IMPACT OF SOCIAL SUPPORT QUALITY ON ALCOHOL CONSUMPTION AMONG OLDER ADULTS

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ABSTRACT

In the United States, 82.3% of adults 65 and older report using alcohol. Although previous research has found a decrease in drinking with older age, recent studies suggest that the rate of alcohol consumption among older adults is on the rise. Older adults are drinking more often but in lower quantities. Studies on alcohol suggest that age and gender influence consumption yet little is known about the quality of social support and its effect on these trends. Research on social relationships indicates that many metrics of social support do not consider the quality of social support and assume that all social support is positive. The present study used secondary data from the Midlife Development in the United States survey, a national study of health and well-being, for information about alcohol consumption and social relationships. The independent variable was the quality of social support (support and strain). It includes relationships with spouses/partners, friends, family, and overall social support. The dependent variable was alcohol misuse. Age, gender, marital status, depression, physical and mental health acted as potential covariates. Four logistic regressions were conducted, and show lower levels of overall and family social support increase the likelihood of alcohol misuse among older adults, but spousal, family, and friend social support and strain did not significantly predict misuse. Gender and marital status factor in to quality of relationship for overall, family, and friend social support and strain. Future research may focus on interventions to better address alcohol misuse among older adults.

TABLE OF CONTENTS

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CHAPTER 1

INTRODUCTION

Background

The prevalence of alcohol use is a major public health concern in the United States. In 2014, 87.6% of Americans reported using alcohol in their lifetime, 71.0% indicated that they drank in the past year, and 56.9% reported drinking in the last month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014c). In 2010, alcohol misuse cost the U.S. almost $250 billion, and led to nearly 88,000 deaths and 2.5 million years of potential life lost from 2006-2010, making it the third leading cause of preventable death (Center for Disease Control and Prevention [CDC], 2013; Sacks, Gonzalez, Bouchery, Tomedi, & Brewer, 2015).

Prevalence of Alcohol Use in Older Adults

Alcohol is the most used and abused substance in the United States. Although numerous studies have reported that alcohol usage declines with age, current findings from national surveys suggest that alcohol consumption among older adults is increasing (Bouchery et al., 2011; Green, Freeborn, & Polen, 2001; Molander, Yonker, & Krahn, 2010; Sacco, Bucholtz, & Harrington, 2014; Sacks et al., 2015; SAMHSA, 2014a; SAMHSA, 2014b; Satre & Knight, 2001). In 2013, 79.3% of adults aged 65 and older reported using alcohol in their lifetime, 54.5% reported drinking alcohol in the past year, and 41.7% reported alcohol drinking in the last month (SAMHSA, 2014b). In 2014,

82.3% reported drinking alcohol in their lifetime, 56.1% reported drinking alcohol in the last year, and 44.1% reported alcohol drinking in the last month (SAMHSA, 2014b). Projected studies on the rate of past-year substance use disorder among people aged 50 or older predict an increase from 3.4% to 4.9% by 2020 (Han, Gfroerer, Colliver, & Penne, 2009).

Furthermore, research indicates that alcohol is the substance of choice for older adults. Moore et al. (2009) used nationally representative data on alcohol, tobacco, and non-medical drug use from the 2001-2002 National Institute on Alcohol Abuse and Alcoholism (NIAAA) Nationally Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Among 8,205 adults aged 65 years and older, Moore et al., found an 80% lifetime use of any of the three substances among older adults and more than 50% reported using some substance in the past year. The prevalence of lifetime alcohol use was 74%, followed by 52% for tobacco, and 5% for non-medical use of drugs. Furthermore, the prevalence of alcohol use in the last 12 months among older adults was 45%; whereas for tobacco, it was 14%; and for non-medical use of drugs was 1%.

To complicate the issue, there is projected growth in the older population in the United States, due to baby boomers reaching retirement age. In 2010, 13% of Americans were over the age of 65; by 2030, more than 20% of U.S. residents will be 65 years of age and older (United States Census Bureau, 2014). The population of adults aged 65 and older is projected to be 83.7 million in 2050 in comparison to the estimated population of 43.1 million in 2012 (United States Census Bureau, 2014). Furthermore, life expectancy in the United States has increased. In 1950, life expectancy was 68 years-

of-age (SAMSHA, 2012; United States Census Bureau, 1996). In 2012, it was 84 years-of-age, which provides more drinking opportunities across the lifespan (SAMSHA, 2014a).

Not only are Americans living longer, but older adults are consuming alcohol more often. In a study that compared alcohol consumption between younger and older adults, Satre and Knight (2001) found lower quantities of alcohol consumption, with a higher frequency of drinking occasions among older adults when compared to younger adults. Findings suggest that for older adults, the frequency may be more important than quantity when considering health concerns among older adults (Blow et al., 2000; Satre & Knight, 2001). Also, the analysis found a significant relationship between negative expectancies and lower alcohol consumption among older women. For older men, the analysis found a positive association between positive expectancies and alcohol consumption and a negative relationship between negative expectancies and consumption. The results suggest potential complexities in attempts to understand alcohol consumption among older adults.

Alcohol Use in Older Adults and Health Outcomes

Research on alcohol consumption has demonstrated that moderate drinking (one drink per day) may provide some health benefits such as decreased likelihood of coronary heart disease, Alzheimer's disease, vascular dementia, and some cancers (Ahlstrom, 2008; Balsa, Homer, Fleming, & French, 2008; Ferreira & Weems, 2008; Karlamangla et al., 2009; Kim et al., 2012). However, the increasing pattern of alcohol use among older adults may be problematic. High alcohol consumption could set back the benefits gained from moderate drinking. Alcohol consumption is a risk factor for cancer, cardiovascular

disease, and diabetes mellitus (Ferreira & Weems, 2008; Shield, Parry, & Rehm, 2013). Furthermore, excessive drinking has been associated with numerous physical and psychological problems in older adults, such as liver damage, malnutrition, accidental injuries, cognitive impairment, depression, and suicide (Peirce, Frone, Russell, Cooper, & Mudar, 2000; St. John, Snow, & Tyas, 2010; Uchino, 2006).

Research has demonstrated that adults aged 65 and older in the U.S. have an 85% prevalence of one or more chronic conditions, which makes them more vulnerable to the adverse effects of alcohol consumption (Anderson & Horvarth, 2004). Also, older adults often take multiple prescriptions and over-the-counter (OTC) drugs, which predisposes them to an increased risk of adverse drug interactions, especially in combination with alcohol (Korrapati & Vestal, 1995).

Alcohol Consumption and Gender Differences

Evidence indicates that gender is an important characteristic influencing the use of alcohol (Molander et al., 2010; Moore et al., 2009). Studies have consistently demonstrated that rates of alcohol consumption are higher for men than for women across all ages (Balsa et al., 2008; Blazer & Wu, 2009; CDC, 2013; Green et al., 2001; Satre & Knight, 2001). Men drink more frequently than women and are more likely to engage in health-damaging behavior than women (Broman, 1993). In 2013, the CDC reported that men (70.8%) were more likely than women (59.7%) to be current drinkers, while women (26.5%) were more likely than men (14.7%) to be lifetime abstainers.

In general, women consume less alcohol than men and drink less frequently as they age (CDC, 2013; Harvey & Alexandra, 2012). Subsequently, women report lower levels of past-year at-risk drinking and Alcohol Use Disorder than men (Sacco et al.,

2014). In a representative national sample, Balsa et al. (2008) found that 55% of men and 37% of women 65 years and older indicated being current drinkers. Using data from the 2005-2006 National Survey on Drug Use and Health, Blazer and Wu (2009) found that 66% of male respondents and 55% of female respondents aged 50 years and older reported alcohol use in the past year.

In a longitudinal study of community-based older adults, Molander et al. (2010) examined age-related changes in drinking patterns from mid-to-older age and factors that predict these changes. Results indicated that, on average, drinks per drinking day and heavy drinking decreased, while drinking days per month increased for both men and women. The total drinks per month were higher for men than women. The analysis found that predictors of drinking changes were gender, health, and education. Higher alcohol consumption per month was associated with being male, having a higher education, and becoming unemployed. Decreased alcohol consumption per month was associated with being a woman, experiencing a major medical diagnosis, and being hospitalized.

