that same time frame. The symptoms must also have caused clinically significant distress or impairment in individual social, emotional, or occupational functioning (APA, 2013).

The eleven potential symptoms of substance abuse that must be met are designed for people of all ages. Taking the substance in larger amounts over a longer than intended period, a persistent desire or successful attempts to cut down the substance use, and a great deal of time spent obtaining, using, and recovering from the effects of the substance are all signs of substance abuse. The other symptoms are: craving the substance; failing to fulfill work, school, or home obligations; continued use after experiencing social or interpersonal problems caused by substance use; reduced social, occupational, and recreational activities as a result of the substance use, use of the

substance in physically hazardous conditions (while driving, operating heavy machinery, etc); continued use despite physical or psychological issues, physical tolerance of the substance; and taking the substance to relieve or avoid withdrawal symptoms.

While the above criteria are designed for individuals of all ages (APA, 2013), there are specific criteria that might complicate the drug abuse assessment of older adults. With dementia affecting 5.2 million (or one in six) older adults over 65 (Alzheimer's Association, 2012), an older individual might continue to forget having already taken an addictive prescription medication, and accidentally build dependence. Social isolation is another symptom of substance abuse that might present difficulty when diagnosing older adults. The ageist myth that people become less social as they age might influence medical professionals to ignore decreased social activity as a normal side-effect of aging as opposed to drug abuse caused by social isolation.

Continued use of a drug despite negative physical and psychological effects is also a symptom of substance abuse that medical professionals might miss. A misdiagnosis of a substance-related physiological problem might lead older adults to think that the nosebleeds from inhalant use are actually just a side-effect of a blood-thinning medication (Benshoff, Harrawood, & Koch, 2003).

Ninety percent of older adults take prescription and over the counter medications (Kuerbis & Sacco, 2013). The compounded effects of multiple legal medications with alcohol, illicit drugs, or abused prescription drugs on the withdrawal process is likely to make delineating between legitimate medication side effects from withdrawal symptoms incredibly difficult for medical professionals working with older adults (Graham, Clark, Bois, Carver, Dolinki, Smythe, Harrison, Marshman, & Brett, 1996; Kalapatapu &

Sullivan, 2010). With the average older adult legally using 17 medications from nine different medical professionals, the physical effects of substance abuse might easily go unnoticed.

### **Types of Substances Abused**

Blow and Barry (2012) distinguish two major categories of substance abuse among older adults, alcohol and psychoactive prescription medications. The authors claim that illicit drug use is low among the older adult population, but speculate that as the Baby Boomers age, illicit drug use will become a much larger issue. The sheer size of the Baby Boomer generation will mean that in addition to there being an increasing number of older adults in the U.S., a significant portion of that number will use illicit drugs as well.

Opioids, heroin, cocaine, and marijuana are the illicit drugs most commonly used by older adults (Wu & Blazer, 2011). An increasing number of older adults are seeking treatment for combined alcohol and drug abuse, which might be a result of the fact that most older adults that abuse opioids, heroin, cocaine, and marijuana also abuse alcohol. Treatment for substance abuse is most often sought by older adults that abuse alcohol, opioids, heroin, and cocaine, with very few older adults seeking treatment for marijuana addiction (Wu & Blazer, 2010).

As previously mentioned, ninety percent of older adults take prescription and/or over-the-counter drugs (Kuerbis & Sacco, 2013). Many of the drugs commonly prescribed to older adults are addictive, especially those treating depression, pain, and insomnia (Administration on Aging, 2013). According to Dowling, Weiss, and Condon

(2008), aging-related physical changes can increase sensitivity to certain substances, and chronic medical conditions can be worsened or even triggered by drug abuse.

Prescription drug abuse can be exacerbated by legitimately prescribed psychoactive medications. With the widespread use of addictive psychoactive medication such as anti-depressants, anti-anxiety medication, and sleep aids, among older adults, there is a high likelihood of substance abuse developing as a result (Simoni-Wastila & Yang, 2006).

Though there is little research on the use of illicit drugs and of the abuse of prescription drugs among the older adult population, White, Duncan, Bradley, Nicholson, and Bonaguro (2011), and Outlaw et. al 2012 both inquired into the use of prescription and illicit drugs by the participants in their research on substance abuse treatment. The percentage of older adults reporting prescription drug use increased between 1985 and 2006. According to the authors, older adults reported significantly higher use of prescription sedatives, tranquilizers, stimulants, and analgesics in 2006 than they did in 1985. An increase in the percentage of older adults that had used illicit drugs was found in the same study. A significant increase in older adults who had used marijuana (29.2%), cocaine (9.2%), and inhalants (4.6%) was observed, as was a smaller, but still noticeable increase in the use of heroin (2.3%), hallucinogens (8.5%), and PCP (2.3%). In addition, the National Survey on Drug Use and Health (NSDUH),(2003), found that, for individuals aged 50 years and over, 1.8 % admitted to illicit drug use.

