IDENTIFYING PRESCRIPTION DRUG ABUSE

AMONG THE ELDERLY POPULATION WITH THE

USE OF A NATIONAL DATA SET

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CHAPTER I

INTRODUCTION

The abuse of any substance be it alcohol or other drugs has devastating effects not only on the substance abuser, but also on the family and those close to the individual abusing drugs. According to a study conducted by the National Institute on Drug Abuse, "an estimated 19.5 million Americans aged 12 or older were current users of an addictive drug in 2003" (<u>NIDA</u>, 2005). The problems associated with substance abuse extend beyond the family and into the physicians office when the substance of choice is a drug that is prescribed for legitimate use.

When considering prescription drugs which are most frequently abused, the National Institute on Drug Abuse (NIDA) has indicated that opioids, stimulants, and central nervous system depressants are the three classes of most commonly abused prescription drugs. Drugs found in these classes are habit forming and can lead to dependence (Longo & Johnson, 2000). This dependence is seen in the availability of some prescription drugs through illegal sources. A large number of prescription drugs are being made available illegally at a considerably high mark up from the cost of the drugs at the pharmacy (Sajan, Corneil, & Grzybowski, 1998). According to Goldman (1998) legal drugs can be, "sold on the street to obtain money to purchase illicit drugs, they may

be used as substitute for illicit drugs when the latter aren't available, or they may be sought as drugs of choice" (Goldman, 1998, p. 149).

The potential for prescription drug abuse can be associated with certain factors including, sex, age, socio-economic status, poly drug use and ethnicity (NIDA, 2005). Women are found to be at a higher risk than men for being prescribed drugs that have a potential for abuse (Simoni-Wastila, 2000). Although current research trends inadequately reflect the problems of prescription drug abuse among the elderly population, the NIDA (2005) has indicated that this population is at a higher risk of developing problems with prescription drug abuse than those under 65 years of age. Much of what is known about substance abuse among the elderly population is centered on alcohol abuse to the exclusion of other substances (Longo & Johnson, 2000; Blow, 1998). Although the focus of research is on alcohol abuse there has been an increasing trend in the number of older adults with prescription drug abuse problems, making the study of this issue vital to those working with this population (Blow, 1998; NIDA, 2005).

<div align="center">Possible Indicators of Elderly Prescription Drug Abuse</div>

Context of Prescription Drug Abuse

Prescription drug abuse among the elderly is an area which has limited research available (Benshoff, Harrawood, & Koch, 2003, Blow, 1998). The limited amount of research in this area is often associated with society's belief that most people take their medications as prescribed by physicians (Leshner, 2001). When considering the issue of elderly prescription drug abuse the amount of available research is limited even further, because society does not want to believe that elderly persons would abuse drugs, especially those given to them by physicians (Benshoff, et. al., 2003).

A cause of concern can be seen on several levels in the elderly population in the area of abuse of prescription drugs. According to the <u>NIDA</u> (2005), prescription drug misuse is the most common form of drug abuse among the elderly. Also, according to the <u>NIDA</u> (2005), the elderly make up approximately 13% of the total population, but consume one-third of all prescription drugs. Although elderly patients are three times as likely to be given prescription medications as the general population they have the poorest rates of compliance, which can lead to medication misuse and abuse (Leshner, 2001). Elderly patients are also more likely to have multiple illnesses which may require multiple prescriptions (Lyder, Fennie, Chen, & Fulmer, 2001). The combination of increased illnesses and being prescribed multiple medications places the elderly patient at a higher risk of prescription drug misuse. The focus of this research was prescription drug abuse among the elderly population. When considering the issue of prescription drug abuse among the elderly population certain factors are relevant; including annual costs to society, the role of the physician and medical community, the amount of social contact the elderly person receives from family and/or other social networks, as well as ethnicity, and sex. Increased knowledge in the area of substance abuse among the elderly population beyond alcohol abuse, will allow professionals working with this population to better meet the unique treatment needs of the elderly and encourage substance abuse prevention among the elderly.

Purpose of the Study

The purpose of this study was to examine a national data set to identify factors associated with elderly prescription drug abuse. The factors that were considered included the role of the medical community, social isolation, ethnicity, sex, and personal

history of substance abuse. These factors were considered with the goal of identifying possible relationships between these factors and elderly prescription drug abuse. The two theoretical frameworks which guided this study are Human Ecological Theory (White & Klein, 2002; Griffore & Phenice, 2001; Bubolz & Sontag, 1993; Hook & Paolucci, 1970) and Milan Systems Theory (Tomm, 1984). These theoretical frameworks were used in the general exploration of prescription drug abuse among the elderly population, as well as in the development of the research questions and hypotheses.

Research Questions

The research questions that guided this study were as follows. *How do social and family factors influence elderly prescription drug abuse?* This research question explored the history of drug abuse and the role of social isolation in the elderly patient's risk of prescription drug abuse. *How does the medical community influence elderly prescription drug abuse?* This research question examined the frequency of contact the elderly patient had with the medical community through emergency room visits, in-patient hospital stays, and outpatient mental health clinic visits in the past 12 months; in order to consider the relationship between contact with the medical community and elderly patient's risk of prescription drug abuse. *How do ethnicity and sex influence elderly prescription drug abuse?* This research question considered the role of sex and ethnicity in the risk associated with elderly prescription drug abuse.

CHAPTER II

REVIEW OF LITERATURE

The misuse and abuse of prescription drugs has steadily increased from less than 500,000 first time prescription drug abusers in the 1980s to an estimated 1.6 million in 1998 (Vastag, 2001). In a 2003 study findings indicated that approximately 4.7 million people used prescription drugs for purposes that were not medicinal (NIDA, 2005). This increase in first-time, non-medical use of prescription drugs is of concern for several populations especially the elderly. According to the NIDA (2005), "although prescription drug abuse affects many…trends of concern can be seen among older adults."

The review of the literature will examine possible indicators of substance abuse risk among the elderly population, including age, sex, and ethnicity. The review of the literature will also examine costs associated with substance abuse, as well as focus on substances that are found to be frequently abused by older adults, specifically alcohol and prescription drugs. This section will conclude with a discussion of the two theoretical frameworks guiding this study, Human Ecological Theory and Milan Systems Theory, which will be used in the development of the research questions and hypothesis.

Annual Costs of Substance Abuse

According to a report from the National Institute on Drug Abuse (<u>NIDA</u>, 2005) the annual cost of substance abuse exceeds $484 Billion. This number includes related health care costs, lost wages, etc. The largest portion of this amount, $185 Billion went to problems associated with alcohol (<u>NIDA</u>, 2005). The costs associated with drug abuse are not limited to the individual abuser and their family but rather influences each community across the United States (Yang, 1997). Substance abuse affects family life, health, homelessness, crime, education, the workplace and numerous other areas of society (Brown, 2004; Clark, 2003; Compton 2005). Substance abuse is said to be one of this country's greatest health concerns, costing lives and billions of dollars in health care annually (Mersy, 2003). Due to the far reaching effects of substance abuse; it is important that this issue be considered from an ecological perspective.

General Indicators of Substance Abuse Potential

Although a variety of substances are used by the general population, two key substances are recognized as problematic among the elderly; alcohol and prescription drugs (Benshoff, et. al., 2003, Blow, 1998). While these two areas have been identified as problem areas for the elderly population the majority of research on elderly substance abuse is centered on alcohol, leaving little information on prescription drug abuse (Benshoff, et. al., 2003, Blow, 1998). Although the <u>NIDA</u> (2005) has indicated that prescription drug abuse is one of the substance abuse risks among the elderly population the majority of research based literature continues to focus on alcohol abuse.