Social Support

Social support is defined as the perceived quality of social relationships or the belief that support from network members is available (Cohen & Wills, 1985; Holt-Lunstad, Smith, Layton, 2010; House, Umberson, & Landis, 1988; Teo, Choi, & Valenstein, 2013; Vandervoort, 1999). However, the literature on social support has not produced a clear and consistent definition of social support (Gottlieb & Bergen, 2010; see House et al., 1988, for a review). Definitions and measures include either objective components, such as the structure of an individual's social network (i.e., network size and

quantity of social interactions) or subjective components, such as the perceived quality (i.e., positive or negative) of social support and the function it may serve (i.e., instrumental, informational, or emotional support) (Cohen, 2004 House et al., 1988; Teo et al., 2013).

Quality of Social Support

The perceived quality of social support, defined as the subjective evaluation of supportive or unsupportive exchanges, especially emotional support, has been more important than the quantity of social support for optimal mental and physical health (Antonucci, Akiyama, & Lansford, 1998; Cohen & Wills, 1985; Lyyra & Heikkinen, 2006; Platt et al., 2014; Teo et al., 2013; Uchino, 2004; Vandervoort, 1999; Walen & Lachman, 2000). In a longitudinal cohort study of adults aged 25-75 years, Teo et al. (2013) assessed the role of both qualitative and quantitative aspects of social relationships in the development of depression and found that the quality of social support predicts subsequent depression while quantity does not impact the likelihood of future depression. Also, data revealed that those with the highest quality of social relationships had a 6.7% chance of developing major depression, whereas those with the lowest quality had a 14% likelihood.

Perceived social support can protect individuals from becoming depressed and from abusing alcohol (Pierce et al., 2000). Moak and Agrawal (2010) analyzed data from 34,653 individuals aged 20-99 years, from the National Epidemiology Survey on Alcohol and Related Conditions (NESARC), and found an association between increased perceived social support and the decreased likelihood of generalized anxiety disorder, social phobia, major depression disorder, and alcohol abuse/dependence. Additionally,

there was an association between lower perceived social support and poor physical health, specifically cardiovascular health. Furthermore, Callaghan and Morrissey (1993) examined the importance of social support and health. In general, the analysis found that higher perceived social support was significant in predicting better adjustment to stressful life events.

Cohen and Wills (1985) propose two theoretical models, the main effect and buffering hypotheses, through which social relationships impact health and well-being. The main effect model suggests that a large social network will reduce the likelihood of undesirable life changes from occurring. The buffering hypothesis model proposes that social support buffers or protects a person from negative consequences of stressful events (Cohen, 2004; Cohen & Wills, 1985; House et al., 1988). Therefore, social support is thought to affect health and well-being by regulating thoughts, feelings, and behaviors which influence health by encouraging an individual's sense of meaning in life, and by facilitating positive (i.e., physical activity) or negative health behaviors (i.e., substance abuse) (Callaghan & Morrissey, 1993; Harvey & Alexandra, 2012).

The perception of social support may mediate the relationship between social support and health (Vandervoort, 1999). It could be that emotional stressors are subjective and affect mental health first, followed by physical health.

Positive Social Support

Positive, or supportive, social support refers to the individual's perceived notion that the social network is caring and understanding (Walen & Lachman, 2000). Some studies have focused on positive outcomes of social support and found that social support reduces the effect of stress in a person's life (Fiksenbaum, Greenglass, & Eaton, 2006;

Lyyra & Heikkinen, 2006; Schuster et al., 1990). Furthermore, social support provides emotional support by allowing an individual to feel valued and work through emotional difficulties, thus decreasing poor health and mortality rates (Gottlieb & Bergen, 2010; Holt-Lunstad et al., 2010; Vandervoort, 1999). Emotional support has been found to be by far more important than the other functions of social support (Cohen & Wills, 1985). Emotional support works in a variety of types of stressful events, whereas other types of support (i.e., instrumental, informational) are only helpful to meet particular needs elicited by the event (Cohen, 2014; Cohen & Wills, 1985).

Social support is more likely to occur within intimate social relationships, such as spousal, family, or close friends (Cohen & Wills, 1985; House et al., 1988; Lansford, Sherman, & Antonucci, 1998). For example, studies have found that family social support, especially spousal, is the most important source of social support (Atonuncci et al., 1998). Subsequently, being married is more beneficial to psychological health (Shuster et al., 1990) although poor quality of relationship with one's spouse/partner increases the risk of depression (Teo et al., 2013).

Those without a spouse/partner experience more problems with family members but not friends, and have a significantly increased risk for depression (Teo et al., 2013). In general, negative interactions are more likely to occur with relatives than friends (Schuster et al., 1990). Also, other studies have found that support from one's friend network predicts subjective health status, whereas strain from family members and partners predicts health problems (Whalen & Lachman, 2000).

In a longitudinal study, Harvey and Alexander (2012) analyzed data from 671 non-institutionalized African American women living in 48 states aged 60 years and

older. They found that positive social support from friends had a significant effect on physical activity among older women. In a study that examined the role of social relationships in health behaviors, Broman (1993) found that marital status, having friends, and being a member of an organization had effects on the health-damaging behaviors of smoking and drinking. The findings suggested that those in a spousal relationship were less likely to smoke, drink, and drink heavily, while friendship decreased smoking behavior among non-married participants. Members of an organization were more likely to wear a seat belt and less likely to smoke or drink, while being an employee was related to higher levels of drinking (Broman, 1993).

Negative Social Support

Negative social support or social strain is defined as an individual's general perception that their social network is critical, irritating, and unreliable (Walen & Lachman, 2000). However, the literature on social support reveals that most measurements of social relationships do not take into account the quality of social support. For example, Holt-Lunstad et al. (2010) conducted a meta-analysis of 148 studies that focused on the association between social relationships and mortality. The analysis found that most measurements of social relationships assume the quality of social support as positive (Holt-Lunstad et al., 2010). Research suggests that social strain has a stronger influence on well-being than supportive relationships (Franks et al., 1992; House et al., 1988; Teo et al., 2013).

Whalen and Lachman (2000) examined the correlation between social support and strain from a partner, family, and friends, and found that the highest correlation was between partner support and partner strain, suggesting that when support from a partner is

high, the strain is typically low or vice versa. Also, there was a moderate correlation between family support and family strain, and a lower correlation between friend support and friend strain. The study concluded that social exchanges from one's partner were significant predictors of well-being and health. Family strain and family support also were related to several health outcomes measures (i.e., life satisfaction, positive mood, negative mood, and subjective health), but to a lesser extent.

Although the literature suggests that social strain occurs less frequently than supportive interactions, data show that social strains are consistently associated with increased distress (Schuster et al., 1990). The research indicates that social strains are stronger than supportive interactions, especially with spouse and friend relationships. However, there is growing evidence for a buffering effect of social support on strain; support may moderate the adverse effects of negative interactions (Schuster et al., 1990; Whalen & Lachman, 2000).

Social Support and Older Adults

Aging increases exposure to stressful life changes such as declining health, loss of social networks or social roles, loss of a spouse, retirement, reduced income, illness, forced relocation, and dependency on others to accomplish daily tasks (Schultz & Heckhausen, 1996). As one grows older, many of the resources once enjoyed begin to diminish (Fiksenbaum et al., 2006).

Research on social support suggests that social networks are much smaller for older than younger adults (Lang & Carstensen, 1994; Lansford et al., 1998). Moreover, while older adults are satisfied with their current number of friends and size of their social network, social support may become more critical as social support becomes

limited. Lansford et al. suggest that older adults are more selective about the contact they have with their network members in addition to the number of people they want in their network.