### **Treatment**

The lack of research regarding older adults and substance abuse translates to a lack of treatment options for older adults with substance abuse disorders. The overall

perception that older adults do not abuse substances is due in part to the shame and stigma of seeking treatment, as well as the belief that their substance abuse disorder is not severe enough to merit treatment. (Wu & Blazer, 2011)

Older adults who abuse substances are less likely to seek treatment because of the social stigma attached to it. In addition, their substance abuse problems will probably not be diagnosed or will be misdiagnosed as a physical health issue, and they are often ignored by family, friends, and health care providers once diagnosed because of the associated stigma and shame (Morgan & Brosi, 2007). To diagnose alcohol abuse, clinicians usually look for physiological symptoms as well as behavioral, social, and emotional factors. For younger adults there is usually a positive relationship between the severity of alcohol related symptoms and the amount and frequency of consumption. (Nemes, Rao, Zeiler, Munly, Holtz, & Hoffman, 2004). The same is not true for older adults, who can often have serious problems with alcohol with relatively low levels of consumption. A slowed metabolism, interaction with medications, and other factors can change the way the alcohol affects the body. An older adult can experience the effects of alcohol (dizziness, drowsiness, emotional instability, etc) after consuming less alcohol than it would take a younger person to experience the same effects (National Institute on Alcohol Abuse and Alcoholism, 2013).

In addition to the poor substance abuse assessment tools available for diagnosing older adults, (Schultz, Arndt, & Liesveld, 2003; White, Duncan, Bradley, Nicholson, & Bonaguro, 2011; White & Duncan 2008) it is important to note that there are very few treatment facilities for substance abuse that are created specifically for older adults. Han, Gfroerer, Colliver, and Penne (2009) found that only seven percent of substance abuse

treatment facilities offered a specific treatment designed for people over the age of fifty-five. Older adults respond to substance abuse treatment differently than younger adults, so programs structured solely to their needs are more likely to be effective than general treatment regimens designed for the general populace. According to Moose, Mertens, and Brennan (1995), there are specific treatments that work best for older adults with substance abuse issues. Programs that have more structured policy, flexible rules about discharge, comprehensive assessment, and a strong use of outpatient mental health care were associated with a lower readmission rate among patients. In addition, they found that “a more supportive treatment regimen in a well-organized program and prompt outpatient aftercare may be especially helpful for older patients” (p 343). Most research on older adults with substance abuse issues has focused on the veteran population, many of whom also have some type of mental illness such as Post-Traumatic Stress Disorder (PTSD), depressive disorders, and adjustment disorders (Seal, Bertenthal, Miner, Sen, & Marmar, 2007).

Interestingly, the rates of dual diagnosis declined significantly as the age of the respondents increased, despite the fact that there was no significant decrease in substance abuse by the same patients in a longitudinal study (Prigerson, Desai, & Rosenheck, 2001). A dual diagnosis occurs when a person is diagnosed as having both a mental health disorder and a substance abuse disorder. A common example of this in older adults is the case of a veteran diagnosed with Post-Traumatic Stress Disorder (PTSD), and also an addiction to alcohol or another drug. This decrease in dual diagnosis as patients age means that older adults might be diagnosed as only having a mental disorder rather than a

dual diagnosis of mental illness and substance abuse, and that the symptoms of substance abuse are either being ignored or categorized as part of the mental disorder.

A recent review of 25 substance abuse treatment programs showed that almost all programs had positive outcomes for older adults. (Kuerbis & Sacco, 2013). With the major obstacle to treating the older adult population being the identification of those needing treatment, this suggests that the first difficulty facing this population is proper diagnosis. With a more accurate estimate of the number of older adults needing substance abuse treatment, then developing programs specifically for older adults will be the next step to overcome.

With proper diagnosis needed before treatment can occur, a correct diagnosis relies on healthcare and social science professionals and their knowledge of the ways that substance abuse presents itself in older adults. Recognizing the signs of substance abuse in older adults is a critical first step to their treatment and recovery.



