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**SPIRITUALITY AND ALCOHOL CONSUMPTION IN A GENERAL
POPULATION**

by

Nicole Marie Keenan

A Thesis

Submitted to the

Department of Psychology

College of Science and Math

In partial fulfillment of the requirement

For the degree of

Master of Arts in Clinical Mental Health Counseling

at

Rowan University

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Thesis Chair: Matthew Miller, Psy.D.

Dedication

I would like to dedicate this manuscript to my fellow Rowan University Clinical Mental

Health Counseling 2013 graduates

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I would like to express my appreciation to Dr. Matthew Miller for his guidance and support throughout this entire thesis process. Secondly, I'd like to thank my roommate Jenny Delorme for her emotional support and empathic understanding.

Abstract

Nicole Marie Keenan
SPIRITUALITY, GENDER AND ALCOHOL CONSUMPTION IN A GENERAL
POPULATION

2012/2013

Matthew Miller, Psy.D.
Master of Arts in Clinical Mental Health Counseling

This study examined the relationship between spirituality and alcohol consumption in a general population because spirituality is important when it comes to the treatment and continued recovery from addiction. In order to measure spirituality, we used three psychometrically tested measures; The Intrinsic Spirituality Scale, the Spiritual Intelligence Self Report Inventory, and the Spiritual Assessment Inventory. To measure alcohol consumption we utilized the Alcohol Use Disorders Identification Test. Results sustain the multidimensionality and overlap between spirituality and religion and the need for more complete definitions. Our findings support the buffering relationship between spirituality and alcohol consumption as well as a relationship between all of the spirituality measures used, and gender differences when it comes to spirituality. This study found no significant results when multiple hierarchical linear regressions were run to see if gender moderated the relationship between spirituality and alcohol consumption. We discuss implications for future research.

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Chapter 1

Introduction

Spirituality, Gender, and Alcohol Consumption in a General Population

Spirituality is quickly becoming an important area of research for medical doctors and mental health professionals alike as evidenced by the explosion of research over the past decade about psychosocial factors and how they affect an individual's mental and physical health (Geppert, Bogenschutz & Miller, 2007). In the year 2000 there were approximately 247 articles on spirituality/religion and health on PsycInfo. Presently, there are over 2,400. Research in this field has identified a positive correlation between spirituality and self-reported life satisfaction with positive health behaviors such as exercise and negative health behaviors such as alcohol consumption and drug use (Geppert, Bogenschutz & Miller, 2007; Koenig, 2012). Due to these important links, it is critical for counselors and researchers to better understand how spirituality relates to substance use. This study looks specifically at alcohol consumption because 51.5% of adults age 18 and up are current regular drinkers and alcohol is one of the most commonly abused drugs in the United States. Alcohol abuse costs the United States \$224 billion a year (Centers for Disease Control and Prevention [CDC], 2011).

Chapter 2

Literature Review

Spirituality and Religion

Spirituality and religion are two terms used inconsistently throughout relevant literature with some describing them as inherently different; others as one in the same. There is difficulty defining spirituality because religion may provide a foundation for the

expression of spirituality. This suggests that these constructs share some characteristics but are not necessarily the same (Nagel & Sgoutas-Emch, 2007). For example, prayer is principle to various religions but it can also be deeply spiritual. Even when separated from established religious frameworks, prayer can embody one of the basic tenants of spirituality (McCullough & Larson, 1999).

Definitions of spirituality in the literature range from intrinsically based beliefs to an individual's personal relationship with God to a subjective experience of the sacred (Cook, 2004; Montage, 2010, Nelms, Hutchins, Hutchins & Pursley, 2007; Worthington & Sandage, 2001; Zinnbauer et al., 1997). Current definitions of religion are equally varied and range from institutional practices and beliefs to a search for the sacred to authoritarianism (Neff, 2008; Worthington & Sandage, 2001; Zinnbauer et al., 1997).