While the social support literature suggests that a variety of goals motivate social contact, older adults are more emotionally invested in their relationships due to increased salience of death (Lang & Carstensen, 1994). When there is a limitation for future social interaction, people prefer to invest in relationships with close friends or family rather than investing in new relationships (Antonucci et al., 1998; Lansford et al., 1998). Therefore, perceived social support may be more important to the health and well-being of older adults than the quantity of social support (Callaghan & Morrissey, 1993; Moak & Agrawal, 2010; Vandervoort, 1999). Intimate social relationships are more likely to provide the emotional support needed to feel valued and accepted despite any difficulties and personal faults (Cohen & Wills, 1985).

There is increasing research that focuses on alcohol use among younger adults, yet there is less research that focuses on problem drinking among older adults, especially relating to factors that influence alcohol consumption (Shaw, Karuse, Laing, & McGeever, 2011). In general, the literature has linked alcohol consumption to various demographic characteristics, such as age, gender, socioeconomic status (SES), education, ethnicity, and social support (Balsa et al., 2008; Blazer & Wu, 2009; CDC, 2013; Green et al., 2001; Molander et al., 2010; Moore et al., 2009; Satre & Knight, 2001). Less research has focused on positive and negative social support. Therefore, it is imperative to examine the effects of social support on drinking behaviors among older adults. The

current study will examine gender differences and how social support relates to alcohol consumption among adults aged 65 years and older.

Social Support and Gender Differences

Research on social support suggests gender differences (Cohen & Wills, 1985; Schuster et al., 1990; Whalen & Lachman, 2000). Several studies have found that men reported more supportive interactions with their wives, whereas women report more supportive interactions with family and friends, and more family and partner strain (Harvey & Alexander, 2012; Schuster et al., 1990; Teo et al., 2013). Also, being married has more beneficial effects on longevity for men than for women (House, 1987).

Women appear to benefit more than men from supportive interactions with spouse, family, and friend relationships (Balsa et al., 2008; Green et al., 2001; Schuster et al., 1990). Several studies have found that women self-disclose more and have more intimate relationships than men, which could explain why both positive and negative social support affect the emotional well-being of women more strongly than men (Antonucci et al., 1998; House, 1987; Whalen & Lachman, 2000). Schuster et al. (1990) suggest that for women, negative interactions are buffered in part by the effects of supportive interactions. Furthermore, negative interactions with family members were reported to predict negative mood and health. Findings may be due to women having larger social networks, which provide more types of support, thus serving as a buffer for negative interactions. In contrast, larger social networks may be depleting their capabilities to handle life hassles; especially within the family relationship, as it is the most impactful relationship for women (Green et al., 2001).

In a study of 1,755 noninstitutionalized married persons aged 18-65 years, Schuster et al. examined the distributions and effects of supportive and negative interactions. They found that men reported more supportive interactions with their wives than women did with their husbands, while women reported more supportive interactions with friends when compared to men. Also, women reported more supportive and negative interactions with their relatives when compared to men. For both men and women, negative interactions with a spouse were associated with effects on mental health. However, for women, more frequent supportive interactions with a spouse were also associated with lower distress.

In a ten-year longitudinal study, Lyyra and Heikkinen (2006) examined the association between all-cause mortality and different dimensions of perceived social support among 80-year old adults and found a strong association between non-assistance related perceived social support (feelings of worth, emotional closeness, belonging, and an opportunity for nurturance) and survival in older women. Assistance-related social support (guidance and reliable alliance) was not significantly related to mortality in women. In contrast, neither non-assistance related nor assistance related perceived social support showed a significant association with mortality in men.

Social Support and Alcohol Consumption

The interaction between social support and alcohol consumption has long been of interest. Green et al. (2001) analyzed data from 7,019 Kaiser Permanente Northwest Region subscribers aged 17-98 years of age and found an association between social support and alcohol consumption in similar ways for both men and women, yet the relationships among some demographics, psychological well-being, and physical health

measures were different for each gender. The combined-gender model suggested that general good health, good physical functioning, and fewer role limits due to physical health were associated with greater alcohol consumption. However, the gender-specific models clarified that the effect was true primarily for men. The same was true for emotional well-being. The combined-gender model associated lower alcohol consumption with better emotional well-being, yet the gender-specific model showed that women in the sample accounted for the difference. Furthermore, the quantity of social support received from friends and family was not associated with consumption, suggesting that emotional support does not influence alcohol use as a coping mechanism. It is the situation (i.e., settings where alcohol is available and encouraged), rather than the unmet emotional support needs that promote drinking behaviors. Overall, better emotional well-being was associated with lower alcohol consumption (Green et al., 2001).

Other studies on social support and alcohol consumption among older adults have found different results. Veenstra et al. (2007) examined the association of coping style and alcohol consumption among 3,253 Dutch adults aged 45-70 years. The analysis found that high action coping and receiving high social support were associated with higher drinking levels, while high cognitive coping was related to lower alcohol use (Veenstra et al., 2007).

Peirce, Frone, Russell, Cooper, and Mudar (2000) analyzed data from a three-wave longitudinal study of stress processes composed of 1,192 respondents. Data revealed that social contact has a longitudinal and direct positive association with perceived social support, and a longitudinal and direct negative relationship to

depression. The study found partial support for a longitudinal relationship between depression and alcohol use, suggesting that increased drinking leads to reduced social contact, which increases alcohol use through the perception that social support is not available, thus increasing depression.

Current Study

Given that social support promotes better health behaviors and network size decreases with age, it is important to understand the relationship between the quality of social support and alcohol consumption among older adults. While studies have examined the influence of quality of social support and well-being (Schuster et al., 1990; Whalen & Lachman, 2000), no study thus far has assessed the impact of both perceived social support and social strain on alcohol misuse among older adults. Alcohol misuse is defined as drinking excessively, more than lower-risk limits of alcohol consumption, as measured by the modified version of the Michigan Alcohol Screening Test (MAST; Selzer, 1971).

The quality of social support has been found to be the most important type of support for mental health outcomes and physical health. The literature on social support shows conflicting definitions of how one defines and measures social support, such as subjective (perceived quality and function it may serve) and objective (structure of social network) components, as well as gender differences in support experiences (Cohen, 2004; House et al., 1988; Teo et al., 2013). Therefore, the present study aims to contribute to the growing literature by analyzing the association between the social support quality (perceived social support and strain) and alcohol misuse among men and women age 65 and older.

Preliminary analyses will be used to establish the inclusion of potential covariates, including marital status, physical health (measured by a single item), mental health (measured by a single item), and depression (measured with the Composite International Diagnostic Interview Short-form, CIDI-SF; Wittchen, 1994).

After determining appropriate covariates, the associations between social support and social strain from different relationship sources (i.e., spouse, family, friends) and alcohol misuse will be examined for both men and women. Social support was measured using three four-item scales. Social strain was measured using three similar four-item scales. Alcohol misuse was assessed using a five-item modified version of the MAST (Selzer, 1971) and if they answered "yes" to any of the five items, they were classified as having alcohol misuse. The findings of this study will add to the understanding of how social support quality (support and strain) influences alcohol misuse among older men and women.

Hypotheses

Hypothesis 1. Lower levels of overall quality of social support (all sources of positive and negative support included) will be associated with alcohol misuse for both men and women.

Hypothesis 2. Lower levels of quality of social support and social strain will be associated with alcohol misuse across spouse/partner status for both men and women.

Hypothesis 3. Lower levels of quality of social support and social strain will be associated with alcohol misuse across family relationships for women but not for men.

Hypothesis 4. Lower levels of quality of social support and social strain will be associated with alcohol misuse across friend relationships for both men and women.

CHAPTER 2

METHOD

The present study will use secondary data from the Midlife Development in the United States (MIDUS) survey, a national longitudinal study of health and well-being, supported by the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development. MIDUS was founded by the National Institute on Aging and was designed to investigate behavioral, psychological, and social factors in aging individuals. All eligible participants were noninstitutionalized, English-speaking adults aged 25-74 years at baseline. Older adults and men were oversampled.

The first wave (MIDUS I) was conducted in 1995-1996 and consisted of 7,108 participants. The survey included a telephone interview, administered by trained interviewers, and a written questionnaire. The baseline sample included individuals from four subsamples: (1) a national random digit dialing (RDD) sample (n = 3,487); (2) oversampled from five metropolitan areas in the United States (n = 757); (3) siblings of individuals from the RDD sample (n=950); and (4) a national RDD sample of twin pairs (n = 1,914). The second phase (MIDUS II) was conducted in 2004-2006 and consisted of 5,555 participants. The estimated response rate for the MIDUS I and MIDUS II survey was 60.8%. The third phase (MIDUS III) was conducted in 2013 and consisted of 3,294 participants.