### Chapter 3. Method

#### Design

A non-experimental design was used to investigate nursing student knowledge of substance abuse in older adult patients, and how their knowledge compared to other healthcare and social science professionals. Due to issues with data collection, the sampling frame was adjusted from nursing students to include members of the CFLE, Family Policy, Family Therapy, Family and Health, Feminism and Family Studies, and Research and Theory sections of the National Council on Family Relations Listservs. NCFR is the “oldest multidisciplinary, nonpartisan professional organization focused solely on family research, practice and education” (NCFR, 2014). Members of this organization include social science professionals such as marriage and family therapists, social workers, public health workers, extension specialists, counselors, clergy, among others: All of which have a high likelihood of working with the Baby Boomer generation. The following research questions guided the study:

**How does nursing students’ knowledge of substance abuse in older adults vary according to the type of nursing degree being pursued and their nursing focus?**

Nursing students that are pursuing a more advanced degree were predicted to have more knowledge about older adults with substance abuse issues. Students pursuing a Basic Nurse Assistant (BNA) degree would have the least knowledge in the sample, and students pursuing a Registered Nurse (RN) to Bachelor of Science in Nursing (BSN) would have the most.

**How does nursing students' knowledge of substance abuse in older adults vary according to their progress in their degree program?** The more advanced a student is in their program (measured by years), the more knowledge they were predicted to have about older adults and substance abuse. A first year student would have less knowledge than someone further along in the program.

**How does nursing students' knowledge of substance abuse in older adults vary as a result of their previous experience working/spending time with older adults/persons with substance abuse issues?** Nursing students with experience working with older adults would have more knowledge of substance abuse and older adults. Nursing students with experience with persons with substance abuse issues would have a greater knowledge of substance abuse and older adults. Nursing students with experience with older adults with substance abuse issues would have the greatest amount of knowledge about older adults and substance abuse issues.

**How does the knowledge of healthcare and social science professionals about older adult substance abuse compare to the knowledge of nursing students?** Healthcare and social science professionals with more experience working with older adults and individuals with substance abuse issues would be more knowledgeable about older adult substance abuse issues than nursing students due to their involvement with the population in question.

**How does the knowledge of healthcare and social science professionals about older adult substance abuse differ?** Healthcare and social science professionals with direct experience with older adults with substance abuse issues will be the most

knowledgeable. Participants with little experience and/or interaction with older adults or individuals with substance abuse issues will be the least knowledgeable.

**Participants.** Participants in the study were students at Lakeview College of Nursing in Charleston, Illinois. Lakeview College of Nursing offers four programs, a BNA program, a Bachelor of Science in Nursing (BSN) degree, a License Practical Nurse (LPN) to BSN program, and a Registered Nurse (RN) to Bachelor of Science in Nursing (BSN).

As of September 2013, Lakeview College of Nursing had 284 students at their two campuses. The majority (86%) of their students were female, with 12% being male and 1% declining to report their gender. Seventy-five percent of the students were Caucasian, 12.7% were Black, 5.7% were Asian, 3.5% were Hispanic, 2.8% were American Indian/Alaskan Native or Native Hawaiian/Pacific Islander, and 1% were of an unreported ethnicity.

**Variables.** The major variable measured in this study was the overall knowledge of older adult substance use. Independent variables included the type of nursing degree being pursued, the profession of the healthcare and social science professionals, the progress of the participant in his/her program, gender, age, socioeconomic class, location of school being attended, race/ethnicity, their country of origin, and their previous experience and working with and spending time with older adults and people with substance abuse disorders.

### **Instrumentation**

**Demographic Questions.** The demographic survey (See Appendix A) ascertained the nursing focus of the students/graduates, as well as the age, gender, race/ethnicity,

years of experience, country of origin, type of degree being pursued (CNA, Associates, Bachelors, RN, or RN to BSN) and location and size of the school they are attending. For the healthcare and social science professionals, the demographic survey contained a question asking for their specific profession.

**Substance Abuse Questions.** The instrument (See Appendix B) to measure the dependent variable for this study was adapted with author permission from the National Center for Gerontological Social Work. Nine true-or-false questions were used to assess the knowledge of social workers about the issue of older adults' substance abuse. Response choices were modified to a Likert Type scale, with strongly agree, agree, neutral, disagree, and strongly disagree as possible answers. Examples of questions include: "Most elderly individuals can easily tolerate recommended adult doses of most medications," and "Illicit drug use particularly involving substances such as marijuana, heroin, or cocaine is quite rare among the elderly."