For the purposes of this study, spirituality is defined as the degree to which individuals endorse a relationship with God or a transcendent force that brings meaning and purpose to their existence (Berkel, Armstrong & Cokley, 2004). Religion is defined as a set of organized rituals established by tradition and practiced in a central place of worship (Schlehofer, Omoto & Adelman, 2008). Religion holds a considerable focus on its traditions and values whereas spirituality is more practical, focusing on how said values and traditions help us understand life events like death, affliction, and inequality (Schlehofer, Omoto & Adelman, 2008; Zinnbauer et al.1997). Spirituality although different from religion cannot be exclusively separated because of the overlap in constructs and meaning.

There is a gap in the research when it comes to spirituality because most studies only focus on alcohol and religious affiliation. This is because it is much easier to

measure religiosity. The exclusion of spirituality in alcohol research is surprising because the main treatment vehicle for alcoholism is the 12-step Alcoholics Anonymous program which focus on recovery from addiction by spiritual means (Galater, 2007). By measuring alcohol consumption strictly in relation to religion much of the existing research is not addressing the belief systems of its participants, but rather their adherence to a social construct that may or may not influence their lives and decisions.

This study looks exclusively at spirituality as opposed to religious affiliation. The delineation of spirituality alone is so skewed that there are over 47 different spirituality questionnaires that look at 13 different concepts (Cook, 2004). The measures for this study were chosen because they each match with the study's definition of spirituality in different ways. The Spiritual Assessment Inventory (SAI) was chosen because it determines one's relationship with a higher power while using the word God in the questions. The Spiritual Intelligence Self Report (SISRI-24) was chosen because it does not mention anything about spirituality and God specifically in its questions although it does refer to "some greater power or force." Lastly, the Intrinsic Spirituality Scale (ISS) was chosen because it asks about the participant's spirituality while defining spirituality as one's relationship to God/Ultimate Transcendence. One of the primary purposes of this investigation was to look at these three spirituality measures and see if there is a mutual relationship between them despite their varying vernacular. Although spirituality is an abstract concept with varying definitions, there still can be various reliable ways to measure it.

Spirituality and Health

Despite its range of definitions, one of the most well documented findings regarding spirituality involves its positive predictive relationship with health. Several researchers have examined the relationship between spirituality and both health attitudes and health behaviors. These studies utilized various measures such as the Index of Core Spiritual Beliefs and The Spirituality Scale as well as a review of existing literature to examine spirituality. In particular, this research has found a link between increased spirituality and physical fitness, well-being, satisfaction with life, increased self esteem, and greater assets for healthy growth (Knox, Langehaugh, Walters & Rowley, 1998; McCullough & Larson, 1999; Nelms, Hutchins, Hutchins & Pursley, 2007; Rew & Wong, 2006). Likewise, a decrease in spirituality contributes to some negative health behaviors such as alcohol and caffeine consumption (Nagel & Sgoutas-Emch, 2007). Furthermore, spirituality has been seen to play an important role in recovery from illness. Individuals who are more spiritual and recuperating from illness (either physical or mental) deal with pain better, have a more positive perception of their condition, and are more likely to prevent further sickness by receiving vaccines and attending yearly checkups (Leeuwen, Tiesinga, Jochemasen & Post, 2007; Park, 2007; Rosmarin, Wachholtz & Ai, 2011). Existing research is unclear as to why increased spirituality is related to increased health, but some researchers speculate that addiction and mental and physical illness test a person's beliefs and that spirituality can provide answers, support, and a way to cope (Nelms, Hutchins, Hutchins & Pursley, 2007).

Spirituality and Alcohol

Existing religious doctrine has a mixed view on alcohol consumption. For example, some Christian groups such as Roman Catholics, Lutherans, and Jehovah's Witnesses allow for alcohol consumption as long as it is in moderation. Other religious groups such as Baptists and Methodists disapprove of it while Mormons and some Southern Baptists prohibit alcohol consumption altogether (Robertson, 2004). When studies in the alcohol research field solely look at religion, they may be getting religious appropriate answers. Spirituality can be based on religious doctrine but ultimately it has to do with an individual's values and personal relationship with God.