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Alcohol

The rate of alcohol abuse among the elderly population is said to range between six and sixteen percent (Menninger, 2002). Current research on alcoholism and older adults makes the distinction between late and early onset drinking patterns. Early onset drinking patterns are those that developed over the elderly person's lifespan whereas late onset drinking patterns are those which developed in the later years (Menninger, 2002, Schonfeld, 1991). Elderly patients with late onset drinking patterns are said to have more education and higher incomes than those with early onset drinking pattern (Schonfeld, 1991). According to one study, "early onset clients seem to have more severe drinking problems and were less likely to comply with their treatment plans." (Schonfeld, 1991, p.587)

Some risk factors of drinking patterns in elderly adults include being male, experiencing major life changes, and losses (Menninger, 2002). Menninger (2002), also states that "other risk factors include substance abuse earlier in life, co-morbid psychiatric disorders, family history of alcoholism, and concomitant substance abuse of nicotine and psychoactive prescription medicines" (p. 168). Keeping these other factors in mind the need to examine the problem of prescription drug abuse among the elderly population becomes more prevalent.

How do Social and Family Factors Influence Elderly Prescription Drug Abuse (RQ I)

One key factor to consider when identifying possible indicators of elderly substance abuse potential include social isolation. For purposes of this study social isolation includes marital status and social and family support relationships. Other confounding factors to consider when examining the influence of society on elderly

prescription drug abuse includes; ideas and beliefs about elderly substance abuse potential; economic status; and social support relationships. These aspects are important to consider because social isolation has been identified as a key factor in elderly substance abuse (Blow, 1998).

The effects of social isolation become prevalent when seeking information on an elderly patient's substance abuse patterns. Practitioners often face difficulty when attempting to confirm the older adults substance abuse history due to the older adult being isolated or estranged from his/her family (Morse, 1998). Brown and Chiang (1984) found that when elderly substance abusers lived alone they were more likely not to be in treatment; this study also found that non-abusers were more likely to have a good friend or relative living near by. These findings indicate a greater likelihood of substance abuse potential among those socially isolated older adults.

The role of marital status in elderly substance abuse seems to follow the trend of being isolated from other family networks. Older adults that are married are less likely to have substance abuse problems (Brown & Chiang, 1984). Brown & Chiang (1984) findings indicated that, "one-third of those in treatment and two-fifths of those not receiving professional help were either separated or divorced compared to only five percent of non abusers" (p. 6). Along with marital status there seems to be a connection to potential for abuse when older adults are not connected to social relationships. Experiencing loss of social support networks and/or loneliness is influences elderly adult substance abuse according to those working with elderly patients hospitalized for substance abuse problems (Brown & Chiang, 1984). Findings from Brown and Chiang

(1984) indicated that "drinking problems in the elderly often stem simply from loneliness or the death of significant members of one's social support network" (p. 3).

Confounding factors to identifying substance abuse potential among the elderly population could explain the difficulty in recognizing this problem. There is a covert societal belief that individuals who abuse substances in their younger years "age out" of substance abuse by the age of 40 (Benshoff, et. al., 2003). Many also believe that individuals who begin abusing substances in later life choose alcohol as their drug of choice (Benshoff, et. al., 2003). Economic status may also be considered as a confounding factor. Findings indicate that elderly adults with higher incomes are more likely to have substance abuse problems than those older adults living in poverty (Benshoff, et. al., 2003).

How does the Medical Community Influence Elderly Prescription Drug Abuse (RQ II)

The role of the medical community in the influence of elderly prescription drug abuse can be seen in the contact one has with the medical community through hospital visits, doctor office and clinic visits, as well as through other contacts these individuals have with medical professionals (Brown & Chiang, 1984). The physician contributes to the influence of prescription drug abuse among the elderly through ideas and beliefs about the elderly, the physician's knowledge of working with this population, the physician's prescription drug prescribing practices, as well as in educating the older adult on the dangerous of prescription drug misuse (Benshoff, et. al., 2003; Young, 2002; Morse, 1988).

Physicians are central in the lives of elderly patients. For some older adults, contact with a physician is one of few support outlets. The role of the physician is central

to the treatment of the elderly patient's medical illness (Blow, 1998). The physician may play a role in prescribing the very medication a person becomes addicted to, as well as recognizing the elderly patient's problems with addiction. Although elderly persons may be isolated they usually have a connection with the medical community. This connection places the role of the physician in the center of the issue of prescription drug abuse among the elderly population. The medical community is a significant factor in the lives of older persons and consequently must be part of the discussion of elderly prescription drug abuse (Blow, 1998).

As stated above, the role of the physician should include educating the elderly patient on the dangers of misusing/abusing their medication, the physician has the responsibility of identifying for the elderly patient the toxic symptoms that may occur from inappropriate medication use (Morse, 1988). Due to the social isolation of a large number of elderly adults the physician should act as a first line of defense to the problem of prescription drug abuse among this population (Blow, 2002). The physician can act in this capacity by frequently screening for substance abuse and asking the hard questions of their elderly patients (Benshoff, et. al., 2003). When elderly patients are seen for the first time and various times during treatment physicians should conduct a drug inventory (Lyder, et. al., 2001; Morse, 1988). The drug inventory includes requiring the patient to bring in all medications both prescription and non-prescription to the office visit (Lyder, et. al., 2001; Morse, 1988). The physician should also be aware of the older patient's mental health status and history of substance abuse, finally, the physician should be aware of all other physicians treating the patient (Lyder, et. al., 2001; Morse, 1988).

As noted earlier, a contributing factor to the influence the physician has on prescription drug abuse among the elderly is a lack of attention to the problem of substance abuse among the elderly population. This lack of attention has been described by Benshoff, et. al. (2003) as the "little old lady/man syndrome" (Benshoff, et. al., 2003). The syndrome blocks the physician's ability to recognize the signs of substance abuse among this population because of the age of the individual and the large societal belief that older adults do not abuse substances (Benshoff, et. al. 2003). The little old lady/man syndrome frequently leads physicians and "health care providers to overlook substance abuse and misuse among older patients" (Bartels, Blow, Brockmann, & Van Citters, 2005, p.6).

Physicians often overlook or ignore the possibility of substance abuse when doing routine patient visits because substance abuse symptoms can often be mistaken for signs of aging, which may lead to unnecessary treatment of ailments that do not exist and even additional prescriptions (Benshoff, et. al., 2003). "With an older patient, health care providers are often in a quandary – symptoms such as fatigue, irritability, insomnia, chronic pain, or impotence may be produced or influenced by substance abuse, common medical and mental disorders, or a combination of these conditions" (Blow, 1998, p. 6). Thus, making the identification of substance abuse problems among this population more difficult.

In addition to the above contributing factors to prescription drug abuse among the elderly that relates to the medical community is the knowledge the physician has to working with the elderly population (Benshoff, et. al., 2003; Young, 2002; Lyder, et. al., 2001). The information the physician has on the number of specialist and other medical

professionals the elderly patient is being treated by will provide the physician with the necessary knowledge to adequately treat the elderly patient (Benshoff, et. al., 2003; Young, 2002; Lyder, et. al., 2001). The problem of knowledge of working with the unique characteristics is not only present in physicians, but also in pharmacists, "a shortage of physicians and pharmacists who are specifically trained in geriatric health care underlies the problem of inappropriate prescribing" (Young, 2002, p. 229). This lack of training may result in inappropriate prescribing of addictive prescription drugs or ineffective prescribing as well as choosing to treat elderly patients that are less effective (Young, 2002). Knowledge of the effects the drug has on the elderly patient is vital to effective treatment of the elderly adult. "In the older population it is essential that disease management include the identification and prevention of potential medication related problems that can cause, aggravate or contribute to common geriatric problems" (Lyder et. al., 2001, p. 56). Inappropriate medication of the elderly adult has the potential of decreasing the quality of life the elder experiences by impairing their normal functioning and limiting their ability to maintain a sense of independence (Lyder, et. al., 2001).