### **Procedure**

After obtaining IRB approval, the researcher provided the Interim Dean of Lakeview College a link to the online survey, and then distributed the information and survey to all current students. Due to the previously mentioned issues with data collection, including a low response rate, the survey was also sent to all members of the CFLE, Family Policy, Family Therapy, Family and Health, Feminism and Family Studies, and Research and Theory, listservs of the National Council on Family Relations (NCFR).

Online data was collected using an instrument hosted by Qualtrics. All participants were provided an informed consent statement which outlined the purpose of

the study, procedures, and any benefits and risk involved. After reading the informed consent form, participants were directed to the survey.

### **Analysis**

Version 22 of the Statistical Package for the Social Sciences Grad Pack was used to analyze the results. Descriptive statistics, frequencies, analyses of variance (ANOVAs), and *t* tests were used to analyze the data.

#### Chapter 4. Results

After the recruitment of participants through Lakeview College of Nursing, the listservs of the National Council on Family Relations (NCFR), and snowballing through social media, the final sample consisted of 116 valid participants. A total of one hundred and twenty-five participants took the survey. Those who did not answer most or all of the items that measured overall knowledge on the instrument were eliminated. Ninety-six of the participants (83%) identified as female, 11 (9%) as male, eight (7%) declined to identify, and none identified as Transgender/Other. The age of participants ranged from 20 years old to 76 years old, with a mean of 38 years ( $SD = 15.15$ ). Most participants (37%) were between the ages of twenty-two and twenty-six. The majority (92.6%) of participants identified their race/ethnicity as Caucasian, with 3.7% identifying as Black/African-American, 1.7% as Asian/Pacific Islander, 1.7% as mixed race, and 8 (6.9%) declined to identify.

Nursing students and nurses comprised 35.3% of the participants, while 29.3% identified as social science professionals or health care professionals (not including nurses and nursing students), and the remaining 35.3% had other occupations such as elementary teacher, farmer, and electrician. When selecting country of origin, 95.2% of participants chose the United States, with 1.2% choosing South Korea, 1.2% the Philippines, and 1.2% Canada.

Using participant responses on the part of the instrument designed to test overall knowledge of substance abuse in older adults, an Overall Knowledge (of substance abuse in older adults) variable was calculated for each participant. The average Overall Knowledge score was 23.45 ( $SD = 3.14$ ) with a possible range of (0 to 45).

## Research Questions

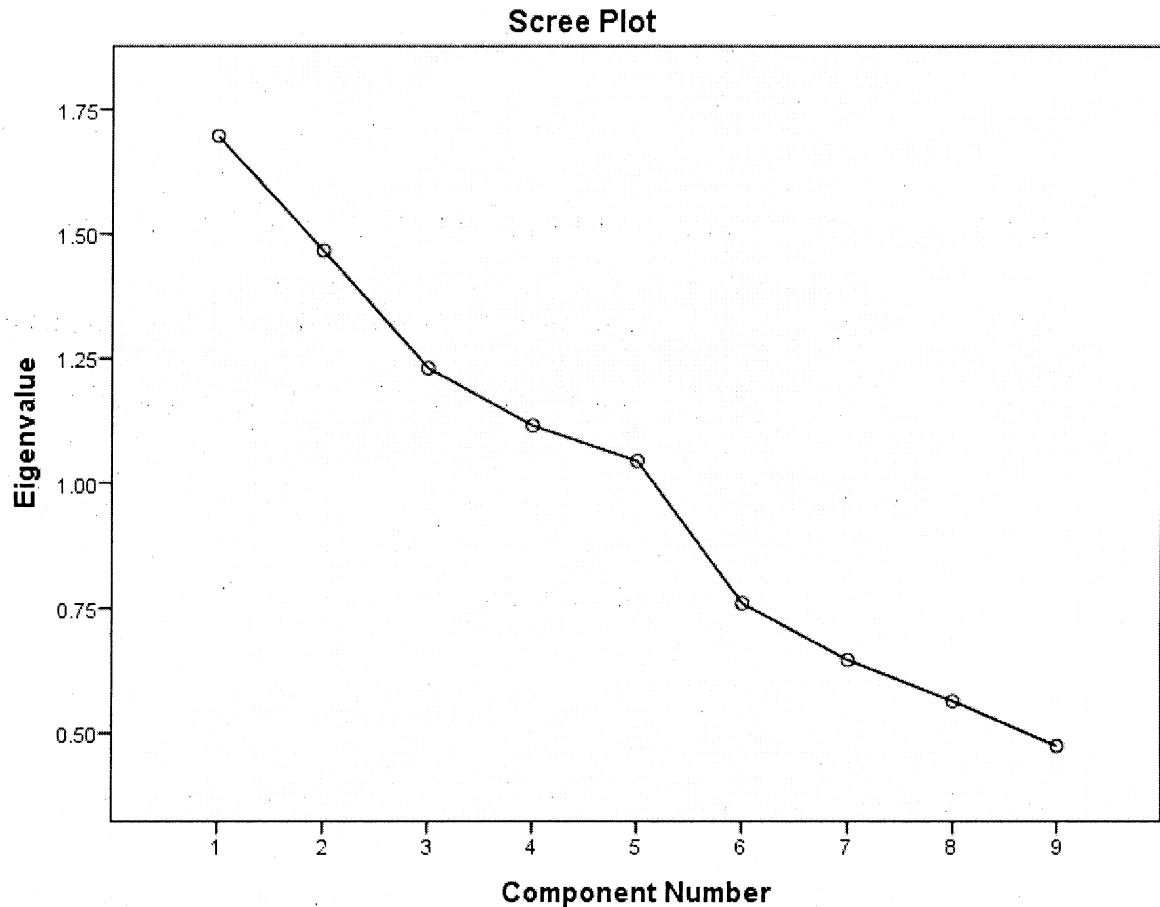
**Substance Abuse Questionnaire.** The substance abuse questionnaire is an adapted version of a National Center for Gerontological Social Work instrument designed to test the knowledge of social workers about older adults with substance abuse issues. Researchers changed the original True/False response option format to a Likert scale. The Cronbach's alpha for the answers to this portion of the overall instrument was 0.37. This alpha level indicates very low reliability for this instrument.