Some current literature examines spirituality and negative health effects that used alcohol as a variable. Results from these studies indicated spirituality can help reduce stress which in turn reduces the probability that individuals will use alcohol to cope and self medicate (Strawser, Storch, Geffken, Killany & Baumeister, 2004; Willis, Yaeger & Sandy, 2003). The more spiritual a person is, the less likely they will consume alcohol and/or binge drink although research is unclear whether people drink less because of religious doctrine or because of their own person value systems. For example, a religious individual may not engage in alcohol consumption because they do not enjoy drinking. Their views on alcohol are more their own values and tastes as opposed to religious. That said, there are individuals that allow religion to dictate their life and choices (Dennis, Cox & Black, 2009; Stewart, 2001; Warfield, 1996).

Spirituality has been also found to facilitate better recovery from substance use disorders. The more spiritual an individual is, the less likely they will relapse because spiritually can provide a foundation of support (Brown et al., 2007; Galanter, 2007a;

Galanter, 2007b; Heinz et al., 2010; Lyons, Deane & Kelly, 2010). That all said, the most popular way in which spirituality is utilized in the counseling field is through the 12-step programs.

Spirituality and 12-Step Programs

The 12-step program of substance abuse recovery is one of the most popular nonprofit organizations in the United States and the most popular continued recovery program for substance use. Alcoholics Anonymous (AA) is the most popular division with 1.8 million members and 100, 000 local groups (Warfield, 1996).

The 12-step programs were inspired by the Oxford Movement which was the spiritual revival of the Church of England in the 19th Century and a reaction against the secularization of the time (Galanter, 2006). Addiction to any substance raises concerns that can prompt spiritual questions. AA seeks to answer those questions by promoting spiritual discipline through the 12-Steps and their virtues (honesty, faith, hope, integrity, courage, humility, willingness, brotherly love, justice, perseverance, prayer and meditation, and service to others). The various 12 Step programs encourage living a sober life, one day at a time, while practicing spiritual discipline. No adherence to any particular religion is required (Alcoholics Anonymous, 2001). The 12- step programs adhere to the Spiritual Model of Addiction which states that a separation from God results in addiction because the individual is not living in accordance with God's will. According to this theoretical model, the only way to achieve recovery is by re-connecting with God. AA attempts to help its members beat addiction by restoring one's spiritual connection (Sremac, 2010).

The 12-step programs have experienced a number of changes over the years, separating from their religious roots and becoming a spirituality based program. In 1955, the Twelve Traditions were added and new stories were added to the Alcoholics Anonymous Big Book. In 2001, the Twelve Concepts for World Service were added. According to the Big Book, any changes that have been made over the years have tried to better represent their current membership and reach more people (Alcoholics Anonymous, 2001).

Research on the effectiveness of 12-step programs is mixed. Positives are that these programs are free, easily accessible, provide a community of peer support, and is effective at moderate levels of participation (Aromin, Galanter, Solhjäh, Dermatis & Bunt, 2006; Bradley, 2011; Galanter, 2007b, Kelly & Myers, 2007; Kelly, Myers & Rodolico, 2008b). Negatives of 12-step programs are that they have poor attrition rates, and that the spiritual component can be a barrier to change for some individuals (Bradley, 2011; Kelly, Dow, Yeterian & Kahler, 2010; Kelly & Meyers, 2007; Walters, 2002). Despite its positives and negatives, 12 step programs can be effective in helping individuals in continued recovery.

Gender Differences in Spirituality

A secondary purpose of this study is to help resolve disharmonious research regarding gender differences in spirituality. Multiple studies report that women are more spiritual than men overall and more specifically in the dimensions of spiritual quest, spiritual struggle, and desire to have a spiritual dimension in their daily lives (Bryant, 2007). Spiritual quest refers to the journey women go on to find themselves and their spirituality and spiritual struggle refers to those events that can challenge one's belief

structure and spirituality (Bryant, 2007; Mahalik & Lagan, 2001; McCullough & Larson, 1999; Vosloo, Wissing & Temane; 2009). In addition, women become more spiritual throughout their lives and that change is more rapid and at a greater increase than males (Wink & Dillon, 2002).

Implications for Counselors

If an individual has a substance use or abuse problem today, the primary way to continue recovery is through a 12-step program. Whether it is a rehabilitation center, intensive outpatient program, outpatient facility or just maintenance of sobriety, one of the important components of recovery is Alcoholics Anonymous or Narcotics Anonymous.

In addition, atheism and no religion in the United States are on the rise. Currently Christianity is the most popular religion in the United States with 246 million adherents, No Religion is second with 46 million people, and Judaism is third with 5.3 million people. The median age of atheists is now younger than the median age of the population in the United States and Europe, and younger people today are less religiously affiliated than ever before. Only 3% of the people born before 1928 in the US describe themselves as atheist while 26% of people born after 1981 are atheist (Pond & Clement, 2010).

If spirituality and religion are related and religion is diminishing, spirituality may also be on the decline. Alcoholics Anonymous and other addiction recovery programs that involve spirituality might start becoming less and less effective or might only be effective for certain groups. Currently, 49.5% of people involved in AA were abstinent after a single year as compared to 34% of those who did not get involved with AA. (Gray, 2012). That said, AA has changed through the years to better reach people and

better represent their current membership and they have the ability to change in the future to better reflect the changing religious climate of the United States.

Another issue that could arise if atheism and no religion continue to rise is that individuals who might not be good candidates for 12 step programs due to their non religious or spiritual beliefs that attend meetings might become averse to continued recovery. If someone has a negative experience, they are less likely to seek out continued recovery or treatment again and the best time to treat a substance problem is early because the intervention window is very small (Leslie, 2008). The highest risk time for alcohol and cigarette smoking is age 10-16 and the average transition time from substance use to dependence in adolescents is around 3 years (Wittchen et al., 2008). Spirituality has its merits and can be a powerful motivator when it comes to alcohol recovery, but if it is missing, alternative treatment methods may have to be considered.

This Study

The aim of the present study is to examine the relationship between spirituality and alcohol consumption instead of religious affiliation by using spirituality measures that match our definition. The first hypothesis is that spirituality will buffer alcohol consumption; the greater an individual's spirituality, the less alcohol they will drink. Our second hypothesis is that the three spirituality measures being utilized in this study will be moderately correlated because of the fact that they each measure spirituality in a different way. Just because the three measures use different vernacular, they still measure the same abstract concept. Third, we predict that females will be more spiritual than their male counterparts. Finally, we want to investigate whether the association between spirituality and alcohol consumption depends on gender. We postulate that the

relationship between spirituality and alcohol consumption will be more evident with females as opposed to males. By investigating these relationships this study may help gain additional knowledge into the concept of spirituality and how it affects alcohol consumption.

Chapter 3

Method

Participants

The participants were 259 individuals above the age of 18. Part of the sample for our study came from Rowan University. The Rowan students participated in the study via SONA and received course credit for participating. The other part of our sample were recruited from <http://www.onlinepsychresearch.co.uk/> where any individual above the age of 18 can voluntarily choose to take part in academic research across the world.

Study participants were primarily college students. Participants ranged in age from 18 to 61 years of age with a mean age of 19.9 years ($SD=4.6$). Table 1 displays our sample demographics.

Table 1
Sample Demographics

	n	%
Gender		
Male	141	54.4
Female	118	45.6
College		
Yes	249	96.1
No	10	3.9
Attended 12-Step Program		
Yes	07	2.7
No	252	97.3
Subscribed Religion		
Christianity/Catholicism	182	70.3
Judaism	07	2.7
Atheism	19	7.3
Agnostic	18	6.9
Other	33	12.7

n=number of participants

Materials

The Spiritual Intelligence Self-Report Inventory (SISRI-24: King, 2008) is a 24 question measure that is scored on a scale of 0 (Not at all true of me) to 4 (Completely true of me). The SISRI-24 measures spiritual intelligence which is the capacity to transcend the physical and material, the ability to experience heightened states of consciousness, the ability to sanctify everyday experience, the ability to utilize spiritual resources to solve problems, and the capacity to be virtuous (Emmons, 2000). The overall Cronbach's alpha for the test as reported by its creators is .95. The Cronbach's alpha for our sample on this measure is .919.

The Spiritual Assessment Inventory (SAI: Hall& Edwards, 2002) is a 54 question measure that is scored on a scale of 1 (Not at all true) to 5 (Very true). The SAI measures spiritual development when it comes to an individual's awareness of God and relationship

with God. The SAI looks at spirituality that is based in a religious orientation. The Cronbach's alpha for our sample on the SAI is .976.

The Intrinsic Spirituality Scale (ISS : Hodge, 2008) is a 6 question measure that is scored on a scale of 0-10. The ISS measures spirituality exclusively and defines spirituality as one's relationship with God which is very close to our definition. The ISS was adapted as a spiritual counterpart to the Allport and Ross (1967) Measure of Intrinsic Religion. The Cronbach's alpha as reported by the measure's authors is .96. The Cronbach's alpha for our sample on this measure was .957.

The Alcohol Use Disorders Identification Test (AUDIT: Babor, Higgins-Biddle, Saunders & Monteiro, 2001) is a 10 question measure that is scored on a scale of 0-4. The AUDIT is a screening tool that measures that severity of an individual's alcohol use. It is not a diagnostic measure. The AUDIT has no subscales, and a Cronbach's alpha of .81. The Cronbach's alpha for our sample on the AUDIT is .865. The AUDIT is, also, highly correlated with other well know alcohol scales such as the CAGE Questionnaire for Alcohol Misuse ($r=.78$) and Michigan Alcohol Screening Test ($r=.88$).

The Crowne-Marlowe Social Desirability Scale (SDS: Crowne & Marlowe, 1960) is a 33 question measure that looks at an individual's deception and detects if they are answering in a self serving and more acceptable way. The measure categorizes participants into low (0-8), average (9-19), and high scorers (20-33); high scorers seen as being deceptive. The SDS has a Cronbach's alpha of .72 with a test retest reliability of .82. The Cronbach's alpha for our sample on this measure is .671.

Procedures

A majority of the participants in this study were recruited through the SONA network to participate in a study examining lifestyle factors. The study was entered into surveymonkey.com and advertised on the Rowan University SONA Systems website. Students had the option to pick from numerous studies being done in the psychology department. Once students selected this study as the one they would like to participate in, they were asked to read and accept the informed consent. The four surveys combined are 139 questions and took approximately 15-20 minutes to complete. If at any point the participant did not want to continue with the study, they were given the option to stop. After the study was completed, the participants were debriefed on the nature of the research and either given the address and number for the Rowan Counseling Center. Rowan participants were given course credit for completing the survey in full.

International participants were recruited from <http://www.onlinepsychresearch.co.uk/>. In order to be approved and advertised on the site, an application had to be filled out and approved. Participants who elected to take the study on [onlinepsychologyresearch.co.uk](http://www.onlinepsychologyresearch.co.uk) were doing so voluntarily. If at any point the participant did not want to continue with the study, they were given the option to stop. International participants were given the same informed consent as the Rowan participants, but the debriefing was different and included international crisis hotline numbers if needed.

The Institutional Review Board of Rowan University approved the study protocol in accordance with the ethical standards set forth.

Power Analyses

Estimated sample size was determined using online software (Statistics Calculator; A-priori Sample Size Calculator for Multiple Regression: Soper, 2012). Effect sizes (Cohen's d) were calculated based on available data from Stewart (2001). The effect size for this study was medium ($d=.16$).

According to power analyses, a minimum sample of 108 would be necessary to identify a significant relationship between spirituality and substance use assuming a medium effect size ($r=.15$), 4 predictors in the model, and using the .05 confidence level to ensure a 90% likelihood of identifying the relationship. Given the proposed sample size ($n=108$) and assuming a medium effect size, the power for detecting a significant relationship would be .90, suggesting that the proposed study would be sufficiently powered.

Chapter 4

Results

Initially, analyses were run to find the descriptive statistics for our sample and for the measures used. Pearson correlations were then calculated for all of our measures collapsed across all of our participant's responses to assess for a relationship between the spirituality measures themselves and the spirituality measures and alcohol consumption. Descriptive statistics and correlations are enumerated in Table 2.

Table 2

Correlations, Means, Standard Deviations and Cronbach's Alphas for Relevant Variables

Measure	1	2	3	4	M	SD	α
1. Spiritual Assessment Inventory	---	.657**	.184**	.215**	13.08	4.69	.976
2. Intrinsic Spirituality Scale		---	.351**	.065	4.35	2.44	.957
3. Spiritual Intelligence Self Report Inventory			---	.028	51.93	16.25	.919
4. Alcohol Use Disorders Identification Test				---	7.88	6.70	.865

Note: Correlation is significant at the 0.01 level (2 tailed)

In addition, it was predicted that females would be more spiritual than their male counterparts. To examine differences in gender on the spirituality measures we ran three independent t-tests. Gender was used as the grouping variable and the spirituality measure was used as the test variable. There was a significant difference in the ISS scores for males (M=4.06, SD=2.52) and females (M=4.69, SD=2.32); $t(257)=-2.09$, $p=.037$. We did not find a significant difference in the spirituality scores for males and females on the SISRI-24 or SAI.

Deceptiveness has a significant negative correlation with scores on the AUDIT, $r(257)=-.172$, $p=.001$. People who drink more were shown to be less defensive. In addition, we found a significant negative correlation between gender and the scores on the AUDIT, $rpb=-.168$, $p=.001$.

Hierarchical Linear Regression

Our final hypothesis was that spirituality would be related to less alcohol use among females, but not for males. In order to examine this relationship, we ran a series of

hierarchical linear regressions with a moderator effect. Initially we dummy coded gender because it is a categorical moderator. Male was coded as 0 and female was coded as 1. To control for defensiveness, we put the Social Desirability Scale in the first block. The recoded gender variable and the centered spirituality measure variable were put in the second block and the interaction term was put in the third block. The AUDIT scores were put in as the dependent variable. We ran a separate regression for each of the three spirituality measures and did not find anything significant. The results are displayed in Tables 3. No significant results were found when defensiveness was both controlled for and not controlled for.

Table 3
Hierarchical Linear Regressions Analysis Predicting Change in Alcohol Consumption Related to the Spirituality and Gender While Controlling for Defensiveness

Predictor	SAI			SISRI-24			ISS		
	β	t	R ²	β	t	R ²	β	t	R ²
Step 1			.030			.030			.030
Defensiveness	-.172	-2.8		-.172	-2.8		-.172	-2.8	
Step 2			.109			.054			.062
Spirituality	.240	4.0		.041	.675		.100	1.62	
Gender	-.170	-2.8		-.152	-2.48		-.164	-2.67	
Step 3			.110			.055			.065
Interaction	.021	.275		-.033	-.400		-.076	-.950	

Note: SAI=Spiritual Assessment Inventory; SISRI-24=Spiritual Intelligence Self Report Inventory; ISS=Intrinsic Spirituality Scale; Defensiveness=Crowne and Marlowe Social Desirability Scale Scores; Interaction=Interaction term; Dependent Variable=Alcohol Use Disorders Identification Test Scores.

Chapter 5

Discussion

The purpose of this investigation was to explore the relationship between spirituality and alcohol consumption in a general population although a good majority of our sample ended up being college students. Instead of examining the relationship between religious affiliation and alcohol consumption like much of the previous research has, this study looked at spirituality because spirituality is an important part in addiction treatment and recovery. One of the things we hoped to find was that each of our spirituality measures was correlated to the AUDIT which we used to measure alcohol consumption. Not all of the spirituality measures were significantly correlated with alcohol consumption, rather only with the Spirituality Assessment Inventory which includes religious semantics (e.g., the use of the word God). These findings could be due to the fact that out of the three spirituality measures we used, the SAI best matched our definition of spirituality which was the degree to which individuals endorse a relationship with God or a transcendent force that brings meaning and purpose to their existence. We did not tell the participants of our study what we were measuring until the debriefing so there is also a strong possibility that some participants could have responded in a religiously appropriate way when they saw the word God being used. A second possibility for our findings is that the participants who have a form of spirituality that is based on a religious orientation actually drink less.