One explanation for the high rate of drugs being prescribed to older adults is the physician's willingness to prescribe medication to their elderly patients and the number of specialist one sees. "Evidence suggests that the elderly are more likely to receive unnecessary, and in some instances potentially inappropriate medication" (Tamblyn, 1987, p. 149). These things may increase the risk of the elderly patient becoming prone to abuse prescription drugs (NIDA, 2005).

The physicians prescribing practices influence the elderly patient's prescription drug abuse potential most notably in the frequency of prescribing prescription drugs to

this population and the drug class most often prescribed (NIDA, 2005; Benshoff, et. al, 2003; Young, 2002; Morse, 1988; Tamblyn, 1987). Elderly patients in institutionalized settings are given more prescriptions than their non-institutionalized counterparts (Lyder, et. al, 2001). The types of drugs most frequently prescribed to the elderly population include analgesics and benzodiazepines (NIDA, 2005; Benshoff, et. al, 2003; Hemmelgam, Suissa, Huang, Jean-Francois, & Pinard, 1997; Morse, 1988). These drugs are known to have a high potential of addiction and/or abuse and should be frequently monitored by the prescribing physician (NIDA, 2005, Morse, 1988).

Benzodiazepines

The Benzodiazepines represents a class of drugs that are most commonly prescribed to the elderly patient (Hemmelgam, et. al., 1997). This class of drugs is frequently used in the treatment of anxiety and insomnia and is frequently prescribed to elderly patients (Hemmelgam, et. al., 1997; NIDA, 2005). This drug class has been known to have a significant abuse potential. When prescribed to the elderly patient, the recommend dose is half the average adult dose "because of the increased risk of falls and fractures" (Tamblyn, 1987, p. 151). Physician's lack of knowledge of this risk could lead to further limiting the quality of life of the older adult which highlights the need for increased knowledge of this issue.

Abuse of Benzodiazepines is often characterized by seeking these drugs from physicians as well as making frequent hospital emergency room visits (Longo & Johnson, 2000). Longo & Johnson (2000) reported, "with less cognitive and social reserve in the elderly patient, the short- and long term withdrawal symptoms and other benzodiazepine side effects may lead the patient to frequently visit or telephone the physician" (p. 2124),

in order to obtain more of the drug. The physician must keep these side effects in mind when prescribing Benzodiazepines to elderly patients to alert themselves to the possibility that the elderly patient is exhibiting addictive behaviors to the substance and in need of treatment. Physicians can combat these requests for prescription drugs by referring the patient for inpatient detoxification and/or accurate prescribing (Longo & Johnson, 2000).

How do Ethnicity and Sex Influence Elderly Prescription Drug Abuse (RQ III)

Certain individuals are at higher risk of drug abuse and addiction than others. Some possible indicators of substance abuse risk and addiction include: heredity, past history of drug abuse, age, sex, social economic status, and health (Yang, et. al., 1997). African Americans, Native Americans, and Latinos are said to be at greater risk of substance abuse than individuals from other populations (Caetano, et. al., 1998). When considering sex and substance abuse, some drugs are more likely to be abused by certain individuals.

As a group, elderly men are more likely to experience problems associated with substance abuse than women (Brennan, Kagay, Geppert, Moos, 2000; Blow, 1998; Brown & Chiang, 1984). While men are more prone to substance abuse in general females are more likely to be prescribed medications in drug classes that have an increased possibility of abuse potential (Brennan et. al, 2000; Simoni-Wastila, 2000; Blow, 1998; Graham, Clarke, Bois, Carver, et. al. 1996). Sex differences in one study indicated that "women used significantly more medications of all types and were more likely to use depression medication than their male counterparts" (Graham, et. al, 1996, p. 333), thus putting older women at a greater risk of potential prescription drug abuse.

Because women are found to be at a higher risk than men for being prescribed drugs that have a potential for abuse, this fact could explain the role of sex in the frequency of prescription drug abuse among women (Simoni-Wastila, 2000). Although men are more likely to have problems with substance abuse across the board, women are more likely to be prescribed prescription drugs and abuse prescription drugs. Age is also a factor in the abuse potential of prescription drugs among women. Zickler (2001) found, "in a study of consecutive admissions to a treatment program, 70 of 100 elderly patients admitted for prescription drug abuse were women" (p. 2). When age is added to sex, the potential for receiving prescriptions that have a high risk of abuse is even greater (Simoni-Wastila, 2000). Therefore increasing the female elder's potential for prescription drug abuse.

Centrality of Issue

The issue of prescription drug abuse among the elderly is important to study because as previously stated the elderly patient is more likely to be prescribed medications with abuse potential at a higher rate than younger adults (Tamblyn, 1987 & Leshner, 2001). Also, the primary focus of theory based research is on alcoholism, limiting researchers' and clinicians' knowledge of this issue (Blow, 1998). In addition the older adult is more likely to be socially isolated therefore; discovery of an abuse problem is more likely to go undetected (Blow, 1998). Expanding the use of theory to the study of other abused substances, specifically prescription drugs, will allow for more accurate generalizations and a greater knowledge base for dealing with the problem of substance abuse among the elderly population as a whole.

Theoretical Frameworks

Theory guided this project by providing established concepts and assumptions which were used in the development of research questions and hypotheses. The theoretical lens through which this topic was explored is, Human Ecology Theory (Bubolz & Sontag, 1993). This theory was selected because of the inclusion of multiple layers of the individuals system. The use of Human Ecological Theory allowed for the consideration of the issue of prescription drug abuse among the elderly from multiple contexts. Including, the frequency of contact the older adult has with the medial community and the connection the older adult has with family. This theory also allows for the examination of the connection the older adult has with social networks which may provide support in multiple areas of the older adult's life, such as providing meals as well as providing connection with the outside world. Finally, the larger societal belief that older adults do not abuse substances of any kind and that these patients are simply taking their medications as prescribed by the physician can be considered using Bronfrenbrener's model (1979).

Milan Systems Theory was used as a framework for considering the issue of prescription drug abuse among the elderly in conjunction with Human Ecological Theory. Milan Systems Theory was also used as a guide to understanding elderly prescription drug abuse in the family context as well as in making recommendations for treating elderly patients and their families. The focus on changing the individuals and family's map will be central to working with the elderly person abusing prescription drugs. Outcomes for treatment using the Milan approach are also discussed.

Ecology Theory

Human Ecology, more specifically Bronfrenbrenner's model (1979) was used to guide this study. The ecosystem is a central ecological concept. The human ecosystem is made up of the combination of an individual and his or her interaction with the environment (Hook & Paolucci, 1970). "The notion of ecosystem contains the elements of wholeness and the interdependency of parts." (White & Klein, 2002, p. 208). The ecological perspective is built on the idea of holism, where one considers not only the interaction between and among the individual and those around him or her but also the interaction of the individual and the environment (Griffore & Phenice, 2001). This fit with the current study in that the possibility of prescription drug abuse potential among older adults could be linked to the interaction the older adult has with his or her environment.

Assumptions and Concepts

Adaptation

When considering an organism within its environment the concept of adaptation becomes central to survival. "Adaptation is a necessary process for the growth and progressive integration of living systems" (Bubolz & Sontag, 1993, p. 433). Adaptation is central to the ecological perspective because the organism is interacting with its environment and without the ability to adapt to changes in the environment, the organism will not survive. As the elderly adult interacts with his or her environment the older adult will need the ability to adapt to the changes in the ecosystem such as loss of friends, family, and spouses. If the elderly adult is unable to adequately adapt to these changes in the ecosystem he or she may be at a greater risk for abusing prescription drugs.