Due to the low reliability, principle component analysis (PCA) was run using a Varimax rotation, and a minimum eigenvalue of 1.00. Five factors emerged from this analysis (See Figure 1). Cronbach's alpha for these individual factors remained low and ranged from 0.30 - 0.57. It is hypothesized that the addition of items for each factor will increase the reliability of the instrument, as will an increase in knowledge of this developing area of content. Although reliability was low for the instrument, the decision was made by the thesis advisor to continue to analyze the data with the understanding that any results be interpreted with great caution.

**How does nursing students' knowledge of substance abuse in older adults vary according to the type of nursing degree being pursued.** The overall knowledge score of nursing students was 21.78 (SD=2.96). Nursing students pursuing a BSN had a higher overall knowledge of substance abuse in older adults (M=22.07; SD=3.05) than did nursing students in the RN to BSN program (M=21.00; SD=2.83). The single nursing student pursuing a doctorate in nursing practice scored lower on overall knowledge

(19.00,) than the RN to BSN average. The difference between the groups was not statistically significant ( $F(2, 15) = .549, p = .588$ ).

Figure 1  
*Scree Test*



**How does nursing students' knowledge of substance abuse in older adults vary according to their progress in their degree program?** The length of time spent in a nursing program did not appear to affect the overall knowledge of substance abuse in older adults for this sample. The mean for all nursing students was 21.78 (SD=2.96). Students with one year of nursing school had the highest overall knowledge score, followed by students with two years. Students that had completed one-and-a-half years of



nursing school scored the lowest, while students that had completed half a year scored only slightly higher. While the differences between groups were not statistically significant ( $F(4, 13) = .681, p = .617$ ), and bearing in mind the small size of this subsample, the data seem to suggest that time spent in nursing school may not have a measurable effect on overall knowledge of older adults with substance abuse issues.

Table 1

*Overall Knowledge of Nursing Students*

Time spent in nursing programs	<i>n</i>	<i>M</i> (SD)	95% low	95% high
.5 years	6	20.67 (2.66)	17.88	23.46
1 year	4	23.25 (3.77)	17.24	29.26
1.5 years	2	20.00 (2.83)	-5.41	45.51
2 years	5	22.40 (3.04)	18.61	26.19
4 years	1	23.00		
Total	18	21.78 (2.96)	20.31	23.25

*Note.* CI = confidence interval

**How does the knowledge of healthcare and social science professionals about older adult substance abuse compare to the knowledge of nurses and nursing students.** The mean overall knowledge score of participants was 23.45. Healthcare and Social Science Professionals have a statistically significant ( $F(71, 60.81) = 2.95, p = .027$ ) higher overall knowledge of substance abuse than do Nursing Students/Nurses. There was not a statistically significant ( $F(73, 65.93) = 1.46, p = .224$ ) difference between Healthcare and Social Science Professionals and “Other” Participants. When comparing “Other” Participants to Nursing Students/Nurses, the ANOVA results

indicated that the difference was significant,  $F(2, 111) = 3.183, p = .047$ , indicating that “Other” Participants had more overall knowledge on older adults and substance abuse than did Nursing Students/Nurses.