Participants

The current study sample consisted of adults aged 65 and older from the RDD sample, who participated in Wave I. To be eligible to participate in this study, individuals had to provide information about alcohol consumption and social relationships.

Measures

Demographic Information

Self-reported demographic variables included participant's age, gender, marital status, ethnicity, education level, and household income. Marital status was coded as 0 = non-married/not-partnered and 1 = married/partnered. Gender was represented in the models as 0 = female and 1 = male. Ethnicity was coded as 0 = white and 1 = non-white, due to the oversampling of white participants. Education level was coded as the number of years of schooling reported. Income was represented using an 8-point scale ranging from less than $25,000 per year to $250,500 or more per year.

Alcohol Screening Test

The presence of alcohol problems or abuse was assessed with a five-item modified version of the MAST (Selzer, 1971). Respondents answered "yes" (coded 1) or "no" (coded 2) to the following questions: 1) "Were you ever, during the past 12 months, under the effect of alcohol or feeling its after-effects in a situation which increased your chances of getting hurt – such as when driving a car or boat, or using knives, guns, or machinery?"; 2) "Did you ever, during the past 12 months, have any emotional or psychological problems from using alcohol – such as feeling depressed, being suspicious of people, or having strange ideas?"; 3) "Did you ever, during the past 12 months, have

such a strong desire or urge to use alcohol that you could not resist it or could not think of anything else?"; 4) "Did you have a period of a month or more during the past 12 months when you spent a great deal of time using alcohol or getting over its effects?"; 5) "Did you ever, during the past 12 months, find that you had to use more alcohol than usual to get the same effect or that the same amount had less effect on you than before?" If participants answered "yes" to one or more items, they were considered as having alcohol misuse. The responses were summed and then dichotomized as no alcohol problems (coded 0) or as having alcohol problems (coded 1). The five-item modified version of the MAST has shown acceptable internal consistency (Cronbach's $\alpha = .68$) (Grzywacz & Marks, 1999)

Quality of Social Relationships

Social support (positive or supportive aspects of social relations) was measured using three four-item scales about the participant's spouse/partner (Cronbach's $\alpha = .86$) (Schuster et al., 1990; Whalen & Lachman, 2000), family (Cronbach's $\alpha = .83$) (Schuster et al., 1990; Whalen & Lachman, 2000), and friends (Cronbach's $\alpha = .88$) (Schuster et al., 1990; Whalen & Lachman, 2000). Participants were asked: 1) "How much does your spouse or partner really care about you?"; or "Not including your spouse or partner, how much do members of your family really care about you?"; or "How much do your friends really care about you?"; 2) "How much does he or she understand the way you feel about things?"; 3) "How much can you rely on him or her for help if you have a serious problem?"; and 4) "How much can you open up to him or her if you need to talk about your worries?". Questions were answered on a four-point scale, ranging from "a lot" (will be coded as 1) to "not at all" (will be coded as 4). To account for missing

responses, data was manually imputed for participants missing one item by determining the response average of all three responses provided. Participants missing two or more items were not be included in this analysis. Responses were reverse-coded, with a higher score indicating more social support.

Social strain (negative or strained aspects of the social relationship) was measured using three four-item scales about the participant's spouse or partner (Cronbach's $\alpha = .86$) (Schuster et al., 1990; Whalen & Lachman, 2000), family (Cronbach's $\alpha = .80$) (Schuster et al., 1990; Whalen & Lachman, 2000), and friends (Cronbach's $\alpha = .79$) (Schuster et al., 1990; Whalen & Lachman, 2000). Participants were asked: 1) "How often does your spouse or partner make too many demands on you?"; or "Not including your spouse or partner, how often do members of your family make too many demands on you?"; or "How often do your friends make too many demands on you?"; 2) "How often does he or she criticize you?"; 3) "How often does he or she let you down when you are counting on him or her?"; and 4) "How often does he or she get on your nerves?" The same four–point scale found in the positive interaction scale were available: "a lot" (coded as 1) to "not at all" (coded as 4). A similar procedure for missing data was followed as positive or supportive aspects of social relations. Responses were reverse-coded, with a higher score indicating more social strain.

Using similar measures as Teo et al., (2013), overall relationship quality (both social support and social strain) was measured for all three types of social support (spouse/partner, family, friend). Specifically, three composite eight-item scales were constructed by combining the social support and social strain dimensions of social relationships for each source (Cronbach's α for spouse/partner = .87; family = .82;

friend = .77; Teo et al., 2013). Finally, a composite scale of overall quality combining all three type of social relationships was constructed (Cronbach's α = .87). In the construction of all of these composite scales, social strain scores were reversed so that higher scores indicated a higher overall quality of social relationship.

Covariates

Variables that are known to have associations with alcohol consumption and social relationships were examined for their inclusion as potential covariates, along with demographic variables mentioned above. These additional variables include participants' physical health, mental health, and major depressive disorders. Physical health was measured using the following question: "In general, would you say your physical health is excellent (coded as 5), very good (coded as 4), good (coded as 3), fair (coded as 2), or poor (coded as 1)?" Mental health was measured by asking: "In general, would you say your mental health is excellent (coded as 5), very good (coded as 4), good (coded as 3), fair (coded as 2), or poor (coded as 1)?" Major depressive disorder was measured using a seven-item modified version of the Composite International Diagnostic Interview Short-form (CIDI-SF; Wittchen, 1994). Participants answered "yes" (coded as 1) or "no" (coded as 0) to each of the following questions: "during the past 12 months, when you felt sad, blue, or depressed did you" 1) "lose interest in most things?"; 2) "feel more tired out or low on energy than usual?"; 3) "lose your appetite?"; 4) "have more trouble falling asleep than usual?"; 5) "have a lot more trouble concentrating than usual?"; 6) "feel down on yourself, no good, or worthless?"; 7) "think a lot about death?" A "yes" to at least four items on the scale was considered as experiencing depression. Several methodological studies have documented strong test-retest reliability and clinical validity

of the CIDI-SF (Cronbach's $\alpha = .87$) (Kessler, Mickelson, Williams, 1999; Wang, Berglund, & Kessler, 2000).

Data Analyses

Preliminary analyses included a series of bivariate correlations for continuous variables and ANOVAs for nominal variables to determine which potential covariates were going to be included in the subsequent analyses. Potential covariates included age, gender, marital status, physical health, mental health, and depression.

To test the hypotheses, a series of logistic regression analyses were performed using alcohol misuse as the outcome variable and two social support variables as the predictors: social support and social strain. A total of 4 logistic regressions predicted alcohol misuse. In the first analysis, overall levels of social support were used to predict alcohol misuse for both men and women. In the second analysis, levels of social support were related to spouse/partner relationship status and alcohol misuse for both men and women. To test the third hypothesis, levels of social support were used to predict alcohol misuse across family relationships for men and women. The final regression analysis looked at levels of social support and alcohol misuse in friend relationships for both men and women. All logistic regression analyses included covariates as determined by the preliminary analyses discussed above. Depression and mental health were highly correlated. Therefore, depression does not appear in the models.

CHAPTER 3

RESULTS

A total of 3,044 participants provided data. Of these, only 374 met the age requirements (65 years and older) from the RDD sample, and only 305 met social support and alcohol consumption requirements. Participants who did not provide a response to any of the five-item alcohol screening questions, or "refused" to provide an answer, or those who reported being "abstainers" were eliminated from this analysis (7.2%; $n = 27$). Table 1 summarizes the demographic characteristics such as gender, age, ethnicity, marital or partnered status, education level, family income, physical health, mental health, and alcohol misuse. Depression was not included as it was highly correlated with mental health. Table 2 provides descriptive statistics for social support and strain based on the overall, spousal, family, and friend relationships.