Boundaries

Boundaries allow the family to determine its level of permeability. As a system, the family is never completely open or closed to the flow of information. Families whose boundaries allow information to flow easily into and out of the system are labeled as open systems. Those with less penetrable boundaries are labeled as closed systems (Griffore & Phenice, 2001). As the elderly adult begins to lose those he or she are close to as well as the ability to make choices and do things without relying on others he or she may begin to tighten personal boundaries in the form of socially isolating oneself from others, thus making contact with the physician more valuable in the detection and treatment of elderly prescription drug abuse.

Environment

The environment in which the family resides, surrounds and has an influence on the family system. The family system can be seen as a smaller subsystem with in the larger environmental system. The environments can be studied on a micro and macro level. "The micro environment is…the near environment and is primarily the family members and environments surrounding them…the macro environment is the larger environment of the nation or world" (Griffore & Phenice, 2001, pg. 9).

Environments can also be classified as natural, social cultural, and human constructed. Social cultural environments are "made up of social institutions such as kinship, religious, political, economic, recreational, or symbolic groups" (Griffore & Phenice, 2001, pg. 9). Skills, rituals, beliefs and ideas are all resources found in the social cultural environment (Griffore & Phenice, 2001). The elderly adult's environment becomes a resource in reducing the potential for prescription drug abuse when the older

adult is able to maintain a positive connection to others in the environment as they continue to age. The social cultural is central to the recognition and treatment of prescription drug abuse among the elderly as the ideas and beliefs about the possibility of prescription drug abuse are shaped in the environment.

Bronfrenbrenner's Model

Bronfenbrenner's model is a common application of the broader Human Ecological Theory. Although originally applied to the contexts of children, this model is widely used in research where multiple layers of context are considered. According to Bronfenbrenner (1979) the microsystem, mesosystem, exosystem, and the macrosystem comprise a person's ecosystem. Each of "these settings are nested within each other, with the innermost environment the place where the individual develops" (Griffore & Phenice, 2001, p. 10). Microsystems are the innermost level, which contains the individual. This system includes those environments with which the person or family has the most contact - the workplace, physician, the family. The mesosystem is made up of the interactions between two or more microsystems; thus making identification of prescription drug abuse among the elderly population central to this system. "A mesosystem is a system of microsystems" (Griffore & Phenice, 2001, p. 10). The mesosystem might consist of the interaction between the physician and family, with the interactional component being the defining characteristic. The mesosystem could also be included in identification of prescription drug abuse and treatment. The exosystem is made up of those systems that have an indirect effect on the individual such as the mass media, government agencies, and the educational system. The macrosystem involves the dominant beliefs and ideologies of a given society. "The macrosystem refers to the consistency observed

within a given culture or subculture…when we change an overriding value, the change in the exo-, meso, and microsystem is more likely to occur" (Griffore & Phenice, 2001, pp. 10 - 11). It is from the macrosystem that society's ideas and beliefs about elderly prescription drug abuse are defined. To change the ideas and beliefs about prescription drug abuse potential among the elderly more research addressing multiple aspects of substance abuse among this population is needed. The use of Bronfrenbrenner's model to consider the issue of prescription drug abuse among the elderly population will allow the researcher to gain an understanding of the influence each level of the individuals system has on the risk of prescription drug abuse. This was done by developing research questions and hypothesis that addressed the multiple layers of the individual's system.

Assumptions Drawn from the Model

Key assumptions from the ecological framework include:

- "Individuals and groups are both biological and social in nature;

- Humans are dependent on the environment for sustenance;

- Humans are finite and their life cycle coupled with their biological needs for sustenance impose time as both a constraint and resource;

- Human behavior can be understood on several levels" (White & Klein, 2002, p. 208).

The first assumption, individuals and groups are both biological and social in nature can be understood as a way of bringing the biological aspects of human organisms together with the social aspect of being human. This assumption illustrates the direct link between human behavior and the environment i.e. the little old lady/man syndrome (Benshoff, et. al., 2003). "The particular nature of human development ensures that the

development of most human traits depends on a nature-nurture interaction rather than on one or the other." (White & Klein, 2002, p. 207) According to this assumption human behavior is not merely a result of biological factors or social factors alone, but a combination of both biological and social interactions. Therefore, to understand elderly prescription drug abuse one must consider both the biological aspect of being an older adult as well as the social aspects older adults face. The very nature of being human is determined by the combined interaction of biology and society. This interaction is what ultimately leads to the behaviors individuals and society display. The connection here is the frequency of being prescribed prescription drugs by physicians to treat medical conditions and the amount of social contact the elderly patient receives (Leshner, 2001 & Blow, 1998).

The second assumption, humans are dependent on the environment for sustenance illustrates the inability of humans to survive if their biological needs are not met. The assumption also goes along with the concept of adaptation in that failure to adapt and rely on the resources that are available in the environment will eventually lead to the demise of the individual. Since the elderly adult is more likely to be isolated (Blow, 1998) the connection to the physician places the older adult in a dependent position on the physician for survival. Therefore, the physician must have knowledge to adequately prescribe medication and be aware of prescription drug abuse potential among this population. The need to adapt to biological changes is on both the elder and the physician prescribing the medication.

Humans are finite and their life cycle coupled with their biological needs for sustenance impose time as both a constraint and a resource points to the fact that

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individuals change and develop over time. Understanding human behavior from either a

population level or an individual level will provide different information. Behaviors that

may seem logical when using an individual level may seem illogical when viewed from a

population level. "Changing the level of analysis can radically alter our perspective"

(White & Klein, 2002, p. 208). Here the importance of considering the issue of

prescription drug abuse among the elderly from multiple layers of the system becomes

vital.

Milan Systems Theory

The value in using a Marriage and Family Therapy theoretical framework will be

pronounced in developing treatment and implications for practice when working with

older prescription drug abusing adults. Milan Systems Theory was developed by Mara

Selvini Palazzoli, Luigi Boscolo, Gianfranco Cecchin, and Giuliana Prata in Milan, Italy

(Tomm, 1984). Four periods are said to account for the development of Milan Systems

Theory. The first period began in 1967 when family therapy and couple therapy was

introduced to Italy by Palazzoli and Boscolo (Tomm, 1984). During this period the

approach was centered on psychoanalytic. The next period occurred in 1971. At this time

certain members of the group began to move away from the psychoanalytic approach and

towards the MRI/Palo Alto model. This shift split the group that had grown to eight; half

of whom continued the psychoanalytic approach while the other four began to focus on

the MRI approach (Tomm, 1984). Two theoretical concepts, (mind is social and circular

epistemology), from Milan Systems Theory are used as guiding principles in the

development of this research. These concepts were chosen because of the fit with Human

Ecological Theory and the ability of these concepts to extend the understanding of

prescription drug abuse among the elderly to and in identification and treatment of elderly prescription drug abuse.

Mind is Social

The mind is social concept assumes that, "mental problems may be regarded as problems in patterns of social interaction" (Tomm, 1984, p. 117). The review of the literature has indicated that the abuse of prescription drugs among the elderly population is a combination of social factors and the influence the elder's potential to abuse prescription drugs as the elder interacts with his/her surroundings. This assumption takes into account the impact of the social context on ideas and beliefs. For a person to be labeled as exhibiting characteristics of a certain behavior the social context of the individual and those around him must agree to the characteristics (Tomm, 1984). As stated, one problem in addressing prescription drug abuse among the elderly is that society has not labeled prescription drug abuse as a problem therefore; the problem continues to be overlooked or ignored from the physician to current research on substance abuse among this population.

Like Human Ecological Theory this assumption considers the interactions between persons and their environment, which is central to the third research question of this study, which is related to ethnicity. "It (mind is social) channels therapeutic efforts towards patterns of interaction between persons rather than towards a particular individual or any specific characteristics he or she may be manifesting" (Tomm, 1984, p. 117). When all the patterns of interaction that influence prescription drug abuse among the elderly are considered, efforts too address this issue are viewed from a broader

perspective which includes not only the individual but also the multiple layers of interaction the individual has with society.