Table 2

*Overall Knowledge of Nurses, Nursing Students, Healthcare/Social Science Professionals and Others*

Profession	<i>n</i>	<i>M (SD)</i>	95% low	95% high
Nurse/Nursing Student	39	22.59 (2.66)	21.73	23.45
Healthcare/Social Science	34	23.38 (3.53)	22.15	24.62
Other	41	24.32 (3.07)	23.35	25.29
Total	114	23.45 (3.15)	22.86	24.03

*Note.* CI = confidence interval

**How overall knowledge of substance abuse among older adults is affected by experience working with/spending time of older adults.** The average overall knowledge score of individuals that responded to questions about time spent professionally and personally interacting with older adults was 24.30 (SD=3.32). Different types of professional interaction with older adults, had a significant ( $F(5, 80) = 3.397, p = .008$ ) effect on the overall knowledge score of participants. Individuals with research related interactions only had the least overall knowledge while individuals that had daily/extensive interactions with older adults had the second lowest overall knowledge. Individuals that reported no professional interactions with older adults actually had the highest overall knowledge.

Table 3

*Professional Interaction with Older Adults*

Experience	<i>n</i>	M (SD)	95% low	95% high
No experience	14	25.93 (3.60)	23.85	28.01
Minimal Experience	9	23.44 (3.68)	20.62	26.27
Research-related interactions only	8	21.38 (3.02)	18.85	23.90
Clinical Interactions only	10	23.30 (3.59)	20.73	25.87
Daily/Extensive	34	22.50 (2.82)	21.52	23.48
Moderate	11	24.55 (2.34)	22.97]	26.12
Total	86	23.40 (3.32)	22.69	24.12

*Note.* CI = confidence interval

There was a significant difference ( $F(5, 73) = .261, p = .032$ ) in overall knowledge according to personal experience with individuals over the age of 60. Seventy percent of participants reported that their main non-professional interaction with older adults was time spent with aging family members. The overall knowledge of individuals was highest among those who reported being caregivers as the majority of their personal interactions with older adults, followed by those having friends over 60, those having no personal experience, time spent with aging family, personal experience as part of the aging cohort, with those having volunteer experience have the lowest overall knowledge.

Table 4

*Personal Interaction with Older Adults*

Experience	<i>n</i>	M (SD)	95% low	95% high
No experience	6	25.00 (2.90)	21.96	28.04
Time spent with aging family	54	22.85 (3.14)	21.99	23.71
Friends	6	25.50 (4.14)	21.16	29.84
Caregiving	8	25.50 (2.88)	23.09	27.91
Personal Experience	3	21.67 (2.08)	16.50	26.84
Volunteer Experience	2	19.50 (4.95)	-24.97	63.97
Total	79	23.35 (3.35)	22.60	24.10

*Note.* CI = confidence interval

**Conclusion**

Two main hypotheses, that nurses and nursing students would have the highest overall knowledge and that individuals with more frequent professional interactions would be more knowledgeable on the topic of substance abuse issues and older adults were disproven by this data. In fact, nurses and nursing students had the lowest overall knowledge compared to other professions, and those participants with the most interaction with older adults had the second lowest overall knowledge. In addition, time spent in nursing school did not appear to have an impact on overall knowledge, and individuals enrolled in RN to BSN programs did not high the highest overall knowledge, which was predicted.

## Chapter 5. Discussion

The purpose of this study was to assess the overall knowledge of healthcare, social science professionals, nurses, and nursing students in the United States on the topic of substance abuse in older adults. Recognizing the signs of substance abuse in older adults is a critical first step to treatment and recovery, and thus is it vital that individuals working with older adults are knowledgeable about this increasingly common phenomenon.

This chapter expands upon the findings of the study in regards to the questions that guided the research: (1) How does nursing students' knowledge of substance abuse in older adults vary according to the type of nursing degree being pursued? (2) How does nursing students' knowledge of substance abuse in older adults vary according to their progress in their degree program? (3) How does the knowledge of healthcare and social science professionals about older adult substance abuse compare to the knowledge of nurses and nursing students? (4) How is overall knowledge of substance abuse among older adults affected by experience working with/spending time of older adults?