A total of 153 were women, and 152 were men. At time of the survey, age ranged from 65-74 years old, and the average age of the sample was 69.43 ($SD = 2.72$). Approximately 93.3% of the sample consider themselves to be White. A total of 189 (62%) participants reported being married or living with someone and 116 reported not being married or living with someone. Regarding education, 20% had less than a high school degree, 27.8% had a high school degree or GED, and 52.1% attended college or received a college degree. The annual income range reported by participants was less than $25,000 to $250,500 or more per year (*Mean* = $43,709, SD = $45,811). Among

respondents who answered the alcohol screening questions, 93.8% (n = 286) were classified as having "no misuse," and 6.2% (n = 19) were identified as having alcohol "misuse".

Using IMB SPSS (Version 24), preliminary analyses indicated that the statistical assumptions of logistic regression were met. The current study did not assume a linear relationship between the dependent (alcohol misuse) and independent variable (quality of relationship). Instead, the dependent variable in the study is a dichotomy, and it is represented as alcohol misuse and non-misuse. The independent variable is interval as observed in the quality of social relationship for spousal, family, friend, and overall social support. The categories are mutually exclusive and meet the larger sample requirement needed to conduct a logistic regression analysis. Furthermore, logistic regression does not have the same stringent requirements as linear regression (Fields, 2013; Pampel, 2000).

To test the hypotheses, four separate logistic regressions were conducted for overall social support, spousal social support and spousal social strain, family social support and family social strain, friend social support and friend social strain. To evaluate whether demographic variables (age, gender, and marital status) affected the relationship between social support and the dependent variable (alcohol misuse), they were first added to Step1, followed by physical health and mental health in Step 2. The five covariates (age, gender, marital status, physical health, and mental health) and the quality (support and strain) of social interaction for overall, family, or friend were added to Step 3, as a separate regression for each social interaction. The marital status covariate

was removed from the quality of social interaction for the spousal relationship analysis, as only married participants were included in that logistic regression.

Predicting Alcohol Misuse Based on Overall Social Support

A logistic regression was performed to ascertain the effects of age, gender (males = 1), marital status (married = 1), physical health, mental health, and overall social support on the likelihood that participants experienced alcohol misuse. Depression was not included in this model or subsequent models as depression and mental health were strongly correlated, r (303) = -.30, $p < .001$. The most parsimonious model included only demographic variables: age, gender, and marital status. Step 1 was statistically significant, χ^2 (3) = 13.98 $p < .001$. Step 1 explained 12.0% (Nagelkerke R^2) of the variance in alcohol misuse and correctly classified 93.8% of the cases. Gender (b = 1.56, $p < .01$ in Step 1) and marital status (b = -1.40, $p < .01$ in Step 1) were statistically significant. Males were 4.74 more likely to experience alcohol misuse while being married decreased the likelihood of experiencing alcohol misuse by .25. Age did not significantly predict alcohol misuse (b = -.13, p = .18 in Step 1).

Step 2 included two additional variables: physical health and mental health. Step 2 was not superior to Step 1 regarding overall model fit, yet it was statistically significant, χ^2 (5) = 15.43, $p < .01$. Step 2 explained 13.2% (Nagelkerke R^2) of the variance in alcohol misuse, 1% more than Step 1, and correctly classified 93.8% of the cases. Physical health (b = .31, p = .28 in Step 2), and mental health (b = -.04, p = .89 in Step 2) did not significantly predict alcohol misuse in the model, nor did age (b = -.12, p = .21 in Step 2). Similarly, as in Step 1, gender (b = 1.59, $p < .01$ in Step 2) and marital

status (b = -1.38, p < .01 in Step 2) were statistically significant. Males were more likely to experience alcohol misuse than females.

Step 3 included overall social support to determine if the overall social support increased the likelihood of experiencing alcohol misuse. Step 3 was slightly superior to Step 2. The results did not support Hypothesis 1 (see Table 3). A test of the full model against a constant-only model was statistically significant, indicating that the predictors as a set reliably distinguished between alcohol misuse and non-misuse, χ^2 (6, N = 305) = 20.17, p < .001. The model explained 17.2% (Nagelkerke R^2) of the variance in alcohol misuse, 5.2% more than Step 1, and correctly classified 93.4% of the cases.

Controlling for age, gender, marital status, physical health, and mental health, a logistic regression analysis revealed that the overall model for overall social support predicting alcohol misuse was significant, χ^2 (1) = 5.34, p = .02. Overall social support was negatively associated with alcohol consumption (b = -.09, p = .02 in Step 3). The coefficient for overall social support indicated that a one-unit increase in overall social support reduced the odds of experiencing alcohol misuse by .92 or 8.3%. In this model, gender (b = 1.66, p < .01 in Step 3) was statistically significant, while marital status (b = -1.03, p = .05 in Step 3) was marginally statistically significant.

Males were 5.24 times more likely than females to experience alcohol misuse. Individuals who reported being married were .36 times less likely than those who were unmarried to experience alcohol misuse. For ease of interpretation, calculating the odds of unmarried persons experiencing alcohol misuse over married persons was determined by using 1/.36 = 2.78. Unmarried persons were 2.78 times more likely to experience alcohol misuse. The inclusion of overall social support strengthened the association

between gender and alcohol misuse from 1.59 ($p < .01$) to 1.66 ($p < .01$), and weakened the association between marital status and alcohol misuse from -1.38 ($p < .01$) to -1.03 ($p = .05$). Its inclusion strengthened the gender and alcohol misuse association by 4.4%, which indicated a slight mediation, and it reduced the association between marital status and alcohol misuse by 25.4%, indicating a suppressor effect. Overall, experiencing alcohol misuse did not differ by age ($b = .12$, $p = .21$), physical health ($b = .31$, $p = .28$), or mental health ($b = -.04$, $p = .89$) in Step 3.

Predicting Alcohol Misuse Based on the Quality of Social Support from the Spouse/Partner Relationship

A logistic regression was performed to ascertain the effects of age, gender, physical health, mental health, spousal social support, and spousal social strain for married participants on the likelihood that participants experienced alcohol misuse. Step 1 included only age and gender. Step 1 was statistically significant, χ^2 (2) = 8.99, $p = .01$. Step 1 explained 15.9% (Nagelkerke R^2) of the variance in alcohol misuse and correctly classified 95.7% of the cases. Age ($b = -.18$, $p = .22$ in Step 1) and gender ($b = 18.61$, $p = .99$ in Step 1) did not significantly predict alcohol misuse among married participants.

Next, physical health and mental health were examined to determine their effects on alcohol misuse. Step 2 was not superior to Step 1 in terms of overall model fit yet it was statistically significant, χ^2 (4) = 12.34, $p = .02$. Step 2 explained 21.6% (Nagelkerke R^2) of the variance in alcohol misuse, 6% larger than Step 1, and correctly classified 95.7% of the cases. Physical health ($b = -.05$, $p = .90$ in Step 2) and mental health ($b = .85$, $p = .09$ in Step 2) did not significantly predict alcohol misuse in the model, nor did age ($b = -.23$, $p = .15$ in Step 2) or gender ($b = 18.44$, $p = .99$ in Step 2).

Step 3 included spousal social support and spousal social strain to determine if it increased the likelihood of experiencing alcohol misuse among the married participants. Step 3 was not superior to Step 2. The results did not support Hypothesis 2 (see Table 4). A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between alcohol misuse and non-misuse, χ^2 (6, N = 184) = 13.84, p = .03. Step 3 explained 24.1% (Nagelkerke R^2) of the variance in alcohol misuse, an 8.2% increase when compared to Step 1, and correctly classified 95.7% of the cases. Controlling for age, gender, physical health, and mental health, a series of logistic regression analyses revealed that the overall model for spousal social support (χ^2 (1) = 1.14, p = .29) and spousal social strain (χ^2 (1) = .033, p = .86) predicting alcohol misuse were not significant. Subsequently, age (b = -.20, p = .23), gender (b = 18.59, p = .99) physical health (b = -.12, p = .78), and mental health (b = .95, p = .07) did not predict alcohol misuse among the married participants in Step 3.