Another possible reason why all three of our spirituality measures did not agree with past research and buffer alcohol consumption could be due to the changing religious and spiritual climate in America. The number of individuals in the United States who do

not identify with a religion has been rapidly growing. Out of the 46 million people in the United States with no religious affiliation, 37% of them define themselves as spiritual and not religious, while 68% believe in God (Pew Research Forum, 2012). The rapid growth in individuals with no official religious affiliation is due to generational replacement. 32% of adults under 30 have no religion compared to only 9% in adults aged 65 and older (Pew Research Forum, 2012). The publication dates of the available research that supports the positive correlation between alcohol consumption and spirituality ranges from 1996-2007, with a mean year of 2005. In 2005, only 23 million people had no religion with 80% of the US population believing in God (Newport, 2005). The buffering relationship between spirituality and alcohol consumption that past older research has found might not be replicable in today's ever changing spiritual and religious climate.

Similarly, attitudes toward substance use have changed over the years. For example in 2003, 30% of Americans were regular cigarette smokers as opposed to only 26.5% today. This decline is partly due to the ban on cigarette smoking indoors at restaurants, bars, and non-hospitality workplaces that were enacted in 28 out of the 50 states from 2004-2007 (Substance Abuse and Mental Health Services Administration, 2004; Substance Abuse and Mental Health Services Administration, 2012). Another example is the 80% increase since 2008 in regular marijuana use among teenagers and college students. This increase has been attributed to the push to legalize marijuana use and the softened public attitude toward the drug (Substance Abuse and Mental Health Services Administration, 2004; Substance Abuse and Mental Health Services Administration, 2012). When it comes to regular alcohol consumption within a college population, that number has declined from 64.9% to 60.8% because alcohol consumption

waxes and wanes according to how the economy is performing (Substance Abuse and Mental Health Services Administration, 2004; Substance Abuse and Mental Health Services Administration, 2012). In summary, if religious and spiritual attitudes along with substance abuse attitudes have changed over the years, results from research 10-20 years old might not be replicable in today's environment.

Furthermore, if research is having a tough time creating standard definitions for religion and spirituality and an even tougher time defining how they relate to one another what's to say the lay person knows how to define and connect them? Twenty years ago if this exact study was conducted, people might have saw the word spirituality and thought of God. The two terms might have been more closely linked. Today, they aren't. 1 in 5 Americans currently consider themselves spiritual but not religious (Pew Research Forum, 2012). Perhaps spirituality does not play an important role in substance use, maybe it's the religiosity that does. For example, laws are the backbone of our society. Not all individuals agree with the laws and rules, but we follow them because there are consequences for breaking them and they create a sense of community. Without the law, our society would fall into chaos. Religion is like the law. It is a set of traditions, guidelines to which one should live their life by, and a community. Without religion, spirituality could be anything. The individual is allowed to make their own standards, rationalize their decisions at will, and live based on their own moral compass. That said, if there is one thing we know about humans it's that our behavior doesn't always match our internal sense of what's right and wrong. There has been a general decline in social capital in our society; we all want to spend more time apart and less time with our community (Pew Research Forum, 2012). A window is a more effective tool than a

mirror to examine one's personal actions; having a community and an institution to set a standard is good (Wolpe, 2013). Maybe it is religion that buffers alcohol consumption after all and not spirituality. Having something greater than ourselves to hold us accountable might be the missing piece to this puzzle.

Our second hypothesis was that the three spirituality measures being utilized in this study will be moderately correlated because of the fact that they each measure spirituality in a different way. Just because the three measures use different vernacular, they still measure the same abstract concept. This hypothesis was supported by our research and lends credence to the multidimensionality and overlap between spirituality and religion. Although spirituality is an abstract concept that has been defined multiple ways, it is still quantifiable. This is evidenced by the fact that the participants' scores were consistent across the three measures.

These results also help reevaluate the question of how religion and spirituality relate to one another because our definition was not completely devoid of religion. Although religion can be a form of one's spirituality, religion may meet other needs (e.g., traditional, institutional) that may be unrelated to spirituality. Likewise, for some, spirituality may be completely detached from conventional religion or traditional religiosity. Spirituality cannot be completely detached from religion because although they are different, there are too many similar components and relationships between the two.