### **Nursing students' knowledge of substance abuse in older by type of degree and progress**

It was hypothesized that students pursuing a RN to BSN program would have the highest overall knowledge of older adults with substance abuse issues because they presumably had prior experience working as healthcare professionals and therefore more contact with older adults with substance abuse issues, but this was not supported by the current study. Students pursuing a Bachelor of Science of Nursing degree actually had the highest mean overall knowledge score. Starr (2008) found that individuals pursuing an

Associate's Degree in nursing were more likely to complete another, more advanced degree than RNs, so it is possible that by neglecting to inquire about previous nursing degrees, this research missed an important variable in predicting overall knowledge. It is possible that the BSN programs (as opposed to the RN to BSN) have coursework or topics related specifically to the older adults and/or substance abuse and if so, this should be added to the RN to BSN coursework to ensure that all students are well-informed about the issue of older adults with substance abuse issues.

The length of time spent in a nursing program does not appear to affect the overall knowledge of substance abuse in older adults. Keeping in mind the small size of the sample, the data seem to suggest that time spent in nursing school may not have a measurable effect on overall knowledge of older adults with substance abuse issues. This might be caused by different course schedules for different students (such as some students taking a class covering older adults and substance abuse issues during their first semester and others not taking it until a year later), and possibly might be affected by the different schools attended by the participants, as each school might have different curricula. Regardless, the results indicated by this data when taken in combination with the overall knowledge of nurses and nursing students on this topic, suggest that nurses and nursing students need to be more knowledgeable about older adults with substance abuse issues.

### **Comparing healthcare and social science professionals to nurses and nursing students**

All of the other participants (including health and social science professionals, as well as participants in other professional fields) had higher overall knowledge of older

adult substance abuse issues than did nurses and nursing students. Since nurses are often the first members of a medical team to suspect substance abuse in a patient (Berger, Shuester, & Von Roenn, 2007), it seems that overall knowledge of nurses should be very high, but that was not supported by these results. This indicates that nurses and nursing students, at least those responding to this survey, could potentially use more training on the topic of older adult and substance abuse issues.

### **Experience working with/spending time of older adults**

Individuals that reported no professional interaction with older adults actually had the highest overall knowledge, and those with daily/extensive interactions with older adults had very low overall knowledge, which is exactly the opposite of what the current researcher predicted. Overall knowledge was highest among those who reported caregiving as their main personal interaction with older adults. It is possible that their high scores in overall knowledge is a result of the immense amount of time interacting with older adults that caregiving entails, and therefore close personal observation of the effects of drugs (even legal medications) on the individual in their care.

Even though the Baby Boomer generation is using more psychoactive drugs than previous generations (Gossop & Moos, 2008; Han, Gfroerer, & Colliver, 2009), the results did not show that individuals with personal experience with aging (and therefore, members of the Baby Boomer generation) had any higher overall knowledge of older adult substance abuse. In fact, they had the second lowest overall knowledge scores, higher only than those who reported volunteer experience as their personal experience with older adults.

**Limitations**

The limitations of this study include the small and fairly homogenous sample size. Almost all (90.4%) of the participants identified as Caucasian and female (87%). The majority of nursing students that participated attend a small nursing school in Central Illinois, thus the results are likely not applicable to all nursing students.

In addition, there was also an issue with limited participation of the original target group. There was a lack of responses by the nursing students, so the researcher chose to expand the research to health and social science professionals in addition to nursing students both to expand the sample size and to gain a greater idea of the knowledge of older adult substance abuse issues among professionals in the field.

**Future Research**

To determine overall knowledge of professionals working with older adults, the instrument used in this research needs to be modified to more accurately measure overall knowledge. In addition, more research needs to be done on the knowledge of physicians and other direct health care professionals working with older adults, as there were no such participants in this study, and the researcher could not accurately estimate their overall knowledge of older adults with substance abuse issues.

Future research might also focus on a more diverse population of medical and social science professionals, as this research is mostly a measurement of young Caucasian women's knowledge of older adult substance abuse issues. Future research with a focus on a more diverse sample of nurses and nursing students might give a more accurate estimation of the overall knowledge of nurses on this topic. The low overall knowledge of nurses compared to other professionals is concerning, and further research



to discover whether this is a result of a small, homogenous sample would be worthwhile. More research also needs to be done on the effectiveness of substance abuse diagnosis for older adults, and which, if any, methods of treatment are the most effective for this specific population.