Predicting Alcohol Misuse Based on the Quality of Social Support from the Family Relationships

A logistic regression was performed to ascertain the effects of age, gender, marital status, physical health, mental health, family social support and family social strain on the likelihood that participants experience alcohol misuse. Step 1 (age, gender, and marital status) and Step 2 (physical and mental health) paralleled Step1 and Step 2 in the overall social support analysis (see above for further details).

Step 3 included family social support and family social strain to determine if it increased the likelihood of experiencing alcohol misuse. Step 3 was slightly superior to Step 2. The results did not support Hypothesis 3 (see Table 5). A test of the full model against a constant-only model was statistically significant, indicating that the predictors

as a set reliably distinguished between alcohol misuse and non-misuse, χ^2 (7, N = 303) = 24.05, $p < .01$. Step 3 explained 20.4% (Nagelkerke R^2) of the variance in alcohol misuse, an 8.5% increase when compared to Step 1, and correctly classified 94.1% of the cases.

Controlling for age, gender, marital status, physical health, and mental health, a logistic regression analysis revealed that the overall model for family social support predicting alcohol misuse was significant, χ^2 (1) = 7.88, $p < .01$, while family social strain predicting alcohol misuse was not significant, χ^2 (1) = .01, $p = .92$. Family social support was negatively associated with alcohol consumption (b = -1.17, $p < .01$ in Step 3). The coefficient for family social support indicated that a one-unit increase in family social support reduced the odds of experiencing alcohol misuse by .31 or 69%. Family social strain ($b = -.05$, $p = .92$ in Step 3) did not predict alcohol misuse. Gender ($b = 1.51$, $p = .01$ in Step 3) and marital status ($b = -1.36$, $p = .01$ in Step 3) statistically predicted alcohol misuse.

The odds of experiencing alcohol misuse were 4.51 times higher for males than females. The odds for unmarried individuals to experience alcohol misuse was 3.88 times more likely than married individuals. The inclusion of family social support and family social strain decreased the association between gender and alcohol misuse from 1.58 ($p < .01$) to 1.51 ($p = .01$), and increased the association between marital status and alcohol misuse from -1.37 ($p < .01$) to -1.36 ($p = .01$). The family social support and family social strain inclusion reduced the gender and alcohol misuse association by 4.4%, which indicated a slight suppressor, but did not affect the association between marital status and alcohol misuse. Age ($b = -.10$, $p = .29$ in Step 3), physical health ($b = .26$,

p = .37 in Step 3), and mental health (b = .08, p = .82 in Step 3) did not predict alcohol misuse.

Predicting Alcohol Misuse Based on the Quality of Social Support from the Friend Relationships

A logistic regression was performed to ascertain the effects of age, gender, marital status, physical health, mental health, friend social support and friend social strain on the likelihood that participants experienced alcohol misuse. Step 1 and Step 2 included the same variables as overall social support and the quality of family social support. Results for Step 1 and Step 2 again paralleled the results seen for overall social support (see above).

Step 3 included friend social support and friend social strain to determine if they increase the likelihood of experiencing alcohol misuse. The results did not support Hypothesis 4 (see Table 6). Step 2 was not superior to Step 1 regarding model fit yet a test of the full model against a constant-only model was statistically significant, indicating that the predictors as a set reliably distinguished between alcohol misuse and non-misuse, χ^2 (7, N = 302) = 17.92, p = .01. Step 3 explained 15.4% (Nagelkerke R^2) of the variance in alcohol misuse, just a 3.5% increase when compared to Step 1, and correctly classified 93.7% of the cases. Controlling for age, gender, marital status, physical health, and mental health, a logistic regression analysis revealed that the overall model for friend social support predicting alcohol misuse was not significant (χ^2 (1) = 2.40, p = .12). Subsequently, friend social strain did not predict alcohol misuse (χ^2 (1) = .35, p = .56). Gender (b = 1.46, p = .01 in Step 3) and marital status (b = -1.45, p < .01 in Step 3) were significant predictors of alcohol misuse.

The odds of experiencing alcohol misuse were 4.32 higher for males than females.

The odds of experiencing alcohol misuse were .24 times lower for married than unmarried participants. The inclusion of friend social support and friend social strain decreased the association between gender and alcohol misuse from 1.57 ($p < .01$) to 1.46 ($p = .01$), and decreased the association between marital status and alcohol misuse from -1.38 ($p < .01$) to -1.45 ($p < .01$. The inclusion of friend social support and friend social strain reduced the gender and alcohol misuse association by 7%, which indicated a slight suppressor effect, and it reduced the association between marital status and alcohol misuse by 5.1%, indicating a slight suppressor effect. Age ($b = -.10$, $p = .29$ in Step 3), physical health ($b = .34$, $p = .24$ in Step 3), and mental health ($b = .001$, $p = .99$ in Step3) did not predict alcohol misuse.

CHAPTER 4

DISCUSSION

The purpose of this study was to assess the impact of both social support and social strain on alcohol misuse among older adults aged 65 years and older. Logistic regression analyses controlling for age, gender, marital status, physical health, and mental health revealed a consistent main effect for social support on the dependent variable, alcohol misuse, for the overall quality of social support (including all sources of social support and social strain) and family social support. In other words, individuals who reported higher perceived overall social support were less likely than those who reported lower perceived overall social support to experience alcohol misuse. Individuals who reported lower perceived levels of family social support were more likely than those who reported higher perceived levels of family social support to experience alcohol misuse.

Based on the results, levels of perceived family social strain did not have a significant impact on alcohol misuse. Thus, a lack of family social support seemed to matter more than the presence of family social strain in terms of influencing alcohol misuse. Furthermore, the literature suggests that increasing family social support can serve as a protective factor as it allows people to better cope, which increases coping and enhances well-being (Callaghan & Morrissey, 1993; Hogan, Linden, & Najarian, 2002; Lin, Ensel, Simeone, & Kuo, 1979; Lyyra & Heikkinen, 2006). Levels of perceived social support and social strain from spouse/partner and friend relationships did not have

a significant impact on alcohol misuse in the current study. To summarize, the results suggest that higher levels of overall social support decreased the likelihood of experiencing alcohol misuse, while lower levels of family social support increase the likelihood of experiencing alcohol misuse among older adults.

Despite our predictions, the results of the four logistic regressions conducted did not support the hypotheses in this study. The first logistic regression did not support Hypothesis 1. The results indicated that lower level of overall quality of social support was not associated with alcohol misuse for either men or women. The second logistic regression did not support Hypothesis 2. Results found that lower levels of quality of spousal/partner social support and social strain did not impact alcohol misuse for either men or women. The third logistic regression did not support Hypothesis 3 as the analysis found that lower levels of quality of family social support and social strain did not significantly affect the likelihood of experiencing alcohol misuse for women only (as predicted) but rather for both genders. Lastly, the fourth logistic regression did not support Hypothesis 4. The results suggested that lower levels of quality of friend social support and social strain were not associated with alcohol misuse for both men and women. In all the logistic regressions, except for the spousal/partner relationship, gender and marital status impacted the likelihood of experiencing alcohol misuse.

Given that no other study thus far has examined the impact of the quality of social support on alcohol misuse, predictions were made using the literature based on the influence of quality of social support and well-being (Rook, 1984; Schuster et al., 1990; Whalen & Lachman, 2000). The results found in this study did not concur with the literature, except for the findings related to lower levels of family social support (Franks

et al., 1992; House et al., 1988; Schuster et al. 1990; Teo et al., 2013; Whalen & Lachman, 2000). Past research on social support and gender differences suggest that social strains, for both men and women, are associated with effects on mental health (Schuster et al. 1990; Teo et al., 2013). Other studies have found that social strains have a stronger influence on well-being when compared to supportive relationships (Franks et al., 1992; House et al., 1988; Teo et al., 2013). However, it is important to highlight that participants in this study are older than the general population. Research on social support suggests that social networks are much smaller for older adults than for younger adults and that older adults prefer to invest in relationships with close friends and family rather than investing in new relationships (Antonucci et al., 1998; Lang & Carstensen, 1994; Lansford et al., 1998). Thus, social strains among older adults tend to be more stable over time as social networks are much smaller for older adults.

In the present study, the average social strain for the sample for any of the social relationships was relatively low (Table 2). Analysis indicated that the sample as a whole had low levels of strain, which could have created a floor effect, making it difficult to ascertain its impact on alcohol misuse. Overall, the sample perceived their personal relationships as supportive, which could influence better emotional well-being. The literature indicates that better emotional well-being is associated with lower alcohol consumption (Green et al. 2001).

The findings in this study indicated that lower levels of overall social support did not increase the likelihood of experiencing alcohol misuse yet higher levels of overall social support decreased the likelihood of experiencing alcohol misuse. A possible explanation for the results is that social exchanges (support and strain) within intimate

social relationships are significant predictors of well-being and health, but do not directly predict alcohol misuse (Whalen & Lachman, 2000). The literature does indicate that higher perceived social support has been associated with a decrease in alcohol abuse (Moak & Agrawal, 2010; Pierce et al., 2000).

In regard to the spousal/partnered relationship, analyses conducted in this study found that neither levels of perceived social support nor social strain had an impact on alcohol misuse among married older adults. Results were not consistent with the past literature, which indicated that spousal/partner social support is a predictor of well-being and that spousal/partner social strain is as important as, or in some cases more important than, spousal social support on psychological health (Schuster et al., 1990; Walen & Lachman, 2000). The current findings indicate that spousal social support and spousal social strain do not impact alcohol misuse among older adults, which suggest that spousal/partner social support and social strain do not directly predict alcohol misuse among married older adults (Whalen & Lachman, 2000).

Results for the family relationship indicated that lower levels of family social support increased the likelihood of experiencing alcohol misuse. However, levels of family social strain did not impact alcohol misuse among older adults. Results are consistent with the literature, which indicates that lower levels of social support quality are more likely to occur with family members than friends, as the relationship is more permanent and obligatory (Schuster at al., 1990). Findings suggest that lower levels of perceived social support from family members are more detrimental to alcohol misuse among older adults, given that older adults invest more on family relationships as their social networks begin to decrease (Lang & Carstensen, 1994; Lansford et al., 1998).

Lower levels of family social support could create "a grief reaction" to the loss of a relationship, which may temporally result in poor health behaviors, such as experiencing alcohol misuse (Broman, 1992).

In regard to the friend relationships, the level of social support and social strain did not impact alcohol misuse among older adults in the sample. The findings are consistent with past research which indicates that friendships are voluntary and can be terminated in the presence of negative interactions (Walen & Lachman, 2000). Previous literature reveals that friend relationships are a much less important kind of social support for mood when compared to the relationship of spouse or relative (Schuster at al., 1990).

Results suggested that the likelihood of alcohol misuse is higher for males across overall social support, family, and friend relationships. The literature supports the findings that males have higher rates of alcohol consumption and misuse, and drink more often than women (Balsa et al., 2008; Blazer & Wu, 2009; Broman, 1993; CDC, 2013; Green et al., 2001; Satre & Knight, 2001). Marital status also had an impact on alcohol misuse across overall social support, family, and friend relationships. For overall social support and friend relationships, results indicated that being married or partnered was associated with a lower likelihood of experiencing alcohol misuse. In contrast, the likelihood for unmarried individuals to experience alcohol misuse was higher for the family relationship when compared to married or partnered individuals. Results are consistent with the literature as interactions with one's spouse are much more important for emotional well-being than interactions with family members or friends (Schuster at al., 1990). Additionally, married or partnered individuals have been found to have higher

levels of support than do the unmarried individuals (Broman, 1992; Schuster et al., 1990), which may serve as a protective factor.

Implications

Although the number of older adults experiencing substance abuse continues to increase, the problem is "underestimated, under-identified, underdiagnosed, and undertreated" (SAMHSA, 2012, p.1). Findings on the impact of higher levels of overall social support and lower levels of family social support on alcohol misuse provide valuable information for mental health providers in substance abuse counseling or related fields working with older adults. The literature indicates that health care providers tend to overlook substance abuse and misuse among older adults and that older adults are more likely to hide their substance misuse, as well as less likely to seek professional help (SAMHSA, 2012). Furthermore, there is little evidence on the effectiveness of interventions to reduce alcohol intake among older adults as much of the research has focused on the younger population (St. John et al., 2010). Therefore, it is important to develop appropriate interventions that target older adults experiencing alcohol misuse.

Barrera (1986) indicated that perceived social support is important to address and assess as it captures an individuals' confidence that adequate support would be available if it were needed. Results found in this study suggest focusing more on improving levels of overall social support quality to decrease the impact of alcohol misuse among older adults. Findings of this study indicate that individuals with higher overall perceived levels of social support have a lower likelihood of experiencing alcohol misuse. Addressing overall social support could be beneficial to older adults experiencing alcohol misuse as higher overall perceived social support may serve as a protective factor and

better emotional well-being, which has been associated with lower alcohol consumption (Green et al. 2001).

The literature indicates that many relatives of older adults with substance use disorders, especially their adult children, are ashamed of the problem and most often choose not to address it (SAMHSA, 2012). The result is continued alcohol misuse among older adults and not receiving the appropriate treatment, despite the need. Based on the results of the current study, it is also important to acknowledge that family support may have an impact on alcohol misuse among older adults. Interventions or modalities that incorporate the family into the treatment model and work toward increasing social support, even if it is perceived, may have a significant effect on treatment outcomes. The results of this study indicate that lower levels of family social support may increase the likelihood of alcohol misuse among older adults. Therefore, treatment should target the quality of family social support, especially increasing family social support.

Mental health providers and substance abuse counselors should incorporate intervention strategies that are non-confrontational, supportive, and incorporate the family and those closest to the individual experiencing alcohol misuse into the treatment approach. Hogan et al. (2001) reviewed the literature on social support interventions and found promising results in treatment outcomes for substance use and smoking when the support of spouse, family, or friend was included in the treatment plan. Feelings of shame for the family, those involved, and the misuser should be reduced to increase perceived social support. Family involvement and family therapy may have a significant impact on substance abuse treatment outcomes. Exploring such approaches may be beneficial to the person seeking substance use treatment, especially older adults.

Limitations

Discussing the limitations of this study is important. Alcohol consumption was assessed as a binary outcome variable, which could be considered a limitation as the frequency and intensity were ignored. It is unknown whether alcohol misuse had positive health behavior outcomes (e.g., benefits of alcohol on cardiovascular disease) or negative health behavior outcomes (e.g., alcohol use disorder, interaction with medications) for the participants in the study.

Another limitation of this study is that the majority of the sample was predominantly older adults who identify as White. Results might not be generalizable to different age or ethnic groups; caution is warranted in generalizing these findings to other groups who do not fall under a similar age range or ethnicity. It is important to highlight that the data were collected using an RDD technique, which could have an impact on the way participants answered the questions, as anonymity was not provided. As a result, alcohol consumption could have been underreported.

The statistical design used to analyze the data is another limitation. The logistic regression design predicts the likelihood of an event occurring. Therefore, we cannot assume a causal link between social support and alcohol misuse. Furthermore, only 19 participants reported alcohol misuse, which is a small portion of the sample. The literature indicates that smaller samples have more sampling error (Field, 2013). The small sample size could have given us a lower power to detect differences between participants who reported alcohol misuse and those who did not. The unbalanced sample size suggest that results cannot be generalizable as they could be erroneous for the

general sample of older adults aged 65 and older. It also suggests that findings may not be reliable as the results cannot truly challenge the null hypothesis.

However, the literature on logistic regression analysis indicates that the maximum-likelihood estimation is not impacted by a small sample size because logistic regression is quite robust (Brown & Mues, 2012; Crone & Finlay, 2012). Unfortunately, it may become a problem when the sample size is too small, as there may not be enough power to make a prediction (Field, 2013; Mehta & Patel, 1995). For example, logistic regression for the spousal/partner relationship indicated that only 8 participants reported alcohol misuse, which resulted in an over inflation of the odds ratio and thus led to a weak maximum-likelihood estimation model.

Despite the limitations of the current study, findings contribute to the literature on social support and alcohol consumption among older adults. The strength of this research study was that it assessed both social support and social strain across different social relationship types to examine the impact of quality of social support on alcohol misuse among older adults aged 65 and older. Until recently, alcohol misuse among older adults was not discussed in either the substance abuse or gerontological literature (SAMHSA, 2012). Additionally, limited research exists on both social support and social strain as most of the literature assumes social support is primarily positive.

Future Research Directions

The main findings from this study are that quality of social relationships has a limited effect on alcohol misuse among older adults in the U.S. Although small, findings from this study provide preliminary evidence that overall social support and family social support are significant factors predicting alcohol misuse in older adults aged 65 and

older. Higher levels of perceived overall social support and lower levels of perceived family social support may have an impact on alcohol misuse among older adults.

Future research should continue to assess for both social support and social strain across different social relationships. Based on previous literature and the findings of this study, social support and social strain appear to be independent domains (Rook, 1984). Therefore, social support and social strain should be measured separately to evaluate their independent effects, which may shed light on the relationship between the perceived quality of social support and alcohol misuse.

Additionally, future research should focus on measuring the effect of family involvement and family therapy on treatment outcomes, not just for those who identify as White but across different ethnic groups. Current treatment approaches focus primarily on the individual with the Substance Use Disorder, which is beneficial, yet such people return home to the same family dynamics and environment and soon discover that they still have a lot to work through. The current study found a small impact with higher overall social support and lower family support on alcohol misuse; exploring the effects of the perceived overall social support and family social support on alcohol misuse across different cultural, age, and gender groups would be worth analyzing. Future studies can build on these findings to increase our knowledge about the effects of perceived quality of social support on alcohol misuse, with the goal of improving and developing interventions that better address alcohol misuse among older adults.

Conclusion

This study found differences in social support and social strain based on the type of relationship. It also found significant differences among gender and how social

support and social strain affects both married and unmarried individuals differently. Overall, higher levels of perceived overall social support and lower levels of perceived family social support had an impact on the likelihood of experiencing alcohol misuse among older adults in the U.S. Furthermore, being male increased the likelihood of experiencing alcohol misuse, while being married decreased the risk of alcohol misuse. Understanding how perceived social support, especially overall social support and family social support, affects alcohol misuse among older adults is necessary to develop effective psychological interventions that target alcohol misuse. Given that older adults experiencing alcohol misuse are overlooked by health care providers and that older adults are less likely to seek out substance abuse treatment, it is important to be informed and prepared with treatment approaches that will benefit the person with the misuse not only in the short-term but the long-term future. Therefore, family involvement and family therapy in conjunction with individual substance abuse treatment interventions should be further studied and possibly considered when working with older adults aged 65 and older experiencing alcohol misuse.

APPENDIX

TABLES

Table 1. Demographic Information

	Participants (N = 305)		
Characteristics	%	*M*	*SD*
Gender			
Female	50.2		
Age		69.43	2.72
Race			
White	91.8		
Level of Education			
Less than High School Degree	47.9		
Some College	23.9		
College Degree	19.3		
Graduate Degree	8.9		
Marital Status			
Married	62.0		
Annual Household Income (n = 295)		$43,709	$45,811
< $25,000	41.7		
$26,000 - $50,000	29.0		
$50,500 - $75,000	13.1		
$75,500 - $100,000	6.9		
$100,500 - $150,000	6.2		
$150,500 - $200,000	1.4		
$200,500 - $250,000	0.3		
> $250,500	1.4		
Alcohol Classification			
Misuse	6.2		

Note: *N* = number of participants for each variable, *M* = mean, *SD* = standard deviation.

Table 2. Descriptive Statistics for Quality of Social Relationships

	N	*M*	*SD*	Range
Overall Social Support [a]	305	12.70	6.98	-23.33 - 28
Spousal Social Support	185	3.61	0.57	1 - 5
Spousal Social Strain	185	2.10	0.64	1 - 5
Family Social Support	303	3.58	0.52	1 - 5
Family Social Strain	303	1.86	0.54	1 - 5
Friend Social Support	303	3.26	0.62	1 - 5
Friend Social Strain	302	1.79	0.51	1 - 5

Note: *N* = number of participants for each variable, *M* = mean, *SD* = standard deviation, Range = social support and social strain were measured on a five-point scale, with higher score indicating higher levels of social support or strain, respectively.

[a] Overall social support was measured by averaging totals of social support and social strain, respectively, and then subtracting average social strain from average social support.

Table 3. Results from Logistic Regression Predicting Alcohol Misuse Based on Overall Social Support (N = 305)

	Step		
Predictors	1	2	3
Age	-0.125	-.117	-.101
	(-.882)	(.890)	(.904)
Gender [a]	1.56**	1.586**	1.656**
	(-4.738)	(4.882)	(5.239)
Marital Status [b]	-1.40**	-1.376**	-1.028
	(-.246)	(.253)	(.358)
Physical health		.312	.275
		(1.367)	(1.317)
Mental health		-.044	.085
		(.957)	(1.088)
Overall social support			-.086*
			(.917)

Note: Unstandardized logistic coefficients with odds ratio in parentheses. Step 1 includes demographic variables. Step 2 adds physical health and mental health. Step 3 adds overall social support.

[a] Male is the reference category for the gender dummy variable. [b] Married is the reference category for the marital status dummy variable.

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

Table 4. Results from Logistic Regression Predicting Alcohol Misuse Based on Spousal/Partner Social Support and Spousal Social Strain (N = 184)

	Step		
Predictors	1	2	3
Age	-.180	-.228	-.196
	(.835)	(.796)	(.822)
Gender [a]	18.606	18.439	18.588
	(12036)	(101883)	(118185)
Physical health		-.054	-.116
		(.947)	(.890)
Mental health		.849	.950
		(2.338)	(2.587)
Spousal social support			-.962
			(.0382)
Spousal social strain			-.154
			(.858)

Note: Unstandardized logistic coefficients with odds ratio in parentheses. Step 1 includes demographic variables. Step 2 adds physical health and mental health. Step 3 adds spousal/partner social support and spousal/partner social strain.

[a] Male is the reference category for the gender dummy variable.

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

Table 5. Results from Logistic Regression Predicting Alcohol Misuse Based on Family Social Support and Family Social Strain (N = 303)

	Step		
Predictors	1	2	3
Age	-.125	-.116	-.101
	(.883)	(.0890)	(.904)
Gender [a]	1.550**	1.578**	1.506*
	(4.710)	(4.847)	(4.510)
Marital Status [b]	-1.396**	-1.370**	-1.357*
	(.248)	(.254)	(.258)
Physical health		.313	.264
		(1.368)	(1.302)
Mental health		-.044	.075
		(.957)	(1.078)
Family social support			-1.165**
			(.312)
Family social strain			-.051
			(.950)

Note: Unstandardized logistic coefficients with odds ratio in parentheses. Step 1 includes demographic variables. Step 2 adds physical health and mental health. Step 3 adds family social support and family social strain.

[a] Male is the reference category for the gender dummy variable. [b] Married is the reference category for the marital status dummy variable.

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

Table 6. Results from Logistic Regression Predicting Alcohol Misuse Based on Friend Social Support and Friend Social Strain (N=302)

	Step		
Predictors	1	2	3
Age	-.123	-.114	-.100
	(.884)	(.892)	(.905)
Gender [a]	1.539**	1.566**	1.464*
	(4.660)	(4.786)	(4.323)
Marital Status [b]	-1.402**	1.377**	-1.447**
	(.246)	(.252)	(.235)
Physical health		.317	.337
		(1.373)	(1.401)
Mental health		-.050	.001
		(.951)	(1.001)
Friend social support			-.586
			(.557)
Friend social strain			.319
			(1.376)

Note: Unstandardized logistic coefficients with odds ratio in parentheses. Step 1 includes demographic variables. Step 2 adds physical health and mental health. Step 3 adds friend social support and friend social strain.

[a] Male is the reference category for the gender dummy variable. [b] Married is the reference category for the marital status dummy variable.

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

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