Circular Epistemology

Taking a circular approach to treatment requires the therapist to avoid the notion of event 'A' causing event 'B', but rather looking at the patterns of interaction between people (Tomm, 1984). Thus to fully understand the problem of prescription drug abuse among the elderly one must consider the interaction between the elder and the people in the elder's life. "Epistemology refers to the way we know or understand the world around us, which determines how we think, how we act, and how we organize our existence" (Tomm, 1984, p. 118). The idea of epistemology also referred to as one's map, is central to identification and treatment of prescription drug abuse among the elderly in that understanding substance abuse as it refers to this population will determine rather or not society believes prescription drug abuse is a problem for the elderly. When working with older adults with prescription drug abuse problems it becomes important to maintain a circular epistemology as to avoid the possibility of offending the older adult or making the older adult feel bad for developing a problem with their prescription medications (Blow, 2002).

The concepts and assumptions drawn for each of these theoretical frameworks allow for the examination of elderly prescription drug abuse problem from a contextual view. A contextual approach will provide insight into the multiple layers of the individuals system, which may have an influence in maintaining the prescription drug abuse problem. Taking a larger contextual view of this issue also allows for greater

understanding of the prescription drug abuse problem among the elderly population and the development of possible implications for future practice.

This study adds to the body of knowledge in ways that had been limited or overlooked. Completion of this study has expanded the understanding of substance abuse among the elderly population by going beyond what is known about alcohol abuse and considering the effects the abuse of prescription drugs has on this population. This knowledge will be of value in working with older adults to treat such addictions. Completing this study has highlighted the uniqueness of the substance abuse problem among older adults. Current treatment of elder substance abuse is adapted from the perspective of the younger adult, which fails to consider the unique attributes of the elderly population. Gaining knowledge in this area enhances the capacity to meet the unique needs of elder substance abusing patients. Knowledge gained from this study equips practitioners such as Marriage and Family Therapist with an increased ability to meet the unique needs of this special population by increasing the available data need to work with this group.

<div align="center">Purpose Statement</div>

The purpose of this study was to examine a national data set to identify factors associated with elderly prescription drug abuse. The factors considered included the role of the medical community, social isolation, culture, sex, and personal history of substance abuse. These factors were considered with the goal of identifying possible relationships between these factors and elderly prescription drug abuse. The two theoretical frameworks which guided this study are Human Ecological Theory (White & Klein, 2002; Griffore & Phenice, 2001; Bubolz & Sontag, 1993; Hook & Paolucci, 1970) and

<div align="center">25</div>

Milan Systems Theory (Tomm, 1984). These theoretical frameworks were used in the general exploration of prescription drug abuse among the elderly population, as well as in the development of the research questions and hypotheses.

CHAPTER III

METHODOLOGY

A national data set, the National Drug Use and Health, was used in this study. The focus of the data set was general substance abuse among persons age 12 to 89. The database included a national random sample of households in all 50 states and the District of Columbia. The National Drug Use and Health 2003 data set is housed at the University of Michigan Inter-university Consortium for Political and Social Research (ICSPR).

Population and Sampling Method

This research included individuals from all 50 states and the District of Columbia yielding 55,230 participants. Researchers used multi-stage area probability stratified sampling and the sample included individuals between 12 and 89 years of age. Given the focus of this research on prescription drug abuse among the elderly population, a sub-sample was selected to include only those participants age 65 or older. Both men and women were included in the sub sample yielding 1,935 participants.

Limitations of the Sample

Limitations of the sampling method included self report, which requires truthfulness and adequate memory. Data used for this research included one wave, making this information cross-sectional instead of longitudinal. Another limitation of the study was the exclusion of non-institutionalized persons which represent up to 2% of the

population. This exclusion may have included those in nursing homes currently receiving treatment, which according to literature receive more prescription drugs than their non-institutionalized counterparts (Lyder, et. al. 2001). Using the phone interview method is also a limitation of the study. The use of phone interviews is a limitation because those with out home telephone service are excluded and the contact person is limited to the person answering the telephone also, individuals that are very ill may not have the strength to answer the telephone. A final limitation of this data set which specifically relates to the current study was that the population was not targeted to answer the specific questions of the study.

Procedures

Interviews were conducted via phone with the use of a computer assisted personal interviewing. The computer assisted interviewing methodology was used to increase participant confidentiality and honesty. There was a 77 percent response rate. The interviews took approximately one hour to complete and participants were paid thirty dollars for their time.

Research Questions & Corresponding Hypotheses

The following research questions and hypotheses guided this research (see appendix 1).

How do social and family factors influence elderly prescription drug abuse? Three hypotheses were considered for this research question and are as follows:

I. The number of people in the older adult's household will be related to prescription drug abuse.

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II. Married participants will be less likely to abuse prescription drugs than participants that are not married.

III. Pesonal history of substance abuse will be related to current prescription drug abuse.

How does the medical community influence elderly prescription drug abuse? This research question was considered using the following hypotheses:

I. There will be a positive relationship between the number of ER visits in the past 12 months and older adult prescription drug abuse.

II. There will be a positive relationship between the number of IP hospital stays in the past 12 months and older adult prescription drug abuse.

III. There will be a positive relationship between the number of OP mental health clinic visits in the past 12 months and older adult prescription drug abuse.

How do ethnicity and sex influence elderly prescription drug abuse? The following hypotheses were considered for this research question:

I. Minority participants will be more likely to abuse prescription drugs.

II. Female participants will be more likely to abuse prescription drugs.

Table 1:

Frequencies of non-medical prescription drug use variable

Prescription Substance	N	Percentages
Sedatives	7	0.4
Tranquilizers	22	1.1
Pain Relievers	34	1.8
Stimulants	18	0.9

CHAPTER IV

FINDINGS

Three research questions guided this study. The first question examined the social and family factors that influence prescription drug abuse among the elderly population. The second research question examined the influence of the medical community on prescription drug abuse among the elderly population. The third research question examined the prescription drug abuse among the elderly by sex and ethnicity.

In order to measure non-medical prescription drug use a new variable was created. Four dichotomous variables based on self reports of non-medical prescription drug use were combined, using a count procedure, in order to develop this new variable. The four prescription substances were tranquilizers, pain relievers, sedatives, and stimulants. The range for this new variable was zero to four with higher numbers indicating a greater number of prescription drugs used non-medically. This was done to account not only for the presence or absence of non-medical prescription drug use, but the range of non-medical prescription substances used and severity of use.

Table 2:

Frequencies of participant demographics

Variable	N	Percentage
Sex		
Male	822	42.5
Female	1113	57.7
Marital status		
Married	1124	58.1
Non-Married	811	41.9
Ethnicity		
Minority	303	15.7
Non-Minority	1632	84.3
Education level		
5th grade or less	60	3.1
6th grade	36	1.9
7th grade	29	1.5
8th grade	151	7.8
9th grade	81	4.2
10th grade	120	6.2
11th grade	84	4.3
12th grade	697	36.0
Freshman/13th year	105	5.4
Sophomore/14th year or Junior/15th year	220	11.4
Senior/16th year or Grad/Prof school Or higher	352	18.2
Number in household		
1	566	29.3
2	1079	55.8
3	159	8.2
4	62	3.2
5	35	1.8
6 to 25	34	1.8
Income		
Less than $10,000	536	27.7
$10,000 to $19,999	581	30.0
$20,000 to $29,999	345	17.8
$30,000 to $39,999	200	10.3
$40,000 to $49,999	111	5.7
$50,000 or $74,999	84	4.3
$75,000 or more	78	4.0

How do social and family factors influence elderly prescription drug abuse (RQ I)?

The intent of this research question was to examine social isolation and substance use history of the elderly participants. History of substance use was measured by determining if participants have ever received treatment for alcohol and drug abuse or if treatment was needed but not received in the past twelve months. For purposes of this study social isolation was operationalized as the number of individuals in the participant's household and marital status. The hypotheses for this research question were analyzed using Pearson's correlation and t-test.

RQ 1, H 1. Hypothesis one of research question one was developed to examine the relationship between the number of people living in the older adults household and non-medical prescription drug use among the elderly. Hypothesis one was tested using Pearson's correlation coefficient r (1935) = .012, p > .05. This hypothesis was not supported.

RQ 1, H 2. Hypothesis two of research question one was created to compare non-medical prescription drug use among married and unmarried older adults. In order to measure marital status the marital status variable was dichotomized from five categories into two categories (married or unmarried). A t-test was used to compare the means of the married and unmarried groups t (1933) = -.012, p = .992. This hypothesis was not supported (see table 1).

Table 3:

T-test of non-medical prescription drug use and marital status

	N	Mean	Std. Dev.	df	t	*p*
Married	1124	.0418	.241	1933	-.010	.992
Unmarried	811	.0419	.255			

RQ 1, H 3. Hypothesis three of research question one examined the relationship between personal history of substance abuse and non-medical use of prescription drugs among the elderly. To determine personal history of substance abuse the question, ever received alcohol or drug treatment, was asked. History of substance abuse was also considered using the response to the following questions addressing the need for substance abuse treatment: need illicit drug treatment, treatment not received from a specialty facility; need alcohol treatment, treatment not received from a specialty facility; and need drug or alcohol treatment, treatment not received from a specialty facility in the past year. There was not a significant relationship between receiving treatment for drug and alcohol use and non-medical use of prescription drugs r (1524) = -.035, p > .167. There was also not a significant relationship between needing illicit drug treatment but not receiving treatment from a specialized facility and non-medical prescription drug use r (1935) = -.004, p = .865. There was a significant relationship between needing alcohol treatment but not receiving treatment from a specialized facility in the past year and non-medical use of prescription drugs r (1935) = .067, p < .003. There was also a significant relationship between need for drug or alcohol treatment but not receiving treatment from

a specialized facility in the past year and non-medical use of prescription drugs r (1935) = .065, p < .004 (see table 2).

Table 4:

Correlations between non-medical prescription drug use and drug treatment

	1	2	3	4	5
1. Rx Use non-medically	-	-.035	-.004	.067**	.065**
2. Received alcohol or drug treatment		-	.005	-.176**	-.172**
3. Need illicit drug treatment not received treatment specialized facility			-	-.003	.184**
4. Need alcohol treatment, not received treatment specialized facility past year				-	.982**
5. Need drug/alcohol treatment, not received treatment specialized facility past year					-

** p < .01

How does the medical community influence elderly prescription drug abuse (RQ II)?

The second research question was developed to determine if contact with the medical community had an influence on non-medical use of prescription drugs. Contact with the medical community was defined as; the number of emergency room visits, in-patient hospital stays, and out-patient mental health clinic visits participants had in the past twelve months. A Pearson's correlation was used to determine the relationship between contact with the medical community and non-medical use of prescription drugs.

RQ 2, H 1. Hypothesis one of research question two examined the relationship between the number of emergency room visits in the past twelve month period and non-medical use of prescription drugs. This hypothesis was analyzed using Pearson's correlation coefficient r (1921) = -.017, p > .05. This hypothesis was not supported.

RQ 2, H 2. Hypothesis two of research question two was developed to examine the relationship between in-patient hospital stays in the past twelve months and non-

medical use of prescription drugs. Hypothesis two was analyzed using Pearson's correlation coefficient r (1933) = .801, p > .05. These data did not support this hypothesis.

RQ 2, H 3. Hypothesis three of research question two examined the relationship between the number of outpatient mental health clinic visits in the past twelve months and non-medical use of prescription drugs. Pearson's correlation coefficient was used to analyze this hypothesis however; the response rate the number of outpatient mental health clinic visits was too low to complete the analysis. Therefore, this hypothesis could not be tested.

How do ethnicity and sex influence elderly prescription drug abuse (RQ III)?

The purpose of this research question was to examine non-medical prescription drug use differences by ethnicity and sex. Participant ethnicity and sex were considered. Data were analyzed using t-tests.

RQ 3, H 1. Hypothesis one of research question three compared non-medical prescription drug use among non-minority and minority participants. In order to examine ethnicity, the ethnicity variable was dichotomized from seven categories into two categories. This was done in order to compare participants in two groups of either non-minority or minority based on previous literature. An independent t-test was used to compare the means of minority and non-minority participants t (1933) = -.334, p = .739 (see table 3). This hypothesis was not supported by these data.

Table 5:

T-test of non-medical prescription drug use and ethnicity

	N	Mean	Std. Dev.	df	t	*p*
Non-minority	1632	.0411	.243	1933	-.334	.739
Minority	303	.0462	.266			

RQ 3, H 2. Hypothesis two of research question three compared non-medical prescription drug use and sex using an independent t-test. Although females were more likely to report non-medical prescription drug use (M = .0458) as compared to their male counterparts (M = .0365) the results were non-significant t (1933) = -.822, p = .411 (see table 4). Thus, these data failed to support the hypothesis.

Table 6:

T-test of non-medical prescription drug use and sex

	N	Mean	Std. Dev.	df	t	*p*
Male	822	.0365	.223	1933	-.822	.411
Female	1113	.0458	.263			

CHAPTER V

CONCLUSION

The purpose of this study was to examine a national data set to identify factors associated with elderly prescription drug abuse. The factors that were considered included the role of the medical community, social isolation, ethnicity, sex, and personal history of substance abuse. These factors were considered with the goal of identifying possible relationships between the stated factors and elderly prescription drug abuse. The two theoretical frameworks which guided this study were Human Ecological Theory (White & Klein, 2002; Griffore & Phenice, 2001; Bubolz & Sontag, 1993; Hook & Paolucci, 1970) and Milan Systems Theory (Tomm, 1984). These theoretical frameworks were used in the general exploration of prescription drug abuse among the elderly population, as well as in the development of the research questions and hypotheses.

This study is unique to current literature in that this study addressed the problem of prescription drug abuse among the elderly specifically. The majority of current research on elderly substance abuse centers on alcohol although some studies indicate the two main substances abused by elders are alcohol and prescription drugs (Blow, 1998). This study took current literature one step further by specifically focusing on prescription drug abuse among the elderly (those age 65 and older).

Findings from these data are discussed below. Data from this study are discussed in comparison with previous substance abuse literature focused on the elderly. Data are also discussed in relation to the theoretical frameworks which guided this study. Finally, recommendations for future research and practitioners are made. It is important to note that the findings from this study address non-medical use of prescription drugs. The participants indicated specific non-medical use of each of the four substances that make up the ever used prescription drugs non-medically variable. Therefore, the discussion of the findings does not address misuse of prescription drugs but rather abuse of prescription drugs. A recommendation for future research is to make a clear distinction between misuse of prescription drugs and abuse of prescription drugs. Current research on this issue seems to fail to make this distinction.

How do social and family factors influence elderly prescription drug abuse (RQ I)?

The hypotheses developed to address social isolation were not supported by the findings in this study. While the findings did not support these hypotheses the notion that social isolation among the elderly is related to non-medical use of prescription drugs seems evident in the literature on substance abuse among the elderly as a number of authors continue to make this connection (Benshoff, et al., 2003; Simioni-Wastila, 2000; Morse, 1988; Brown & Chiang, 1984). Based on the literature, socially isolated adults were more likely to use prescription drugs non-medically than their non-isolated counterparts (Bartels, et. al. 2005; Benshoff, et. al., 2003; Morse, 1988; Brown & Chiang, 1984). Therefore, the need for further research into social isolation and non-medical use of prescription drugs is warranted to determine the connection between these two factors.