### **Summary**

The results of this research disproved many of the hypotheses for the research questions that guided this study. The low overall knowledge of the participants might be partially due to the low reliability of the instrument. However, it might also indicate that the participants simply do not know very much about older adults with substance abuse issues. Many of the participants interact with older adults in a professional capacity, and their overall knowledge scores were also low, especially those that interacted with older adults on a daily/extensive basis. The participants assumed to be the most knowledgeable about the topic (individuals enrolled in RN to BSN programs) actually scored very low in measures of overall knowledge.

Together, the results of this data indicate that there needs to be a concentrated effort on educating those working and interacting with older adults on the issue of older adults and substance abuse. This is especially true in nurses and nursing students, who should be among the first to identify the signs and symptoms of substance abuse in older adult patients.

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**Appendix A**  
**Demographic Sheet**

1. What is your gender?
  - a. Male
  - b. Female
  - c. Transgender
  - d. Other/Prefer not to Answer
  
2. How old are you?
  - a. Less than 17 years old: \_\_\_\_\_
  - b. 18-20
  - c. 21-23
  - d. 24-26
  - e. 27-29
  - f. 30-32
  - g. 33-35
  - h. 36-38
  - i. 39-41
  - j. 42 years old or older: \_\_\_\_\_
  
3. What is your race/ethnicity?
  - a. Caucasian/White
  - b. African American/Black
  - c. Asian
  - d. Hispanic
  - e. American Indian/Alaskan Native
  - f. Native Hawaiian/Pacific Islander
  - g. Mixed Race
  - h. Other: \_\_\_\_\_
  
4. What is your country of origin?
  - a. \_\_\_\_\_

**For Nursing Students Only. If you are not a nursing student, please skip to Question 11**

5. What campus do you attended classes at?
  - a. Charleston
  - b. Danville
  - c. Other: \_\_\_\_\_

6. What program are you enrolled in?
  - a. Basic Nurse Assistant (BNA/CNA)
  - b. Bachelor of Science in Nursing (BSN)
  - c. Licensed Practical Nurse (LPN) to BSN
  - d. Registered Nurse (RN) to Bachelor of Science in Nursing (BSN)
  - e. Master's Entry to Nursing Practice (MNEP)
  - f. Doctor of Nursing Practice (DNP)
  
7. How long have you been enrolled in this program?
  - a. \_\_\_\_\_
  
8. Have you received specific training to work with older adults prior to your attending nursing school?
  - a. a class
  - b. a topic in a class
  - c. in depth information/specialization
  - d. other: \_\_\_\_\_
  - e. none
  
9. Have you received specific training to work with individuals with substance abuse issues, prior to attending nursing school?
  - a. a class
  - b. a topic in a class
  - c. in depth information/specialization
  - d. other: \_\_\_\_\_
  - e. none
  
10. Do you anticipate working with older adults in your future career?
  - a. Yes
  - b. No
  - c. I don't know
  
11. What is your profession? **(if you are a nursing student, skip this question)**
  - a. \_\_\_\_\_
  
12. Do you think substance abuse is an issue with the older adult population?
  - a. Yes
  - b. No
  - c. I do not know
  
13. Do you think substance abuse in the older adult population is:
  - a. Increasing
  - b. Decreasing
  - c. Saying about the same?



Are you familiar with the different ways substance use/abuse displays in older adults as opposed to younger adults?

- d. Yes
  - e. No
  - f. If you answer yes, what is an example?
- 

14. What is your professional experience with individuals over the age of 60?

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15. What is your personal experience with individuals over the age of 60?

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**Appendix B**  
**Substance Abuse Questionnaire**

1. Substance abuse among the elderly is only a minor problem  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
2. Most elderly with substance-related disorders get treatment.  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
3. Most elderly with substance-related disorders abuse alcohol followed by marijuana  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
4. Older women are more depressed and therefore drink more than older men  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
5. The elderly can tolerate higher levels of alcohol compared to younger drinkers  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
6. Most elderly individuals can easily tolerate recommended adult doses of most medications  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
7. Illicit drug use particularly involving substances such as marijuana, heroin, or cocaine is quite rare among the elderly  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
8. Tranquilizers and sleeping pills are the prescription drugs most abused by elderly individuals  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree
  
9. Abuse of prescription drugs is more common among older women than men  
Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree