

**INFLUENCE OF SPIRITUAL EXPERIENCE AND SELF-CONTROL ON DRUG USE
AMONG UNDERGRADUATES IN FEDERAL UNIVERSITY OF TECHNOLOGY**

AKURE

BY

AYILUMO ADEJUMOKE MARY

PSY/14/2029

**A PROJECT SUBMITTED TO THE DEPARTMENT OF PSYCHOLOGY, FACULTY
OF THE SOCIAL SCIENCES FEDERAL UNIVERSITY OYE EKITI IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF
SCIENCE (BSc) DEGREE IN PSYCHOLOGY.**

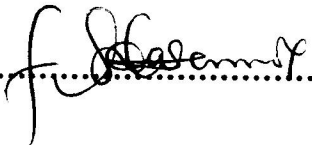
SUPERVISOR

DR ABIODUN MUSBAU LAWAL

NOVEMBER, 2018.

CERTIFICATION

I certify that this study was carried out by AYILUMO ADEJUMOKE MARY (PSY\14\2029) of the Department of Psychology, Faculty of Social Sciences, Federal University, Oye Ekiti.

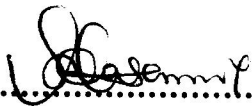
.....


DR. ABIODUN M. LAWAL

SUPERVISOR

.....
26/02/19

DATE

.....


DR. OWOSENI OMOSOLAPE O.

HEAD OF DEPARTMENT

.....
26/02/19

DATE

DEDICATION

This project is dedicated to Almighty God, the first and the last, the creator of everything (both on earth and in heaven). You alone we give praises and you alone we ask for help (everything). I give thank to God for showing m his loving kindness in making this project a successful one.

ACKNOWLEDGEMENT

My greatest indebtedness goes to the almighty God who as spare my life thought out this academic program for his mercy endureth forever over my life. God the alpha and omega, the creator and a finisher of my faith during the odds of my life and he has helped me to commence and complete this course and this project.

I can never forget the contribution of my parents Mr. Adeleke Ayilumo and Mrs Adefunke Ayilumo for all their support s for my academic pursuit most especially physical and spiritual hardship contribution of my lovely mother during the days and nights. Daddy and Mummy may God protect you and spare your life's to reap what you sow. I also commend the effort of Mr. & Mrs. Omowaye, Mr. & Mrs Oladele Agbaje, Mr Femi Awanebi, Miss. Ojo Wemimo, Mrs Oladipo and my dearest sister Adebola for your ideal support financially, morally and spiritually before and during my academic years.

I express my gratitude to my entire family members and my beloved siblings Adesanmi, Adewale, Adebola, Adeseye, Mummy Testimony, Olawande, Aunty Ronke, Adedolapo, Testimony, and Tomisona may God keep ours together for a long time. I also appreciate the support of my incredible school brothers and sisters may God almighty be with you all. (Amen)

I wish to express my profound gratitude to my dear supervisor Dr. Abiodun M. Lawal who is in spite of his programme of work and tight schedule his still gave me the necessary guidance and motivation may God continue to elevate you sir.

I am also grateful to some other lecturers Dr. Omole, , Dr. Olawa, Mrs. Oladunjoye, Dr. (Mrs) Azikwe, Amiable Prof. Omolayo and Dr.(Mrs.) Olatunji, Dr. (Mrs.) Owoseni O.O,H.O.D Psychology, Faculty of Social Science, Federal University Oye Ekiti

My sincerely gratitude goes to my lovely friends and my colleagues

Finally, special thanks go to God almighty, the saver of my life; the beginning and the end who has given me, Ayilumo Adejumoke Mary his wisdom, patients and strength through my pursuit. To God is the Glory.

ABSTRACT

The aim of the study was to examine the influence of daily spiritual exercises and self-control on the drug use among undergraduates in federal university of technology, Akure, Ondo State. To achieve this aim, the study adopted the ex-post facto research design for the course of the study. 300 students were administered research instruments to include the daily spiritual experience scale, brief self-control scale and the drug use questionnaire. Results indicated that that undergraduates with low spiritual experience ($X = 62.74$) were significantly different in the usage of drugs from undergraduates with high spiritual experience ($X = 60.39$), $t = -.848$; $df = 244$, $p < .05$, that undergraduates with low self-control ($X = 71.74$) were significantly different in the usage of drugs from undergraduates with high self-control ($X = 50.59$), $t = -8.42$; $df = 244$, $p < .05$ and that male undergraduates ($X = 64.86$) were significantly different in the usage of drugs from Female undergraduates ($X = 58.95$), $t = 2.76$; $df = 244$, $p < .05$. From the research findings, it was recommended that undergraduates should take active part in spiritual activities.

Word count: 183

Keywords: Drug use, spiritual experience, self-control, undergraduates, gender

TABLE OF CONTENTS

Title page	i
Certification	ii
Dedication	iii
Acknowledgement	iv
Abstract	v
Table of contents	vi
List of tables	
CHAPTER ONE	
Introduction	1
Statement of problem	5
Purpose of study	8
Relevance of study	8
CHAPTER TWO	
2.1. Theoretical framework	9
2.1.1. Social cognitive theory	9
2.1.2 Theory of reasoned action	11
2.1.3 William James theory of religious experience	13
2.1.4 Guttered son and this chi's general theory of self control	14
2.1.5 Strength model of self-control	19
2.2 Conceptual framework	23
2.3 Related empirical studies	23
2.3.1 Darkly spiritual experience and drug abuse	23
2.3.2 Self-control and drug use	29

2.3.3	Gender and drug use	31
2.4	Statement of hypothesis	33
2.5	Operational definition of terms	33
CHAPTER THREE		
3.1	Research design	35
3.2	Setting and participants	35
3.3	Study sampling	36
3.4	Instrument	36
3.5	Procedure	37
3.6	Statistical analysis	37
CHAPTER FOUR		
4.0	Results	38
CHAPTER FIVE		
5.1	Discussion	40
5.2	Conclusion	42
5.3	Recommendations	43
5.4	Limitation of study	43
REFERENCES		44
APPENDIX		

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO STUDY

Drug abuse among young people is recognized as a set of behaviours involved with the direct consumption of substance deemed illegal to the public. Involvement in drug use encompasses learning processes, cultural agents, and socialization (Hallam & Bewley-Taylor, 2010). These agents, such as the family, peer groups, spirituality, and the entertainment industry, are some of the social institutions that young adults are exposed to daily and that have a very important cognitive influence on the decision-making process (European Regeneration Areas Network, 2005). The use and abuse of drugs is a complex phenomenon that has adverse consequences upon the user's health, family integration, and social development. Nowadays, the problems related to drugs have an impact at both the individual and the immediate society. It however, constitutes a serious public health problem that can trigger violence, disintegration of families, and financial hardships.

A major concern for drug users is their physical and psychological wellbeing as substance abuse also increases risky sexual behaviour, depression, sexual assault, and even mortality (Abbey, 2002; Arasteh, Des Jarlais, & Perlis, 2008; Cooper, 2002; Fergusson, Horwood, & Swain-Campbell, 2002; Hallfors, Waller, Ford, Halpern, Brodish, & Iritani 2004; Jones, Oeltmann, Wilson, Brener, & Hill, 2001; Kapner, 2008; Leino, Romelsjo, Shoemaker, Ager, Allebeck, Ferrer, Kniep 1998). Alcohol and drug use also tend to co-occur, which poses an even greater risk to physical and mental health. All beliefs, habits, and practices are determined by culture, country, or region. For this reason, it is necessary to take into account cultural and legal aspects surrounding the use of drugs. Due to their daily presence and ancient origin in rising civilizations they became accepted and approved socially, providing individual characteristics, situational conditions, and/or environmental

contexts that can be observed, and which inhibit, reduce, or mitigate the probability of use and/or abuse of drugs or transition in the level of involvement therewith.

Religiousness is such a cultural factor. Some religions, such as Islam, The Church of Jesus Christ of Latter-day Saints, certain sects of Hinduism, and schools of Buddhism forbid substance use. Even when one's religion does not prohibit substance use, stronger religious commitment often relates to less substance use (Benda, Pope, & Kelleher 2006; Ford & Hill, 2012; Gartner, Larson, & Allen 1991; Gorsuch, 1995; Hill & McCullough, 2008; Humphreys & Gifford, 2006; Johnson, Sheets & Kristeller 2008; Kendler Liu, Gardner, McCullough, Larson, & Prescott 2003; Koenig McCollough, & Larson 2001; Koopmans Slutske, van Baal, & Boomsma 1999; Miller, 1998; Regnerus & Elder, 2003). Therefore, extent at which students, whether Christians or Muslims serve their God might affect their engagement in certain risky behaviour such as abusing drug or alcohol and other substances. Apart from spiritual experience, individual's ability to control himself or herself over a risky behaviour is another area vital in substance abuse reduction. In terms of linking spirituality or religiosity to reduced level of substance use, certain researches have done to link religiosity with morality.

The notion that religion is a precondition for morality is widespread and deeply ingrained. More than half of Americans share Laura Schlessinger's belief that morality is impossible without belief in God (Pew Research Center, 2007), and in many countries this attitude is far more prevalent. In a series of compelling recent studies, Gervais and colleagues (Gervais, Shariff, & Norenzayan, 2011; Gervais, 2011, 2013a, 2014a; Gervais & Norenzayan, 2012b, 2013) have demonstrated strong implicit associations of atheists with immorality. Although these associations are stronger in people who themselves believe in God, even atheist participants intuitively view acts such as serial murder, incest, and necrobestiality as more representative of atheists than of other religious, ethnic, or cultural groups (Gervais,

2014a). Unsurprisingly, atheists explicitly disavow this connection, with some even suggesting that atheists are “the moral backbone of the nation participating in society acceptable behaviours as taking their civic duties seriously and precisely because they don’t trust God to save humanity from its follies” (Dennett, 2003). Other non-atheists have taken a softer line, arguing that moral inclinations are deeply embedded in our evolved psychology, flourishing quite naturally in the absence of religious indoctrination (Pyysiäinen & Hauser, 2010). Although there is no shortage of lively polemic, scientific investigations of the connection between religion and morality have so far produced mixed results. The interpretive difficulties are exacerbated by imprecise conceptions both of “religion” and “morality.” It is not clear that these terms are used in the same ways by those between, or even within, seemingly opposing camps.

It is also important to note that there is a growing body of research describing religiosity and spirituality as different. Religiosity is a complex, multidimensional construct and for the purpose of this project refers to the degree to which a person is religious from a primarily social and doctrinal perspective and is thus more easily quantifiable than abstract terms such as religion (Miller, 1998). Simply put, religiosity involves religious affiliation, participation, and association. Spirituality, on the other hand, is viewed from the perspective of the individual and his or her relationship to, connection with, and feelings about God or some higher power, and how this connection is related to an individual’s search for self and meaning (Miller, 1998; Lesser, 2000). Again, however, it is not necessary for these beliefs to be shaped in any way by religious doctrine, and may be entirely secular for some individuals (Mason et al., 2007). The majority of recent literature reviewed for this project established a clear distinction between these two constructs (Miller, 1998; Fernander et al., 2004; Neff, 2006; Calhoun, 2007; Ellingson, 2001). This has not always been the case, however. Weaver et al. (2006) showed that in health research, there has been a significant increase in the

number of scholarly articles focusing on spirituality, which is significant for this project in terms of how substance abuse is related to health. Given the function of spirituality within religions and the trends in religiosity, it is reasonable to expect that people may be religious and spiritual or that they may be spiritual but not religious or that they may be neither. It is not expected that people will be religious but not spiritual, since spirituality is incorporated into religions and is manifested in practices such as prayer and worship.

Increasing number of studies has shown that within the process of most of addictive behaviours, there is a lack of control on addictive and habituated action. For example, a study by United Nations Office on Drugs and Crime (UNODC) Report (2005), some 200 million people, or 5 percent of the world's population aged 15 - 64 have used drugs at least once in the last 12 months – 15 million more than the previous year's estimate. Likewise, according to the World Drug Report (2005), the use of illicit drugs in all nations has increased in recent years. In other words, it appears that some individuals have low levels of self-control, which make them less capable of managing emotional reactions towards situations/things/events/people during interactions (Pour-Razavi, Allahverdi-Pour, & Toupchian 2015).

Self-control could be considered as the result of internal conflict between rationale and lust, condition and motive, and internal planning and internal executive, self-control could be divided into individual and interpersonal dimensions. Low self-control is an outcome of inefficiency of family system and weak sociability of person; when accompanied with low self-esteem, conscience, and internal control as well as high levels of hopelessness, the intrapersonal dimension would be presented. While, mixing up with anger presentation, hurry, self-centeredness, apathy, high levels of risk-taking, delinquency, and impulsive actions would demonstrate the interpersonal dimension of low self-control(Arian-Pour, Shahabi-Zadeh, & Bahreynian, 2015; Zare, Alipour, Qobari Bonab, & Asemi, 2015). In view

of the aforementioned previous studies, examining how university students' spiritual experience and self-control influence drug abuse is timing at this period of high prevalence of drug and substance abuse among youths.

1.2 STATEMENT OF PROBLEM

Research on an international level suggests that the use of illegal substances is considerably common among young people. On a large scale research among 16,661 participants aged 18 and over, Richter, Ahluwalia, Mosier, Nazir, and Ahluwalia (2002), found that 9% had made use of an illegal substance within the last month of the review, whilst in the review of Webb, Ashton, Kelly, and Kamali (1996), the use of any prohibited substance was reported by 59% of participants. Particularly, as far as the epidemiology of alcohol misuse among young people is concerned, Dawson, Grant, Stinson, and Chou (2004), noted that 42,6% of students aged 18 to 29 have been involved in a heavy drinking episode at least once at some point within the last year, 2,7% consume alcohol more than once a month and 12,7% once a week.

According to the latest report of the World Health Organization, the EU is the heaviest drinking region of the world, with over one fifth of the European population aged 15 years and over reporting heavy episodic drinking (defined as five or more drinks on one occasion, or 50g alcohol) at least once a week (WHO, 2009). It has been pointed out that marijuana is most commonly used, compared to other substances. This is also confirmed by researches in Greece (Madianos, Madianou, & Stefanis, 1995). According to Reed, Wang, Shillington, Clapp, and Lange (2007), peer influences, the university environment which involves little or no adult supervision as well as psychological factors, such as isolation or group identification, may play a significant role in use initiation during this period of life. For example, it has been demonstrated that, in contrast to non-users, the users of ecstasy are more

likely to spend more of their time in socializing and participating in clubs and associations, indicating that use by students takes place within a social setting, where the impact of peer pressure is higher (Strote, Lee, & Wechsler, 2002).

An important issue worth noting is the relation between the use of one substance and the use of others that has been confirmed by many reviews. It has been shown, for example, that the majority of adolescents who smoke, also consume alcohol. Further, smokers who drink, consume larger quantities of alcohol from the non-smokers who drink (Duhig, Cavallo, McKee, George, & Krishnan-Sarin, 2005). On the other hand, it has been shown that smokers smoke more often while consuming alcohol (Reed, Wang, Shillington, Clapp, & Lange, 2007). Researchers have identified certain factors associated with greater potential for drug use especially those related to substance abuse. For instance, Hawkins, Catalano, and Miller (1992) cite research indicating that a low level of commitment to education and higher truancy rates appear to be related to substance use among adolescents. Cognitive and behavioural problems experienced by alcohol and drug using youth may interfere with their academic performance and also present obstacles to learning for their classmates (Bureau of Justice Statistics, 1992).

Drug abuse not only weakens the immune system but is also linked to risky behaviours like needle sharing and unsafe sex. The combination greatly increases the likelihood of acquiring HIV-AIDS, hepatitis and many other infectious diseases. Transmission of HIV/AIDS primarily occurs through exposure to body fluids of an infected person during sexual contact or through sharing of unsterile drug-injection equipment. Many substance-abusing youth engage in behaviour that places them at risk of contracting HIV/AIDS or other sexually transmitted diseases. This may include the actual use of psychoactive substances (particularly those that are injected) or behaviour resulting from poor judgment and impulse control while experiencing the effects of mood-altering

substances. Those associated with reduced potential for substance use are protective factors including self-control, academic competence, positive relationships, parental monitoring and support and anti-drug use policies (National Institute on Drug Abuse, 2003). Literature also suggests that youths who rapidly increase their substance abuse have high levels of risk factors with low levels of protective factors. The more risks an individual is exposed to, the more likely the person will abuse drugs (Dishion et al. 2002).

In terms of the negative effects of drugs, like Marijuana which is prevalent among youth, has been shown to interfere with short-term memory, learning, and psychomotor skills. Motivation and psychosexual/emotional development also may be influenced (Bureau of Justice Statistics, 1992). Also, youths often are alienated from and stigmatized by their peers. Adolescents using alcohol and other drugs also often disengage from school and community activities, depriving their peers and communities of the positive contributions they might otherwise have made (Yusuf, Gazali & Abdulahi 2013). This research therefore wants to find out how protective factors such as spiritual experiences and self-control will influence drug use among undergraduates of Federal University of Technology, Akure, Ondo state.

1. Does daily spiritual experience influence drug use among undergraduates of Federal University of Technology, Akure, Ondo State?
2. Does self-control influence drug use among undergraduates of Federal University of Technology, Akure, Ondo State?
3. Is there a gender difference in drug use among undergraduates of Federal University of Technology, Akure, Ondo State?

1.3 PURPOSE OF STUDY

The main purpose of this study is to examine the influence of daily spiritual experiences and self-control on drug use among undergraduates of Federal University of Technology, Akure, Ondo state. Specific objective are as follows:

1. To examine the influence of daily spiritual experiences on drug use among undergraduates of Federal University of Technology, Akure, Ondo state.
2. To examine the influence of self-control on drug use among undergraduates of Federal University of Technology, Akure, Ondo state.
3. To examine the gender difference in drug use among undergraduates of Federal University of Technology, Akure, Ondo state.

1.4 RELEVANCE OF STUDY

This study will provide information regarding the prevalence of drug use among adolescents in Federal University of Technology, Akure, Ondo state especially when comparing male and female students' consumption of substances. Findings from this research will be relevant to the field of clinical psychology in the suggestion of the likely protective factors influencing drug use among undergraduate students. In addition, findings from this study will provide meaningful insight into the spiritual life and self-control abilities of undergraduates who are already addicted users of drugs and substances in order to help them overcome challenges of addiction.

Findings from this study will practically be helpful to individual students particularly those who are newly exposed to drugs and substances and those vulnerable to drug and substance abuse. In this regard, students will understand the significance of daily spiritual practices like reading the bible or Quran on their self-control compelling them not to partake in activities that is detrimental to their health such as drug abuse.

CHAPTER TWO

LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

This chapter reviews various theories relating to variables in the study as well as some related studies. The theories reviewed include theories of stress and motivation theories. The chapter also includes statements of hypotheses and operational definition of terms used in the study.

2.1.1 SOCIAL COGNITIVE THEORY

Social cognitive theory constitutes the most contemporary version of social learning theory. Both theories were formulated by Albert Bandura (1977, 1986) who sensed that, while the theory of social learning is more effective compared to previous theories of human behaviour analysis and provides more efficient methods of behavioural modification, it was confined only to studying environmental influences, ignoring the fact that individuals may also influence their environment. Thus, the notion of cognitive processing was also included in social cognitive theory (Kaplan, Sallis, & Patterson, 1993).

According to this theory, the individual, his/her environment and behaviour interact at the same time, affecting all aspects of their reality. Behaviour is not only the result of the reaction to environmental stimuli but individuals are viewed as capable of thinking and forming an opinion in any circumstance, reflecting on the possible consequences of certain behaviours and then deciding on the best action (McMurrin, 1997). Two basic elements are included in social cognitive theory, denoting the cognitive processes that influence a person's behaviour: self-efficacy and outcome expectancies. The first is related to a person's belief that they can maintain control over the facts that influence their life and it comprises a general cognitive mechanism which intervenes in the person's behavioural response to the

received stimuli (Marks, Murray, Evans, & Willig, 2000). It refers to the evaluation made by the individual in relation to his/her ability to perform an action in a certain situation.

Outcome expectancies refer to a person's beliefs as to whether their involvement in certain behaviours will result in the desired outcomes or not. Outcome expectancies are formed either through the person's immediate experience of a certain behaviour, or through observation (which constitutes the main principle of social cognitive theory) of other people's experiences regarding the outcomes of this behaviour. These people may be members of the family, friends and/or famous people, who represent dominant models for the individual (Sarafino, 2006). It is possible that someone may find out, for example, that consuming alcohol leads to relaxation by observing the positive effects that occur when their parents consume alcohol after a strenuous day at work. The theory of social learning, is therefore similar to cognitive emotional theories regarding the hypothesis asserting that attitudes towards substances, as well as the expectancies about possible outcomes are critical factors as far as the use of substance is concerned.

The theory of social cognitive learning is applied in the field of substance use, claiming that people presume positive expectancies and attitudes towards substances through the process of observing or imitating positive statements or attitudes of their models. Cognitive emotional theories, which include theories of reasoned action and planned behaviour (originating from the socio-cognitive theory paradigm) claim that the primal (primary) reasons of use are found within people's attitudes regarding the effects of substances, as well as their personality characteristics, in addition to the peer pressure for substance use.

Furthermore, it has been noted that individuals who smoke and consume alcohol have more positive attitudes towards substances in contrast to individuals who neither smoke nor drink (Best et al., 2000). The role of outcome expectancies, however, has been pointed out

with respect to other substances as well. For example, Engels and ter Bogt (2004) when studying the use of ecstasy pills at a party, found that expectancies related to the outcomes of the substance were significantly different between users and non-users, since those who had negative expectancies for the substance effects were more likely to refrain from use, while those who had positive expectancies were more likely to use ecstasy.

The theory of social learning, of course, provides additional understanding to the causes of those cognitive factors that determine substance use (Petraitis, Flay, & Miller, 1995). Due to the fact that both share many similarities, the two theories will be viewed parallel to one another.

2.1.2 THEORY OF REASONED ACTION

The theory of reasoned action was formulated by the psychologists Icek Ajzen and Martin Fishbein (1980) in order to describe all human behaviours which are under the voluntary control of an individual, thus constituting a general psychological theory of behaviour, widely applied to the field of mental health. Its basic hypothesis maintains that individuals usually think rationally and make predictable use of the information available to them (Kaplan, Sallis, & Patterson, 1993). The theory of reasoned action as well as the theory of planned behaviour (Ajzen, 1991) which is actually the former's extended version were formulated in order to predict social behaviour (Messer & Meldrum, 1995).

According to the theories of reasoned action and planned behaviour, people balance the possible pros and cons of a certain behaviour and act according to the outcomes of this analysis (Sarafino, 2006). It has been suggested, though, that attitudes do not constitute the strongest predictive variable of an action, but carry an indirect effect, affecting someone's intent to act in a certain way (Messer & Meldrum, 1995).

The basic concept of both theories comprises the concept of intentions, namely the driving factors which affect behaviour. Intentions are indications of the degree of effort which someone plans to make while being involved in certain behaviour. This means that the higher the intention of an individual to act in a certain way, the greater, presumably, their performance in this behaviour (Ajzen, 1991). Therefore, behaviour is most importantly defined and directly influenced by intentions. As far as substance use is concerned, it has been proven that it is significantly predicted by intention (Elek, Miller-Day, & Hecht, 2006).

If an individual intends to perform certain behaviour, it is most likely that they will bring it to an end. If, however, intention is extinguished, then it is less possible that this act will be carried out. This part of the theories constitutes wide-spread knowledge, but Ajzen and Fishbein moved forward focusing on the factors which affect intentions. Hence, according to the above, there are three factors that determine the intention of an individual to engage into an action, including substance use: (a) subjective norms, (b) perspectives (outcome expectancies) and (c) the level of perceived behavioural control (self-efficacy), which is found only in the theory of planned action and basically comprises the element that distinguishes it from the primary theory of reasoned action. Other factors, such as personality, age and gender, seem to affect behaviour only through their influence upon the above-mentioned three factors (Messer & Meldrum, 1995). Subjective norms reflect internalised moral values and expectancies regarding an action, apart from external rewards or declarations (Kallgren, Reno, & Cialdini, 2000).

Descriptive norms refer to a person's views regarding the levels of predominance of an action and injunctive norms refer to the perceived pressure by the members of the groups that an individual belongs, in order to engage or avoid the engagement into a certain action (Cialdini, Reno, & Kallgren, 1990). While reviewing the role of the three norms in substance use (nicotine, alcohol and marijuana), it was noted that subjective norms, which are opposed

to substance use, have the strongest influence, as they can predict less current substance use, as well as less intent of the individuals to accept substance offer in the future (Elek, MillerDay, & Hecht,2006). As far as the other two types are concerned, Rimaland Real (2003). Although they considered injunctive norms with reference to the wider social groups and not only to peers (a fact that could possibly affect the results in a different way) noticed that descriptive norms have higher input on the shaping of an action, regarding alcohol use, in comparison to injunctive norms. When studying the relation among descriptive norms, outcome expectancies and behaviour, Rimaletal. (2005) suggested that the former do not have an immediate control over behaviour, but that the estimated benefits of an action mediate the relation between descriptive norms and behavioural intent. In particular, when the participants in their study assumed that the profits of the involvement in certain behaviour were high, the descriptive norm related positively with their behavioural intent.

The theories of reasoned action and planned behaviour focus mainly on injunctive norms, but also provide hints on the impact of descriptive and subjective norms on the formation of an individual's behaviour.

2.1.3 WILLIAM JAMES THEORY OF RELIGIOUS EXPERIENCE

William James is known as the father of functionalism, as the foremost American Psychologist, William James in the 1900s proposed an explanation of individual spiritual experience which is some worth relevant in today's world. James's notion was essentially that the core of religious life is to be found primarily within the inner recesses of the individual and that in each one of us the essential link between our normal everyday waking awareness and mystical states of religious awakening lay through a direct encounter with our own subliminal unconscious life.

James however claimed that the truth or veracity of such tremendously powerful inner experiences must be tested in the world at large by their practical results. When James said that the true essence of religion lay within, he was speaking from the standpoint of a psychologist who takes as his basic data the life of the individual.

Of the spiritual he claimed that this dimension of the personality "could be known only to the individual by himself." This was the definition in his famous *Principles* in 1890. He extended this notion some ten years later by asserting that: "*Religion (in the deepest psychological sense of the word) is comprised of the feelings, acts, and experiences of individual men (and women) in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider' the divine (1928)*". James felt that the question of the value of deeply impressive inner experiences, such as those he called mystical, must be left to the manner in which the truths derived from them were tested by their practical effects on our daily life. This was his famous philosophical position called pragmatism. Thus religion, rather than focusing on its roots, is verified by its fruits—the increased meaning and value it brings to our lives in the most practical sense. This was one reason why James placed so much stress on the importance of the will, and the expression of individuality as the mark of a character guided by inner spiritual values. He espoused the need to be more deeply immersed in life, claiming that "it is only by risking our persons from one hour to another that we even live at all," and that "knowledge about life is one thing, effective occupation of a place in life. With its dynamic currents passing through your being, is another."

2.1.4 GOTTFREDSON AND HIRSCHI'S GENERAL THEORY OF SELF-CONTROL

Gottfredson and Hirschi (1990, hereafter G&H) ground their theory in several empirical assertions:

- (1) That the age-crime curve is invariant and therefore inexplicable (Hirschi and Gottfredson, 1983),
- (2) Individuals vary in their propensities to crime (“criminality”),
- (3) Criminality exists independently of crime,
- (4) Criminality is stable, and
- (5) Offenders do not specialize in particular offenses. Thus, the theory is grounded in the assumptions of crime instability (as a function of age and opportunities only), stable criminality, and versatility.

Gottfredson and Hirschi argue that existing theories cannot account for these facts and thus they developed a theory that is consistent with these facts and (their view of) the nature of crime. Rejecting the legal definition, Gottfredson and Hirschi define crime as “acts of force and fraud undertaken in the pursuit of self-interest.” Following the classical tradition, the theory assumes that humans are rational and pleasure-maximizing actors. “In this view, all human conduct can be understood as the self-interested pursuit of pleasure or the avoidance of pain”. Thus, human action is determined by hedonic calculus, and people choose to commit acts (crime or non-crime) because the perceived benefits outweigh the perceived costs. Although the theorists emphasize individual choice in their theory making the theory a choice theory, the classical theory of human action to which they subscribe stipulates that individual action is determined by hedonic calculus.

Next, the theory asserts that criminal acts provide immediate gratification (pleasure) to all but risk more severe long-term punishment (“In all cases, the behaviour [crime] produces immediate short-term pleasure to the actor”). Importantly, the theory assumes that the perception and appreciation of the short-term consequences of acts is invariant across individuals. (“There will be little variability among people in their ability to see the pleasures of crime”). As such, the short term consequences of crime, which are uniformly seen as

pleasurable, motivate all individuals towards the act: "The motive to crime is inherent in or limited to immediate gains provided by the act itself". Therefore, as a constant, positive motivation is no longer a necessary element of the theory; short-term, situational motivation to crime is assumed to be ubiquitous. According to the theory, we are all equally (highly) attracted to the immediate, obvious pleasures to be gained from theft, physical assault, rape, and tax evasion.

If long-term consequences of behaviour were removed, then presumably we would all engage in these immediately gratifying acts. Focusing on only the short-term consequences of crime, makes the question "why don't we do it?" problematic. However, criminal behaviour has both short- and long-term consequences. Due to various sanction systems, including penal/political sanctions, moral (social), religious, and physical sanctions, the criminal act is objectively more costly in the long run ("in all cases, the behaviour tends to entail long-term costs"). Thus, a full appreciation of the consequences of crime results in the pain of crime outweighing the pleasure. Accordingly, criminal acts should be avoided. Since we are rational, utility-maximizing creatures and objectively crime provides more pain than gain, we should all choose conformity. (This is, of course, consistent with the fact that most of us choose non-crime in most situations.) Given this state of reality, the theory's explanandum becomes: Why do people choose to act in ways that cause more pain than pleasure? "The mystery is, rather, how some people can ignore or misapprehend the automatic consequences of their behaviour, both positive and negative, and thus continue to act as though these consequences did not exist" (Hirschi and Gottfredson 1994).

What explains this non-pleasure maximizing behaviour (crime) given a pleasure-maximizing choice? The theorists therefore looked at the common element in a variety of behaviours and "concluded that the acts that tend to be found together in the behaviour of offenders have a common feature: they carry for the individual involved in them the risk of

long-term negative consequences. This characterization suggested a property of individuals as the source and explanation of differential involvement" (Gottfredson and Hirschi 1995).

To explicate this seemingly non-rational and non-hedonistic behaviour, Gottfredson and Hirschi's theory highlights individual differences in time perspectives when considering consequences at the point of decision making. The theory proposes that while perceptions of the short-term consequences of behaviour are invariant across individuals, between-individual differences exist in perceptions of long-term consequences. Therefore, the theory's explains that variation in the extent to which individuals consider the long-term costs of potential actions accounts for between individual variation in perceptions of pleasures and pains and thus the choice of crime or non-crime.

Individual variation is a continuum. At one end of the spectrum are individuals whose cost-benefit calculations are based on relatively immediate consequences; at the other end are those who consider the full consequences of behaviour. Therefore, the former individuals often choose crime because it is immediately gratifying and its (potential) painful consequences are largely distant and not within the realm of their hedonic calculations, whereas the later avoid crime because they are able to appreciate that crime is not utility maximizing. This individual variable (time perspective in considering the negative consequences of actions) allows pleasure-maximizing individuals to engage in objectively more costly acts because their perceptions of pleasures and pains are limited to immediate consequences. Thus, offenders remain hedonistic and rational, but are myopic; their actions are based on short-term rationality.

Time orientation when considering the consequences of actions is the primary variable accounting for differential propensities to crime. In other words, individuals vary in their propensities to crime largely as a function of the size of the window of time with which they concern themselves in calculating consequences of behaviours. The theorists label this

variable "self-control." "Low self-control" is defined as the "tendency of individuals to pursue short-term gratification without consideration of the long-term consequences of their acts" (1990: 177) or "the tendency to ignore the long-term consequences of one's acts" (1993). Low self-control is therefore hypothesized to be criminality, and this is the central hypothesis of SCT. Although self-control is the sole individual-level variable accounting for variation in crime, it is not the only variable responsible for the occurrence of criminal events.

"Although we argue that self-control is a general cause of crime, we do not argue that it is the sole cause of crime. Indeed, our analysis of delinquent and criminal acts argues that 'lack of restraint' is only one of several conditions necessary and collectively sufficient for such acts to occur. These other conditions are usually called 'opportunity' factors" (Hirschi and Gottfredson 1995). Since self-control is the primary variable accounting for differential propensities to crimes, what is not relevant to individuals' propensities to commit force or fraud is everything else. This includes differential motivation (preferences or aversions); beliefs about the legitimacy of rules or norms; tendency to feel "social emotions" (guilt, shame, sympathy, empathy, love); opportunities and abilities to satisfy wants and desires legitimately; relationships with others (after age 8), including discrimination, abuse, or nurturance; and habits. Since self-control is the only significant individual factor that distinguishes criminals from law-abiders, the offender is "just as forgiving, as unarmed, as lacking in nefarious plans, or as remorseful and self-critical" as non-offenders (Felson and Osgood, 2008: 163). What accounts for individual-variation in consideration of future consequences? According to the theory, short-term rationality is humans' natural disposition. Self-control is learned through early childhood socialization, primarily from the family.

In addition, the theory proposes that once established (usually by ages 6 to 8), self-control is relatively resistant to change. "Our theory asserts that following childhood the

population can be meaningfully ranked in terms of self-control, the tendency to consider or ignore the long-term consequences of one's acts" (Hirschi and Gottfredson, 1995:263). Presumably, the theory implies that decision-making habits, neural pathways, or other unspecified cognitive mechanisms responsible for the degree to which individuals consider longterm consequences of actions when calculating pleasures and pains are cemented in late childhood. According to the theory, then, "all that is required to reduce the crime problem to manageable proportions is to teach people early in life that they will be better off in the long run if they pay attention to the eventual consequences of their current behaviour" (Hirschi & Gottfredson 2003). In distinguishing crime from criminality, Gottfredson and Hirschi (1990, 1989) take pains to note that criminality (predisposition to acts of force and fraud) does not require crime (acts). This allows them to argue that crime declines with age, but criminality remains relatively stable. Crimes occur, according to the theory, when individuals with low self-control encounter opportunities for crime. Therefore, low self-control is necessary for the occurrence of crimes but not sufficient.

2.1.5 STRENGTH MODEL OF SELF-CONTROL

The strength model of self-control was proposed by Baumeister, Vohs and Tice in 2007 to explain the connection between energy and self-regulative efforts of individual in attempt to overcome a negative circumstance. Baumeister and his colleagues observed that self-control appeared vulnerable to deterioration over time from repeated exertions, resembling a muscle that gets tired. The implication was that effortful self-regulation depends on a limited resource that becomes depleted by any acts of self-control, causing subsequent performance even on other self-control tasks to become worse. The basic approach to testing the depleted-resource hypothesis was to have some research participants perform a first self-

control task, while others performed a comparable but neutral task, and then all would move on to perform a second, unrelated self-control task.

If self-control consumes a limited resource, then performing the first task should deplete the person's resource, leaving less available for the second task and therefore causing poorer performance on the second task. Other theories would make different predictions. For example, if self-control mainly involved activating a cognitive schema or mental program, then the first self-control task should prime the schema and activate the self-control system, so performance on the second self-control task should improve, not worsen. Early laboratory evidence for depleted resources in self-regulation was reported by Muraven, Tice, and Baumeister (1998) and Baumeister, Bratslavsky, Muraven, and Tice (1998). In one study, watching an emotionally evocative film while trying either to amplify or to stifle one's emotional response caused poorer performance on a subsequent test of physical (handgrip) stamina, as compared to watching the film without trying to control one's emotions. (Stamina counts as a measure of self-control because it involves resisting fatigue and overriding the urge to quit.) In another study, suppressing a forbidden thought weakened people's ability to stifle laughter afterward. In another, resisting the temptation to eat chocolates and cookies (and making oneself eat health-promoting but unappetizing radishes instead) caused participants to give up faster on a subsequent frustrating task, as compared to people who had not exerted self-control.

These studies all pointed toward the conclusion that the first self-control task consumed and depleted some kind of psychological resource that was therefore less available to help performance on the second self-control task. The term ego depletion was coined to refer to the state of diminished resources following exertion of self-control (or other tasks that might deplete the same resource). These ego-depletion effects are not due to a diminished sense of self-efficacy or to the inference that one is poor at self-control. Wallace and

Baumeister (2002) explicitly manipulated feedback about success and failure at self-control and measured self-efficacy, but neither factor had any discernible impact on the ego-depletion patterns. The analogy between self-control and a muscle was suggested by the early findings that self-control performance deteriorates after initial exertions, just as a muscle gets tired from exertion.

Other revealing aspects of self-control performance also extend the resemblance to a muscle. First, just as exercise can make muscles stronger, there are signs that regular exertions of self-control can improve willpower strength. These improvements typically take the form of resistance to depletion, in the sense that performance at self-control tasks deteriorates at a slower rate. Targeted efforts to control behaviour in one area, such as spending money or exercise, lead to improvements in unrelated areas, such as studying or household chores. And daily exercises in self-control, such as improving posture, altering verbal behaviour, and using one's non-dominant hand for simple tasks, gradually produce improvements in self-control as measured by laboratory tasks. The finding that these improvements carry over into tasks vastly different from the daily exercises shows that the improvements are not due to simply increasing skill or acquiring self-efficacy from practice. Second, just as athletes begin to conserve their remaining strength when their muscles begin to tire, so do self-controllers when some of their self-regulatory resources have been expended. The severity of behavioural impairment during depletion depends in part on whether the person expects further challenges and demands.

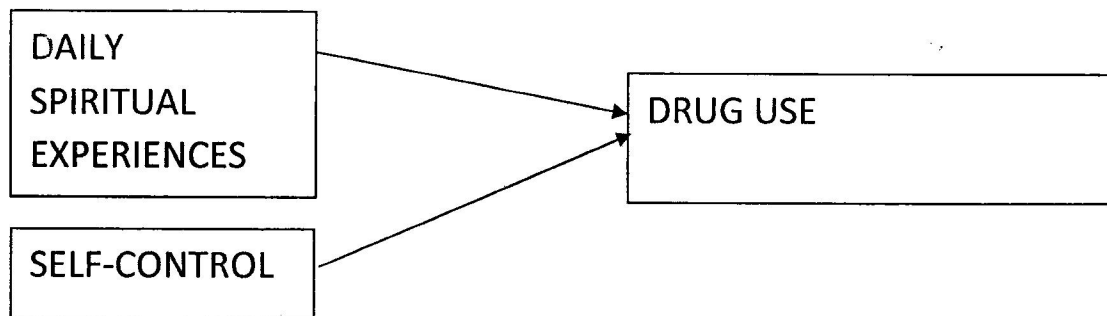
When people expect to have to exert self-control later, they will curtail current performance more severely than if no such demands are anticipated (Muraven, Shmueli, & Burkley, 2006). Third, and consistent with the conservation hypothesis, people can exert self-control despite ego depletion if the stakes are high enough. Offering cash incentives or other motives for good performance counteracts the effects of ego depletion (Muraven

&Slessareva, 2003). This may seem surprising but in fact it may be highly adaptive. Given the value and importance of the capacity for self-control, it would be dangerous for a person to lose that capacity completely, and so ego depletion effects may occur because people start conserving their remaining strength. When people do exert themselves on the second task, they deplete the resource even more, as reflected in severe impairments on a third task that they have not anticipated. Understanding self-control has potential applications across a broad spectrum of human behaviour. At the positive end, self-control is associated with good adjustment, secure attachment, and other favourable psychological states (Tangney et al., 2004). At the negative end, poor self-control is associated with elevated rates of psychopathological complaints and symptoms, as well as increased vulnerability to various substance-abuse and eating disorders (Tangney et al., 2004). Evidence that ego depletion contributes to a variety of problem behaviours including excessive alcohol consumption, overeating, sexual misbehaviour, prejudicial discrimination, and violence is accumulating. Intelligent behaviour is vital to human success, and it depends partly on self-control. Some processes, such as rote memory, are fairly automatic and independent of executive control, and these appear to be relatively unaffected by depletion. But logical reasoning, extrapolation, and other controlled processes depend on control by the self, and performance on these tasks dips sharply when people are depleted (Schmeichel, Vohs, & Baumeister, 2003).

Interpersonal processes also seem to hinge on self-regulatory operations, with some needing self-control more than others. Richeson and Shelton (2003) reasoned that self-control is needed for discussing delicate, sensitive issues. For instance talking about racial politics with a member of a different race because one has to avoid saying anything that might give offense or be misinterpreted. The researchers had White participants engage in such a conversation with a Black person; afterwards, the participants showed impaired performance

on the Stroop task, a classic measure of self-control in which participants are instructed to say the colour in which other colour words are printed (e.g., when seeing the word green printed in blue, the participant must override the automatic response of saying “green” in order to say “blue”). Having such a conversation with a member of one’s own race does not deplete the self and impair subsequent self-control. Presenting a desired image to others can also tax self-control strength resources (Vohs, Baumeister, & Ciarocco, 2005). After exerting effort at managing the impression they made (e.g., when trying to convey a particular image while making a recording), people showed deficits at self-control. Moreover, and conversely, after people had exerted self-control, they were less effective at managing their behaviours so as to make a good impression and in fact sometimes behaved in annoying or off-putting ways.

2.2 CONCEPTUAL FRAMEWORK



The figure above indicates that when daily spiritual experiences of undergraduates will and self-control will influence their involvement in drug use.

2.3 RELATED EMPIRICAL STUDIES

2.3.1 DAILY SPIRITUAL EXPERIENCE AND DRUG USE

Spirituality refers to an individual’s connection to God or however it is defined as a higher power in the universe, and also the individual beliefs and practices that accompany this connection. These may or may not be affiliated with any particular religious doctrine and

may be entirely nonreligious. Ellingson (2001) argued that the distance between religiosity and spirituality is especially apparent in the “Baby Boomer generation”, where a “spirituality of seeking,” rather than a spirituality of dwelling, is predominant. A spirituality of dwelling refers to a person finding God or the sacred within the context of doctrine and the religious institution. Conversely, a spirituality of seeking refers to an individual searching for the divine, meaning in life, and themselves through constantly seeking out information that can help them with immediate needs and problems. Alcohol and drug use also tend to co-occur, which poses an even greater risk to physical and mental health. Given the considerable negative consequences of substance use for health, it is desirable to identify factors associated with lower substance use. Religiousness is such a factor. Some religions, such as Islam, The Church of Jesus Christ of Latter-day Saints, certain sects of Hinduism, and schools of Buddhism forbid substance use. Even when one’s religion does not prohibit substance use, stronger religious commitment often relates to less substance use (Benda et al., 2006; Ford & Hill, 2012; Gartner et al., 1991; Gorsuch, 1995; Hill & McCullough, 2008; Humphreys & Gifford, 2006; Johnson et al., 2008; Kendler et al., 2003; Koenig et al., 2001; Koopmans et al., 1999; Miller, 1998; Regnerus & Elder, 2003).

Furthermore, Wallace and Williams (1997) in a study, explained that spirituality provides youth with a set of beliefs and values that prohibit behaviours considered immoral, illegal and antisocial. Other related studies have also found that measure of spirituality such as church attendance and importance of religious faith are inversely related to juvenile drug, alcohol, tobacco use delinquency (Evans, 1995; Pawalk & Dcfronzo, 1993; Cochram, 1993; Cochram & Akers, 1989). Similar multiple studies too have confirmed that spirituality is inversely related to the thoughts of suicide, attempted suicide and actual suicide among youths in the developing countries. In another field observation, Booth and Martins (1998) and Jang and Johnson (2001) in a similar study, drew a conclusion that spirituality is

negatively correlated with delinquent behaviours such as theft, vandalism, violence and substance abuse.

According to studies by Sinah, Cnaan and Gelles (2007), looking at ten risk behaviours, spirituality are consistently associated with reduced risk behaviours such as smoking, alcohol use, truancy, sexual activity, marijuana and or cocaine uses and depression. Also Krause (2013) in his studies showed that spirituality is significantly correlated with positive behaviours; a strong and more positive affection bond with parents and peers is linked to positive behaviour and may facilitate socialization based spirituality.

Benda and Corwyn (2001) carried out a study. The study consists of random samples from two public schools in the inner-city of a large metropolitan area on the East Coast, involving 360 adolescents and random, samples from three rural public high schools in a state in the South involving 477 adolescents. The purpose of the study was to test generalizations found in the literature about whether; (a) church attendance is an adequate measure of the effects of religions on antisocial behaviour (b) spirituality is related to more serious offenses like crimes against property and persons (c) church attendance or spirituality are related to crime among youths when the effects of major predictors are controlled and (d) the effects of spirituality are moderated by region of residence. The findings showed that spirituality rather than church attendance is significantly related to crime and the former remains a significant predictor event if it is analysed simultaneously, with the strongest predictor observed in the literature.

While linking a variable to higher level of religiosity, Hagekull (2007) found that positive parental attachment was related to higher levels of traditional religiosity in adulthood, whereas negative parental attachment was related to higher levels of New Age spirituality in adults, which is further evidence that spirituality, when is not enhanced by or related to religiosity, is related to the relatively lower levels of social bond factors and

negative attachments. In studies of religion and health, the standard approach has been to measure health and at the same time measure religiousness, using appropriate scales so as to convert statements about these into numbers that will allow statistical calculations. Since some of the studies are cross-sectional (i.e. taken at one point in time), it is not possible to state definitively whether religiousness causes mental wellbeing or vice versa. For example, a study examining the relationship between depression and religion might find that higher levels of depression were associated with lower levels of religiousness and vice versa, and three explanations for this relationship are possible: The secondary model: One is that those who are depressed spend less time engaged in religious activity due to lack of interest, poor concentration, etc., so that the connection is the result of the symptoms of depression rather than anything inherent in religion itself.

The confounder model: An alternative model might be that other independent variables, such as childhood neglect, which is associated with both a risk of later depression and low church attendance, is leading to false associations (in this example childhood neglect would be termed a confounder since it is associated with both variables of interest). The causal model: A third explanation is that those who are religious are less likely to develop depressive symptoms. Furthermore, this might be due either to 1) some inherent benefit from such a belief system or the benefits that are mediated by lifestyle factors associated with religiousness. Putative candidates for such factors include low alcohol consumption, more ready access to social supports (through church related activities), better self-esteem, and so on. So, studies of the relationship between religion and any variable of interest, be it depression, longevity, crime, etc., must be designed so as to take account of confounder variables, and the measures of religiousness must be taken in such a way that they will exclude the possibility that these outcomes resulted from pre-existing conditions and the measuring instruments themselves must be well designed. In other words, the studies must be

longitudinal, that is, conducted over an extended period of time, and with multiple measures included. Cochran et al. (1994) posited (for juveniles) that bonding variables such as school attachment and commitment and parental control are the means by which higher levels of religiosity are related to lower levels of delinquent behaviour, and indeed found that for assault, theft, vandalism, illegal drug use, and truancy, the significant negative effects of religiosity were made insignificant when the bonding variables were added. The significant effects of religiosity remained only for tobacco and alcohol use. Similarly, others have argued that the imposition of social bond variables such as nonreligious morality sources and legal deterrence, in addition to the effects of family and friends, helps to explain the relationship between religiosity and deviant, delinquent, and criminal behaviours (Johnson, Jang, Larson, & De Li, 2001; Evans et al., 1995).

Some researchers cannot link religiosity with low level of substance use. In their study of inner-city emergency room patients, Bazargan Sherkat, & Bazargan (2004) did not find a significant relationship between higher levels of spirituality and lower odds of having used alcohol prior to admission, while certain measures of religiosity were associated with lower odds of alcohol use. This demonstrated the differential effects of religiosity and spirituality and that spirituality may not always be protective in terms of alcohol use.

Hirschi and Stark's finding that religiosity was not associated with less frequent delinquency provided the impetus for research into the effects of religion on criminal and deviant behaviors (Evans et al., 1995), which as previously discussed has been to some extent lacking in theoretical construction, even in recent literature. Other more recent studies have examined religiosity and substance abuse. Miller (1998) found a significant relationship between individuals with alcohol and drug problems and a current lack of religious affiliation or participation.

However, experimentally manipulating religious behaviours and cognition, such as prayer, reduces alcohol consumption (Lambert, Fincham, Marks, & Stillman, 2010). One review summarized, "There seems to be little argument that greater religiosity is associated with lesser substance use" (Spilka, Hood, Hunsberger, & Gorsuch, 2003). Miller (1998) found a significant relationship between individuals with alcohol and drug problems and a current lack of religious affiliation or participation. Pullen et al. (1999) found a similar relationship between church attendance and drug and alcohol use in juveniles. Likewise, in a study of inner-city emergency room patients, Bazargan et al. (2004) found that among several religious measures, religious participation was related to not having used alcohol within six hours of admission and also with abstinence from alcohol use, while no association was found with other religious/spiritual measures. Pullen et al. (1999) also found a similar relationship between church attendance and drug and alcohol use in juveniles. Likewise, in a study of inner-city emergency room patients, Bazargan et al. (2004) found that among several religious measures, religious participation was related to not having used alcohol within six years. Chalak, Trocki, and Bond (2007) explored the relationship between religion and drinking behaviours via a secondary analysis of the 2000 National Alcohol Survey and found that drinking behaviours, especially total abstinence, were significantly correlated to measures of religiosity. Miller (1998) found that "religiously involved individuals are consistently less likely to use alcohol and other drugs, and when they do so are less likely to engage in heavy use and suffer its adverse consequences" (pp. 981-982).

Michalak, Trocki, and Bond (2007) explored the relationship between religion and drinking behaviours via a secondary analysis of the 2000 National Alcohol Survey and found that drinking behaviours, especially total abstinence, were significantly correlated to measures of religiosity. Miller (1998) found that "religiously involved individuals are consistently less likely to use alcohol and other drugs, and when they do so are less likely to

engage in heavy use and suffer its adverse consequences". This statement was a good summation of many research findings that provided evidence that religiosity is associated with a lessened likelihood of engaging in substance abusing behaviours.

Lastly, some research has discovered that certain aspects of spirituality might increase the likelihood of substance abuse and even child abuse. There is research that supported the claim that more wrathful and fearful views of God or unstable and disappointing relationships with God may be related to higher likelihoods of substance and child abuse (Miller, 1998; Stewart & Mezzich, 2006). It is likely that as individuals establish more and more distance from socially organized religions, their relationship with God will become more unstable and subject to change. Byfield and Byfield (1998) noted that in new spiritualities, individuals create God and morality, and are left to themselves to decide which path to choose, and that may be one of pleasure and individual fulfilment.

2.3.2 Self-control and Drug Use

McCullough and Willoughby (2009) proposed that self-control may help explain well-replicated findings that link religiousness to better health, including lower substance-use behaviours. At first glance, this proposal seems plausible: Self-control, the ability to override one's impulses so that one can remain in line with personal and social standards (Baumeister, Heatherton, & Tice, 1994), predicts lower substance use (Johnston, O'Malley, & Bachman, 1991; Tangney, Baumeister, & Boone, 2004; Williamson, 1990). People who have good self-control tend to drink less alcohol and use fewer drugs (Conner, Stein, & Longshore, 2009; Pearson, Kite, & Henson, 2013; Wills, Ainette, Stoolmiller, Gibbons, & Shinar, 2008). Experimental manipulations that impair self-control cause people to drink more alcohol (Christiansen, Cole, & Field, 2012). Self-control is one of the cognitive control components,

which is defined as the ability to regulate behaviour to pursue long-term goals (Vohs & Baumeister, 2004).

Strengthening the belief system of self-control, can provide better preparation to avoid arousing actions for smoking temptation. Success in reducing smoking also reinforces belief in self-control capability (Blittner & Goldberg, 1978). People with low self-control are more likely to try drugs and involve in substance use problems. Alfonso and Dunn (2007) noted that adolescents who are involved in marijuana use consider their use in a positive way (they feel relaxed, happy, funny), while those who have never tried marijuana focus on its negative physical and psychological effects (addiction, bad health, slackness). Interpreting this finding, they suggest that focusing on the immediate (positive) and not on the future (negative) effects is what determines the outcome expectancies and thus the use.

Many experimental studies have reported the relationship between low self-control and problems related to alcohol, marijuana, cocaine, and other drugs (Lejuez, Magidson, Michell, Sinha et al., 2010). In this respect, Sussman, Dent and Leu (2003) in their study on a sample of 1050 subjects showed that there are meaningful negative correlation between low self-control and smoking, alcohol, marijuana, and other kinds of drug consumption. Chauchard, Levin, Copersino, Heishman, and Gorelick (2013) concluded that self-realization, self-control, worry about health, interpersonal relationships, and social acceptance may be involved in people avoidance after drug withdrawal.

Stephen, Wilson, and Ross MacLean (2013) found that self-control is related differently with distinctive aspects of nicotine dependency. Although self-control is negatively correlated to smoking obsession due to the craving and tendency to avoid withdrawal symptoms, it is positively associated with stable patterns of smoking.

2.3.3 Gender and Drug Use

A general trend in substance use research has been a greater occurrence of illicit substance use among males than among females. (Anderson, 1994, Svensson, 2003) In Nigeria, studies (e.g. Eneh & Stanley, 2004; Obot et al, 2001) have reported gender differences in the use of drugs by males and females. Drug use for both males and females usually start in the early teen years of a person's life. However, due to traditional ideas of patriarchy and gender role ideologies, it is believed that young men are more likely to use drugs than young women (Aggleton, Ball & Mane, 2006). A wide review of preclinical studies in the vulnerability of drug use revealed however, that females are more vulnerable than males during transition periods of drug use (Roth, Cosgrove & Carroll, 2004). While women are reported to use less drugs than men, they however become more addicted to alcohol than men (Zilberman, Tavares & el-Guebaly, 2003). Similarly, fewer women than men use alcohol, yet the frequency that young women are becoming intoxicated on alcohol on a regular basis is rising and the medical consequences of chronic alcohol consumption are more severe for women than for men (Becker & Hu, 2008).

Women's substance use has traditionally been lower than that of men (Bergmark 2004; Plant 1997; Wilsnack & Wilsnack 1995). In the 1970s, it was acknowledged that men had been both the research objects and researchers. Feminists in particular pointed out that women might differ from men in their substance abuse, problems and treatment needs (Ahlström & HaavioMannila 1989). The gender gap is still notable (Holmila & Raitasalo 2005) but has diminished (CAN 2009; Ahlström & HaavioMannila 1989; Mäkelä et al. 2006; Plant 1997). This convergence in consumption (and problems) has followed women's increasing participation in public life, economic/political power, etc. (Ahlström & HaavioMannila 1989; Plant 1997). Somewhat contrary to the perception that women have been neglected, researchers have identified that women are "not a 'high-risk group' for either

heavy drinking or alcohol-related problems” (Plant 1997). Given that more men drink and consume larger quantities of alcohol, men as a group are in fact from a public health perspective at higher risk (Hensing & Spak 2009). Still, there seems to be a greater stir around women and substance (mis)use

It is the change in women’s drinking that causes concern” (Abrahamson & Heimdahl 2010,). Women are portrayed, often with certainty and weak evidence, as having special problems which stem from underlying issues (low self-esteem, depression, physical/sexual abuse, sexuality, relationships, childhood experiences, emotional vulnerability) and as having special treatment needs from those of men (Plant 1997; Schliebner 1994). Men need help with their drinking problem and that is the extent of their problem. Women need additional help to find solutions to their underlying problems in order to overcome their misuse. Men’s problems are thought to be easier to treat because their drinking is more tolerated by society and less connected with blame than female problem-drinking. Women’s problems are thereby distinguished from the less complex problems of men in the policy plans (Abrahamson & Heimdahl 2010).

Concerns about women’s substance abuse do vary by time and location (Eriksen 1999), but disorderly behaviour among women is met with greater condemnation than that among men. Female misuse is, at least partially, associated with disgust, non-femininity, weakness, licentiousness, irresponsibility and stigma. Not only may such norms serve as barriers for women’s use of substances, but they may also make misusing women feel guilty, be met with distrust and avoid seeking treatment (Edman 2004; Eriksen 1999; Holmila 1991; Kristiansen 1999; Mphi 1994). Some studies have shown higher levels of feelings of shame and depression among women in treatment for drug problems (O’Connor et al. 1994). Interestingly, Eriksen (1999) notes that women in pre-industrial Danish society drank almost like men.

Later on, female sobriety became associated with honour/ purity, while sobriety among men was linked to powerlessness/impotence. Eriksen argues that the idea of alcohol's incompatibility with the female gender and the control over women are constructions created in order to preserve society, as necessary counters to the drinking, extrovert man. Alcohol is a gender symbol used in the construction of masculinity and femininity. Voices have been raised for an increased interest in men from a gender perspective on masculinity. The man as the norm not only obscures the situation of women but also the problems of men (Hensing & Spak 2009). One example is that fatherhood, an important motivational factor for misusing men (Leissner & Hedin 2002), is often neglected when treating men.

2.4 STATEMENT OF HYPOTHESES

1. Undergraduates with low spiritual experience will significantly report higher drug use than undergraduates with high spiritual experience in Federal University of Technology, Akure, Ondo State.
2. Self-control will influence drug use among undergraduates in Federal University of Technology, Akure, Ondo State.
3. Male undergraduates will significantly report higher drug use than female undergraduates in Federal University of Technology, Akure, Ondo State.

2.5 OPERATIONAL DEFINITION OF TERMS

Daily Spiritual Experiences: This is a person's perception of the transcendent (God, the divine) in daily life and his or her perception of his or her interaction with or involvement of the transcendent in life. The daily spiritual experience variable was measured using the daily spiritual experience scale developed by Underwood and Tesis (2002). High score on this

scale indicates higher daily spiritual experience, while low score indicates lower daily spiritual experience.

Self-control: Self-control is the ability of individuals to control their thoughts and actions. It also reflects their ability to have control over events associated with them. This variable would be measured using the brief self-control scale developed by Tangney, Baumister & Boone (2004). Higher scores on self-control indicate higher self-control, while low score indicates lower self-control.

Drug Use: Drug use in this context is described as the use of prescribed drugs in excess of directions and the non-medical use of drugs. This variable would be measured using the drug abuse questionnaire developed by Skinner (1982). Higher scores on this scale indicate higher abuse of drugs and substances, while low score indicates lower abuse of drugs and substances.

Gender: This is the physiological makeup of an individual in terms of masculinity and femininity. Gender in this study is of two categories to include male and female.

CHAPTER THREE

METHODOLOGY

3.1 RESEARCH DESIGN

This research adopted an ex-post facto research design because variables in the research had been manipulated prior to the research. However, the research utilized an after the fact approach in examining the influence of daily spiritual experience and self-control on drug use among undergraduates. The independent variables in this research are daily spiritual experience and self-control, while the dependent variable is drug use.

3.2 SETTING AND PARTICIPANTS

The study was carried out at the Federal University of Technology Akure (FUTA), Ondo State. The participants were 246 (147 male, 99 female) undergraduate students with age range of 17 and 42 and the mean age of 22.48 (SD = 3.85). One hundred and eighty two (74%) of the research participants are Yorubas, 45(18.3%) were Igbos, 11(4.5%) were Hausas while 8(3.3%) research participants were from other tribe. Regarding religious affiliation, 186 (75.6%) were Christian 51(20.7%) were Moslems, 5 (2%) was Traditional and 4(1.6%) indicated others.

In terms of level of study, 32(13%) of research participants are in 100 level, 73(29.7) are in 200 level, 54 (22%) are 300 level, 34(13.8%) are in 400 level and 53(21.5%) are in 500 level. Participants were randomly selected across various faculties. 87(35.4%) of research participants are science students, 14(5.7%) are students in the aculty of social sciences, 16(6.5%) in Education, 57(23.2%) in Agriculture, 22(8.9%) in Arts and 13(5.3%) in the faculty of management sciences.

3.3 STUDY SAMPLING

This research utilized an accidental sampling technique in the selection of research sample. The accidental sampling technique is suitable for the study because the researcher would not be able to access all students of which those who would volunteer to partake in the research would be approached.

3.4 INSTRUMENT

Questionnaire would be used to gather relevant information from the participant to the study. The questionnaire would be divided into four different sections each of the section would measure the variable of concern as well as socio-demographic information of the participant of the study. These sections are described below: The following validated and standardized instrument would be used to gather data from the participants:

Section A: Socio – Demographic Variables

These include participants' characteristics such as sex, age, marital status, level of study, religious affiliation, Faculty of study and Ethnic group.

Section B: Daily spiritual Experience scale

The daily spiritual experience is a 16 item scale developed by Underwood and Teresi in 2002. The scale has a 6– point Likert response format ranging from every day (1) to never (6). High score on the scale indicates higher daily spiritual experience, while low score indicates lower daily spiritual experience. The author reported a reliability coefficient of 0.94, while in this present study; the researcher reported a reliability coefficient alpha of 0.88.

Section C: Brief Self-control scale

The Brief Self-Control Survey developed by Tangney, Baumister & Boone (2004) is a 13-item scale measuring self-control, with a focus on ability of individuals to have control over their actions and thoughts. The scale is measured on a scale from 1, not at all like me, to 5,

very much like me. High score on the scale indicates higher self-control, while low score indicates lower self-control. The author reported a reliability coefficient of 0.85, while in this present study; the researcher reported a reliability coefficient alpha of 0.65.

Section D: Drug Use Questionnaire

The drug use questionnaire was developed by Skinner in 1982 to measure excessive use of over the counter drugs as well as the non-medical usage of drugs. It is a 20 item scale of which research participants are to respond to items by strongly disagree (1) to strongly agree (5). High score on the scale indicates higher drug use, while low score indicates lower drug use. The author reported a reliability coefficient of 0.74, while in this present study; the researcher reported a reliability coefficient alpha of 0.93.

3.6: PROCEDURE

The researcher collected a written letter of permission from the Department of Psychology, Federal University Oye-Ekiti; which was presented at Federal University of Technology, Akure, Ondo state during the period of data collection. Individual respondent were approached as his or her consent was sourced verbally before being given the questionnaire to complete. A total of 300 questionnaires were distributed, but only 244 were returned and found properly filled were taken for data analyses in this study.

3.7 STATISTICAL ANALYSIS

Data collected were subjected to analysis using Statistical Package for Social Sciences (SPSS). Demographic variables were analysed using descriptive statistics such as mean, standard deviation, frequency table distribution and percentages. The three hypotheses were tested using inferential statistics of t-test for independent samples in order to determine group differences by comparing means.

CHAPTER FOUR

RESULTS

Hypothesis one states that Undergraduates with low spiritual experience will significantly report higher drug use than undergraduates with high spiritual experience in Federal University of Technology, Akure, Ondo State. The hypothesis was tested using the t-test for independent group. The result is presented in Table 4.1

Table 4.1: T-test for independent group showing difference in High and Low spiritual Experience on drug use among undergraduates in Federal University of Technology, Akure

	Spiritual Experience	N	Mean	SD	df	t	P
Drug Use	High	111	60.39	18.50	244	-0.824	>.05
	Low	135	62.75	25.08			

From Table 4.1, it can be observed that undergraduates with low spiritual experience ($X = 62.75$) were not significantly different in usage of drugs from undergraduates with high spiritual experience ($X = 60.39$), $t = -0.824$; $df = 244$, $p >.05$. The result implies that spiritual experience did not influence drug use among undergraduates. Therefore, hypothesis one was not accepted.

Hypothesis two states that undergraduates with low self-control will significantly report higher drug use than undergraduates with high self-control in Federal University of Technology, Akure, Ondo State. The hypothesis was tested using the t-test for independent group. The result is presented in Table 4.2

Table 4.2: T-test for independent group showing difference in High and Low self-control on drug use among undergraduates in Federal University of Technology, Akure

	Self-Control	N	Mean	SD	df	t	P
Drug Use	High	117	50.60	19.21	244	-8.40	<.01
	Low	129	71.74	20.16			

From Table 4.2, it can be observed that undergraduates with low self-control ($X = 71.74$) significantly reported higher usage of drugs than undergraduates with high self-control ($X = 50.60$), $t = -8.40$; $df = 244$, $p <.01$. The result implies that self-control influence drug use among undergraduates. Therefore, hypothesis two was accepted.

Hypothesis three states that Male Undergraduates will significantly report higher drug use than Female undergraduates in Federal University of Technology, Akure, Ondo State. The hypothesis was tested using the t-test for independent group. The result is presented in Table 4.3

Table 4.3: T-test for independent group showing difference in Male and Female undergraduates on drug use in Federal University of Technology, Akure

	Gender	N	Mean	SD	df	t	P
Drug Use	Male	147	64.86	20.56	244	2.76	<.05
	Female	99	58.96	24.09			

From Table 4.3, it can be observed that male undergraduates ($X = 64.86$) significantly reported higher usage of drugs than female undergraduates ($X = 58.96$), $t = 2.76$; $df = 244$, $p < .05$. The result implies that there is gender influence on drug use among undergraduates. Therefore, hypothesis three was accepted.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION

Based on the result of the current study, it was discovered that those with low spiritual experience did not significantly report high level of drug use than those with high spiritual experience. This means that spiritual experience does not influence their level of drug use. The research findings deviates from the findings of the other researches as it was reported that stronger religious commitment often relates to less substance use while other researchers asserted that one's religion does not prohibit substance use, (Benda et al., 2006; Ford & Hill, 2012; Gartner et al., 1991; Gorsuch, 1995; Hill & McCullough, 2008; Humphreys & Gifford, 2006; Johnson et al., 2008; Kendler et al., 2003; H. G. Koenig et al., 2001; Koopmans et al., 1999; Miller, 1998; Regnerus & Elder, 2003). Similarly, Wallace and Williams (1997) in their study, inferred that spirituality provides youth and people at large with beliefs and values that prevents behaviours considered immoral, illegal and antisocial.

Other related studies have also found that measure of spirituality such as church attendance and importance of religious faith are inversely related to juvenile drug, alcohol, tobacco use delinquency (Evans, 1995; Pawalk & Dcfronzo, 1993; Cochram, 1993; Cochram & Akers, 1989). According to studies by Sinah, Cnaan and Gelles (2007), looking at ten risk behaviours, spirituality are consistently associated with reduced risk behaviours such as smoking, alcohol use, truancy, sexual activity, marijuana and or cocaine uses and depression. Also Krause (2013) in his studies showed that spirituality is significantly correlated with positive behaviours; a strong and more positive affection bond with parents and peers is linked to positive behaviour and may facilitate socialization based spirituality.

However, several researchers disagree with the fact that spiritual experience leads to reduced level of substance use. For example, Bazargan Sherkat, & Bazargan (2004) did not find a significant relationship between higher levels of spirituality and lower odds of having used alcohol prior to admission, while certain measures of religiosity were associated with lower odds of alcohol use. This demonstrated the differential effects of religiosity and spirituality and that spirituality may not always be protective in terms of alcohol use. Hirschi and Stark's finding that religiosity was not associated with less frequent delinquency provided the impetus for research into the effects of religion on criminal and deviant behaviours (Evans et al., 1995).

The research discovered that undergraduates who had low self-control reported higher drug use than those with high level of self-control. This shows that self-control influences drug use. This is similar to certain number of research findings. For example, McCullough and Willoughby (2009) proposed that self-control may help explain well-replicated findings that link religiousness to better health, including lower substance-use behaviours. It was then established that Self-control predicts lower substance use (Johnston, O'Malley, & Bachman, 1991; Tangney, Baumeister, & Boone, 2004; Williamson, 1990). Researchers also assert that people who have good self-control tend to drink less alcohol and use fewer drugs (Conner, Stein, & Longshore, 2009; Pearson, Kite, & Henson, 2013; Wills, Ainette, Stoolmiller, Gibbons, & Shinar, 2008). Experimental manipulations that impair self-control cause people to drink more alcohol (Christiansen, Cole, & Field, 2012).