Another purpose of our research was to better understand the differences and similarities between males and females regarding spirituality. Specifically, we hypothesized that females would be significantly more spiritual than males on all of our

measures. Results from the independent t-tests we ran found significant differences on the ISS, but not on the SAI and SISRI-24. These findings could be due to the fact that the ISS uses the word spirituality and although it provides a definition for spirituality that is equivalent to ours, it allows the participants to apply their own. Another possible reason for our findings could be due to the fact that the ISS only has 10 questions as opposed to our other measures that have 54 and 24 questions. The weight and importance of each question on the ISS is magnified by the fact that there are less questions and that could account for the significant differences between the genders. Despite the fact that we did not find results that fully support our hypothesis, our findings are congruent with past research that did not see gender differences in spirituality (Berkel, Armstrong & Cokley, 2004; Cox, Keenan, Nanji & Kollath, 2011; Mattis, 1997).

The disharmony of the literature when it comes to gender differences and spirituality may be due to the wide range of instruments used to gauge spirituality and many of the researchers in this area want the creation of qualitative measures instead of quantitative ones. Many researchers believe that qualitative measures would help create gold standard definitions of religion and spirituality which would in turn make studies in this area more uniform (Berkel, Armstrong & Cokley, 2004; Nilsson et al., 2003). Although qualitative measures may provide a level of understanding that quantitative instruments cannot attain, qualitative measures involve interpretation on the part of the rater. Quantitative measures are less subjective on the part of the researcher and may provide more reliable results.

Finally, we hypothesized that gender would moderate the relationship between spirituality and alcohol consumption. We ran multiple hierarchical linear regressions and

did not find any significant results. Part of the reason why we did not find anything significant results is because a moderator is the variable that affects the direction and strength of the relationship between the independent and dependent variable. We did not find enough of a relationship between spirituality and alcohol consumption for gender to change or affect that relationship.

An unexpected result was that people who reported high levels of drinking, scored lower in deceptiveness. This could be explained by the fact that our mean sample age was 19.94 and in college. While attending a university drinking, specifically underage drinking and social drinking, is normalized and might be the reason why those who drank a lot had no issues reporting it.

Chapter 6

Limitations

This study is not without limitations and has many of the same limitations as prior research does. First, a vast majority of the sample used for this research was a convenience sample of students at a public university in the eastern U.S. We did get participants from Europe and participants of all ages, but we would have liked more of both those groups because it would have helped diversify our sample.

Secondly, there may be some problems with the validity of the scores on our measures. The participants were asked to report the importance of spirituality in their lives as well as their drinking habits. The wide range of interpretations or the fact that the measures were self report and susceptible to over and under reporting could have had an effect on the results. Finally, none of the correlations found should be confused with causation, they just suggest a relationship between two variables.

Chapter 7

Areas of Future Study

This study, along with a large majority of the research on spirituality and alcohol consumption, points out a need for better measures. The creation of a psychometrically sound spirituality screening measure could help determine which individuals would do well in a 12 step program and those who would not. This could be accomplished by creating an item pool of spirituality, religious, and individual variables and running a factor analysis to lower the amount of unobserved variables. Clients who are seeking help in their recovery and have a negative experience are less likely to seek out help in the future and a screening measure could be highly beneficial. Those who scored one way could be referred to AA and others could be referred to alternative programs like Moderation Management and Rational Recovery which do not include a spiritual component and specifically address barriers to earlier recovery.

Another study that should be conducted is on the long term effectiveness of AA. The statistics that currently exist on the efficiency of the 12-step programs are suspect to say the least. The numbers are not consistent, with some data showing that AA is more effective for treating substance problems than Cognitive Behavioral Therapy and other proven and efficacious treatments (Gray, 2012). The difficulty with collecting data on 12-step programs is that people are always coming in and out and there are confidentiality issues. As suggested in our discussion, maybe spirituality is not what makes the 12-step programs effective, maybe it's the sense of community and support or the fact that there is an AA meeting in every town. A study that examines the long term effectiveness of AA and what about it is effective would be beneficial to the research base.

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