The first hypothesis developed to address social isolation analyzed the number of persons living in the household and non-medical prescription drug use. The number of individuals living in the household was selected because this variable was a good measure of social isolation based on previous literature and the theoretical framework. According to the literature, elderly substance abusing patients were more likely to live alone (Brown & Chiang, 1984). Loss and grief are also listed as potential indicators of substance abuse (Benshoff, et. al., 2003) therefore determining the number of people in the elderly persons life as indicated by the number in their household was believed to be the best indicator of non-medical prescription drug abuse among the participants in this study. Although the findings of this hypothesis are not supported by these data the need to determine the connection between living in isolation and non-medical substance abuse is apparent. Perhaps measuring loss and grief rather than the number of people living in the household would have presented results that were supported.

Measuring marital status and prescription drug abuse was the purpose of the second hypothesis. Based on the substance abuse literature, marital status has been documented as a key factor (Benshoff, et. al., 2003; Simoni-Wastila, 2000; Brown & Chiang, 1984). It is unclear why the findings of this study did not support the hypothesis. Perhaps modifying the variable from five options to two options may have led to the results of this analysis. In the future a possible research question could be designed to consider two variables married non-married rather than including multiple options when considering marital status. Therefore eliminating the need to dichotomize the variable

The results of the hypotheses examining history of substance abuse supported the claim that history of substance use is a related to non-medical use of prescription drugs.

Those participants in this study reporting a need for treatment of alcohol or drug use but not receiving treatment within the past twelve months were more likely to admit non-medical use of their prescription medications. This finding is supported in the literature in that the two substances most frequently abused by the population of participants in this study (age 65 or older) are alcohol and prescription drugs (Bartels, et. al, 2005; Benshoff, et. al, 2003; Blow, et. al, 2002; Blow, 1998). This finding also indicates that the respondents are aware of the need for treatment, even if they had not received such treatment. However, it is not known if respondents had sought treatment but did not have success or if the respondent is simply acknowledging the need for treatment. In order to effectively treat this population for substance abuse disorders further research into the area of treatment is warranted. Specifically treatment that includes family members is recommended.

The link between the findings of this study and theory was illustrated in this research question at the microsystem and mesosystem layers of the model (Bronfrenbrenner, 1979). The issue of social isolation is most easily understood in these levels of the system because the microsystem contains the individual and the family. The mesosystem is the interaction between two or more microsystems. Relevant assumptions for this research question included; adaptation, boundaries, and environment. Based on this theoretical model future research should include these assumptions in order to gain an understanding of the importance of these assumptions in addressing the prescription drug abuse problem among the elderly. Further research will provide insight into the assumption that is most relevant to combating the prescription drug abuse problem.

Identifying the key assumption from this theoretical model will lead to more adequate treatment and identification of this issue.

How does the medical community influence elderly prescription drug abuse (RQ II)?

The hypotheses created to examine this research question considered the contact the participants had with the medical community. Contact with the medical community was determined by the frequency of contact the participant had with hospitals and mental health clinics. The first two hypotheses were not supported and one variable for the third hypotheses did not have large enough numbers to be analyzed.

One explanation of the findings could be the selection of variables to represent contact with the medical community. Perhaps, hospital and mental health clinic visits are not an accurate representation of the medical community, in order to determine the role of contact with the medical community relative to non-medical use of prescription drugs. Since the literature indicates the possibility that the number of doctor visits and the number of different doctors the elderly patient visits represents a connection to the problem of non-medical use of prescription drugs among this population future research should consider these variables (number of doctor visits and total number of physicians treating the older adult) specifically (NIDA, 2005;Young, 2002; Lynder, et. al., 2001).

It is clear that the variable selection in the third hypothesis was problematic because analysis could not be run. In this study too few individuals reported visiting a mental health clinic. Therefore, to determine a connection between mental health clinic visits and non-medical use of prescription drugs future research should contact this population specifically. Contacting this population specifically will allow for measuring the connection to mental health clinic visits directly. This is important because according

to the literature there is a connection between mental health and substance abuse (Bartels, et. al., 2005; Brennan, 2000).

The connection of the medical community and Bronfrenbrenner's model (1979) is prevalent in the interaction between the older adult and their contact with the medical community. Although the findings in this study did not support these hypotheses, the connection between the medical community and the older adult is evident in that the physician is prescribing the medications that some older adults are using non-medically. The recommendation to combat this problem is to educate physicians in the unique needs of the elderly adult that differ from the majority of adults. The elderly patient as any other patient depends on the physician to have adequate knowledge and training to treat their ailments. Therefore, the need to better educate physicians in treating older adults is linked to the theoretical assumptions of environment, adaptation, and biological and social.

How do ethnicity and sex influence elderly prescription drug abuse (RQ III)?

According to the literature sex and ethnicity are related to non-medical use of prescription drugs in general (Simoni-Wastila, 2000; Caetano, et. al., 1998; Yang, et. al., 1997; Graham, et. al., 1996). While sex and ethnicity are reported to be related to non-medical use of prescription drugs the findings in this study do not support this claim. Possible explanations for these findings could be that the role of ethnicity in substance abuse among the elderly population differs from that of the larger population. While ethnicity may be a factor in substance abuse among the larger population this may not be the case among the elderly as indicated by the findings in this study. Therefore, further research into other possible factors that contribute to non-medical use of prescription drugs is warranted. The recommendation for future research is to examine the role of

economic status, health status and other issues that are specifically related to the plight of the elderly adult. This should be done in order to highlight the unique needs of the elderly. Research that continues to assume that elderly issues are the same as that of the general population will fail to adequately address the problem of prescription drug abuse among this population. If change is to occur, research must highlight and address the unique needs of the elderly population.

Although the findings did not support the claim that females are significantly more likely to use prescription drugs non-medically, the frequency of non-medical use of prescription drugs by women was higher than their male counterparts. Several explanations could account for these findings. One possible explanation is that women are more likely to receive abusable prescription drugs than their male counterparts (Bartels, et. al., 2005; Blow, et. al., 2002; Brennan, et. al., 2000; Simoni-Wastila, 2000; Blow, 1998; Graham, et. al., 1996). This places female respondents at greater risk to use their prescription medications non-medically due to their access to such drugs. Another explanation for the findings could be that women live longer than men therefore the potential for women to use prescription drugs as prescribed or non-medically is greater for women. These possibilities warrant further research in this area in order to more clearly determine the role of sex as it relates to non-medical use of prescription drugs. Research that centers on non-medical prescription drug use by women is especially warranted since as previous literature indicates that women are more likely to receive abusable prescription drugs than their male counterparts (Bartels, et. al., 2005; Blow, et. al., 2002; Brennan, et. al., 2000; Simoni-Wastila, 2000; Blow, 1998; Graham, et. al., 1996).

The theoretical link between ethnicity and sex is most evident on the macrosystem level of Bronfrenbrener's model (1979) as well as in the mind is social and circular epistemology concepts of Milan Systems theory (Tomm, 1984). The findings in these hypotheses fit with the larger societal belief that older adults do not abuse prescription drugs, labeled the little old lady/little old man syndrome by Benshoff, et. al. (2003). There is a certain societal level expectation that the elderly do not have substance abuse problems and if the elderly do have substance abuse problems the substance is alcohol, which is reflected in the over emphasis of alcohol focused research. The elderly are part of society thus the ideas and beliefs held by the larger population are most likely held by the elderly as well. If society has led the majority to believe that substance abuse is not a problem among the elderly how can one expect the elderly who are also apart of society to hold a different belief? In order to effect change in the problem of non-medical use of prescription drugs by the elderly there needs to be a shift in the map or the ideas and beliefs held by society as a whole.

Final recommendations and future research

When working with the elderly population to treat prescription drug abuse it is recommended that the treatment include the elderly person's microsystem. The importance of working with the elderly person's microsystem is to ensure that those close to the elderly patient do not create an environment that maintains non-medical use of prescription drugs. Just as the map the physician has developed is influenced and shaped by ideas and beliefs from the macrosystem the map of the individuals that make up the microsystem are also influenced by the ideas and beliefs in the macrosystem. If the family's map leads the family to believe that elderly adults do not have prescription drug

abuse problems, the family may sub consciously work to hide the problem. Including the family in treatment is also important to allow the elderly person to recognize the supports available to provide assistance in working through problems that contribute to the decision to use prescription drugs non-medically. Although the findings of this study do not support the role of social isolation the idea that social isolation is a factor in non-medical prescription drug use seems relevant and therefore inclusion of the family in the treatment unit is recommended to ensure the best possible treatment outcome.

One other issue related to treatment includes the screening and diagnostic procedures most widely used to determine substance abuse and dependence. The criteria in the DSM-IV used to determine substance abuse and dependence may not be adequate to make such a diagnosis when working with the elderly population. Therefore developing diagnostic and screening procedures that target the uniqueness of the elderly population is recommended.

While the focus of previous literature on substance abuse among the elderly indicates that social isolation, the role of the medical community, ethnicity and sex are important to consider when examining the issue of non-medical prescription drug use among the elderly the findings of this study were not an exact fit with the literature. This could be due in part to the generalization of the majority of research in the area of substance abuse. A significant amount of the literature on substance abuse does not target the elderly population specifically. Failure to target the elderly population specifically has led to making generalization to the elderly based on information that did not target the unique needs of the elderly. This study considered the uniqueness of the elderly by isolating this population out of a larger study, future research should also target the

elderly population specifically. A second explanation for the findings in this study could have been the conceptualization of social isolation. Research in the area of prescription drug abuse among the elderly has not specifically defined social isolation therefore, in order to implement a sense of cohesiveness in the conceptualization of social isolation future research should target the elderly population specifically to develop a uniform definition of social isolation.

Future research addressing non-medical use of prescription drugs and sex should consider men and women exclusively. Isolating participants by sex will provide insight into the role of sex in prescription drug abuse by highlighting the uniqueness of the male and female elder. Across the lifespan women are known to see physicians more often than men, which could account for women being more likely to be prescribed addictive prescriptions. Women are also known to live longer than men, which could also account for women being prescribed abuseable prescription drugs more frequently than men.

If this study was completed again the conceptualization of social isolation would have included grief and loss, help with medication, community/social involvement as well as perceived connection to those in the microsystem. Addressing these areas may have provided a more accurate picture of social isolation than marital status and number of people in the household by more specifically targeting the connection the older adult has with others. Gaining insight into the elder's perceived connection with others will equip the researcher with a more accurate picture of social isolation rather than making generalizations based on marital status or the number of people living in the household. After all, one can be married and live with a number of people and still feel a sense of social isolation.

Future research should consider the double jeopardy hypothesis. This hypothesis has been defined as, "suffering from prejudices, stereotypes, and discrimination associated with old age in modern industrial society" (Markides, 1983, p. 222). Also according to Markides (1983), "Double jeopardy is related to the aged as a subculture and to the aged as minority perspective" (p. 222). Age and poverty would be an example of double jeopardy where the older adult faces social discrimination not only based on age, but also based on living at or below the poverty level. For the older adult ethnic minority living at or below the poverty level they would face multiple jeopardy in that not only is he or she an ethnic minority, but also a minority based on being aged as well as poor. The question, when considering double and multiple jeopardy among the aging population becomes, how does double and multiple jeopardy relate to the issue of prescription drug abuse among the elderly population? A possible answer could be that the physician treating these patients' exhibit discriminatory behaviors based on age, ethnicity, SES status or a combination of any other discriminatory practices. Addressing the issue of double jeopardy in the abuse of prescription drugs is important in discovering the link to physician prescribing practices and awareness of the unique needs of older adults. Targeting future research to the elderly population specifically will provide insight into the role of double and multiple jeopardy among the prescription drug abusing older adult by collecting research that is specific to the elderly population. Finally, future research should include age ranges that distinguish between the young old, old, and old-old. Separating out groups within the 65 and older category may help with additional conclusions about elderly prescription drug abuse; further highlighting the need for research that focuses on the elderly exclusively.

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Research Questions	Hypothesis	Questions (variable names)	Statistical Tests
RQ 1: How do social and family factors influence prescription drug abuse?	H1: The number of people in the older adult's household will be related to older adult prescription drug abuse.	Recode - imputation revised number of persons in household (IRHHSIZ2) Prescription drug use non-medically (RXUSENM)	Correlation
	H2: Married participants will be less likely to abuse prescription drugs than participants that are married.	Imputation Revised – marital status (IRMARIT) Prescription drug use non-medically (RXUSENM)	t-test

	H3: Personal history of substance abuse will be a related to prescription drug abuse	*Question 1* Ever received alcohol or drug treatment (TXEVER) *Question 2* Need illicit drug treatment, treatment not received from a specialty facility (TXNOSPEC) *Question 3* Need alcohol treatment, treatment not received from a specialty facility (TXGAPALC) *Question 4* Need drug/alcohol treatment, not received from a specialty facility in the past year (TXGPILAL) Prescription drug use non-medically (RXUSENM)	Correlation

RQ 2: How does the medical community influence elderly prescription drug abuse?	H1: There will be a positive relationship between the number of ER visits in the past 12 months and older adult prescription drug abuse.	During the past 12 months that is since DATEFILL how many different times have you been treated in an emergency room for any reason? (NMERTMT2) Prescription drug use non-medically (RXUSENM)	Correlation
	H2: There will be a positive relationship between the number of IP hospital stays in the past 12 months and older adult prescription drug abuse.	During the past 12 months have you stayed overnight or longer as an inpatient in a hospital? (INHOSPYR) Prescription drug use non-medically (RXUSENM)	Correlation
	H3: There will be a positive relationship between the number of OP mental health clinic visits in the past 12 months and older adult prescription drug abuse.	During the past 12 months how many visits did you make to an outpatient mental health clinic or center for mental health care? (AUNMMEN2) Prescription drug use non-medically (RXUSENM)	Correlation
RQ 3: How does ethnicity and gender influence elderly prescription drug abuse?	H1: Minority participants will be more likely to abuse prescription drugs	Race/hispanicity recode (2 levels) (NEWRACE2) Prescription drug use non-medically (RXUSENM)	t-test

| | H2:
Female participants will be more likely to abuse prescription drugs. | Imputation revised gender (IRSEX)

Prescription drug use non-medically (RXUSENM) | t-test |

VITA

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Thesis: IDENTIFYING PRESCRIPTION DRUG ABUSE AMONG THE ELDERLY
POPULATION WITH THE USE OF A NATIONAL DATA SET

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Title of Study: IDENTIFYING PRESCRIPTION DRUG ABUSE AMONG THE
        ELDERLY POPULATION WITH THE USE OF A NATIONAL DATA SET

Pages in Study: 54   Candidate for the Degree of Master of Science

Major Field: Human Development and Family Science

Scope and Method of Study: Secondary data from the National Drug Use and Health
        database was used to measure prescription drug abuse among the elderly. The age
        range included those 65 or older. Male and Female participants were included
        yielding 1935 total participants.

Findings and Conclusions: Findings indicated that participants with a need for substance
        abuse treatment, but not receiving treatment were more likely to abuse
        prescription drugs. All other findings were not significant. More research
        targeting the elderly is needed in order to gain an understanding of the effects of
        prescription drug abuse on elderly adults.

ADVISER'S APPROVAL: Whitney Brosi, Ph.D.