Many experimental studies have reported the relationship between low self-control and problems related to alcohol, marijuana, cocaine, and other drugs. In this respect, Sussman, Dent and Leu (2003) in their study on a sample of 1050 subjects showed that there are meaningful negative correlation between low self-control and smoking, alcohol, marijuana, and other kinds of drug consumption. Chauchard, Levin, Copersino, Heishman,

and Gorelick (2013) concluded that self-realization, self-control, worry about health, interpersonal relationships, and social acceptance may be involved in people avoidance after drug withdrawal. Stephen, Wilson, and Ross MacLean (2013) found that self-control is related differently with distinctive aspects of nicotine dependency. Although self-control is negatively correlated to smoking obsession due to the craving and tendency to avoid withdrawal symptoms, it is positively associated with stable patterns of smoking.

Gender difference in drug use was also vivid from the research findings as male reported higher level of drug use than their female counterpart. Women's substance use has traditionally been lower than that of men (Bergmark 2004; Plant 1997; Wilsnack & Wilsnack 1995). In the 1970s, it was acknowledged that men had been both the research objects and researchers. Feminists in particular pointed out that women might differ from men in their substance abuse, problems and treatment needs (Ahlström & HaavioMannila 1989). The gender gap is still notable (Holmila & Raitasalo 2005) but has diminished (CAN 2009; Ahlström & HaavioMannila 1989; Mäkelä et al. 2006; Plant 1997). In Nigeria, studies by Eneh & Stanley, 2004; Obot et al, 2001 have reported gender differences in the use of drugs by males and females. Drug use for both males and females usually start in the early teen years of a person's life. However, due to traditional ideas of patriarchy and gender role ideologies, it is believed that young men are more likely to use drugs than young women (Aggleton, Ball & Mane, 2006).

5.2 CONCLUSION

Based on the discussion and current research findings, few inferences can be made. It can be established that daily spiritual experiences differ and this difference relates to level of drug use among undergraduates. Those who have low spiritual experience such as don't pry often or perhaps do not involve in a consistent communication with a supreme being are most

likely to be involved in drug use than those individuals who have high spiritual experience such as daily bible reading routine, daily prayer among others. Also, from the research findings, one can also assert that there is a significant difference between those with high self-control and low self-control in the usage of drugs. Drug use is an impulsive behaviour because of the pleasure attached to the usage of the drugs or substances. Therefore, those who have high personal impulse control called self-control are most likely to stay away from drugs than those with low level of self-control. In terms of gender difference in drug use, this study stands with traditional researchers and concludes that males are more drug users than their female counterparts.

5.3 RECOMMENDATIONS

Since drug use is on the increase and the current study has pinpointed some relevant factors that differentiate high level drug users from low level drug users. Therefore the researcher suggests that people should be encouraged to take active part in spiritual activities especially undergraduates. Also, the researcher recommends the initiation of self-control measures in school environments.

5.4 LIMITATION OF STUDY

There are several limitations to the current study. The conclusions from the study should be considered in the light of these limitations. Firstly, the researcher utilized undergraduates and not a broad spectrum of youth found in different areas of life. The current study was also held at the federal university of Technology, Akure, Ondo State. This means that the conclusion is confined to undergraduates of that institution and youths in the state.

REFERENCES

- Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies on Alcohol*, 63(14), 118–128.
- Arasteh, K., Des Jarlais, D. C., & Perlis, T. E. (2008). Alcohol and HIV sexual risk behaviors among injection drug users. *Drug and Alcohol Dependence*, 95, 54–61.
- Arian-Pour, M., Shahabi-Zadeh, F., & Bahreynian, A. (2015). The predictive model of spiritual quotient according to attributional styles and self-control. *Psychology and Religion*, 8(1), 5-24.
- Audrain-McGovern, J., Rodriguez, D., Epstein, L. H., Cuevas, J., Rodgers, K., & Wileyto, E. P. (2009). Does delay discounting play an etiological role in smoking or is it a consequence of smoking? *Drug and Alcohol Dependence*, 103, 99–106.
- Benda, B. B., & Crown, R. F. (2001). Are the effects of religion on crime mediated, moderated, misrepresented, by inappropriate measure? *Journal of Social Service Research*, 27, 57-86.
- Benda, B. B., Pope, S. K., & Kelleher, K. J. (2006). Church attendance or religiousness: Their relationship to adolescents' uses of alcohol, other drugs, and delinquency. *Alcoholism Treatment Quarterly*, 24, 75–87.
- Cooper, M. L. (2002). Alcohol use and risky sexual behaviour among college students and youth: Evaluating the evidence. *Journal of Studies on Alcohol*, 63(14), 101–117.
- Di Chiara G. (1999). Drug addiction as dopamine-dependent associative learning disorder. *European Journal of Pharmacology*, 375, 13-30.
- Dishion, T., Kavanagh, K., Schneiger, A.K.J., Nelson, S., & Kaufman, N. (2002). Preventing early adolescent substance use: A family centered strategy for the public middle school. *Prevention Science*, 3(3), 191–202.
- Ellingson, S. (2001). The new spirituality from a social science perspective. *Dialog: A Journal of Theology*, 40(4), 257-263.
- Evans, N. (1995). A grammar of kayardild. With historical-comparative notes on tangkic. (Mouton Grammar Library, 15.) Berlin: Mouton de Gruyter.
- Fergusson, D. M., Horwood, L. J., & Swain-Campbell, N. (2002). Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction*, 97, 1123–1135.
- Forbes C. E., Grafman, J. (2010). The role of the human prefrontal cortex in social cognition and moral judgment. *Annual Review of Neuroscience*, 33, 299-324.

- Ford, J. A., & Hill, T. D. (2012). Religiosity and adolescent substance use: Evidence from the National Survey on Drug Use and Health. *Substance Use & Misuse*, 47, 787–798
- Gartner, J., Larson, D. B., & Allen, G. (1991). Religious commitment and mental health: A review of the empirical literature. *Journal of Psychology and Theology*, 19, 6–25
- Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., Vaituzis, A. C., Nugent, T. M., Herman, D. H., Clasen, L. S., Toga, A. W., Rapoport, J. L., & Thompson, P.M. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *The National Academy of Sciences*, 101(21), 8174-8179.
- Gorsuch, R. L. (1995). Religious aspects of substance abuse and recovery. *Journal of Social Issues*, 51, 65– 83
- Goldstein, R. Z., & Volkow N. D. (2002): Drug addiction and its underlying neurobiological basis: neuroimaging evidence for the involvement of the frontal cortex. *American Journal of Psychiatry*, 159, 1642-1652.
- Hallfors, D. D., Waller, M. W., Ford, C. A., Halpern, C. T., Brodish, P. H., & Iritani, B. (2004). Adolescent depression and suicide risk: Association with sex and drug behavior. *American Journal of Preventive Medicine*, 27, 224–231.
- Hallam C, Bewley-Taylor D. (2001). Drug use: knowledge, culture and context. *The Beckley Foundation Drug Policy Programme*, 21.
- Hill, T. D., & McCullough, M. E. (2008). Religious involvement and the intoxication trajectories of low-income urban women. *Journal of Drug Issues*, 38, 847– 862
- Humphreys, K., & Gifford, E. (2006). Religion, spirituality and the troublesome use of substances. In W. R. Miller & K. Carroll (Eds.), *Rethinking substance abuse: What the science shows and what we should do about it* (pp. 257–274). New York, NY: Guilford Press.
- Johnson, T. J., Sheets, V. L., & Kristeller, J. L. (2008). Identifying mediators of the relationship between religiousness/spirituality and alcohol use. *Journal of Studies on Alcohol and Drugs*, 69, 160 –170.
- Jones, S. E., Oeltmann, J., Wilson, T. W., Brener, N. D., & Hill, C. V. (2001). Binge drinking among undergraduate college students in the United States: Implications for other substance use. *Journal of American College Health*, 50, 33–38.
- Kalivas, P. W., & Volkow, N. D. (2005). The neural basis of addiction: a pathology of motivation and choice. *American Journal of Psychiatry*, 162, 1403-1413.

- Kapner, D. A. (2008). Alcohol and other drugs on campus: The scope of the problem. Newton, MA: The Higher Education Center for Alcohol and Other Drug Abuse and Violence.
- Kendler, K. S., Liu, X.-Q., Gardner, C. O., McCullough, M. E., Larson, D., & Prescott, C. A. (2003). Dimensions of religiosity and their relationship to lifetime psychiatric and substance abuse disorders. *The American Journal of Psychiatry*, 160, 496–503
- Koenig, L. B., McGue, M., Krueger, R. F., & Bouchard, T. R. (2005). Genetic and environmental influences on religiousness: Findings for retrospective and current religiousness ratings. *Journal of Personality*, 73, 471–488.
- Koenigs M, Young L, Adolphs R, Tranel D, Cushman, F. & Hauser, M. (2007): Damage to the prefrontal cortex increases utilitarian moral judgements. *Nature*, 446, 908- 911.
- Koopmans, J. R., Slutske, W. S., van Baal, G. C. M., & Boomsma, D. I. (1999). The influence of religion on alcohol use initiation: Evidence for a genotype environment interaction. *Behavior Genetics*, 29, 445–453.
- Lambert, N. M., Fincham, F. D., DeWall, C. N., Pond, R. S., & Beach, S. R. H. (2013). Shifting towards cooperative tendencies and forgiveness: How partner-focused prayer transforms motivation. *Personal Relationships*, 20, 184–197.
- Leino, E. V., Romelsjo, A., Shoemaker, C., Ager, C. R., Allebeck, P., Ferrer, H. P., Kniep, S. (1998). Alcohol consumption and mortality: II. Studies of male populations. *Addiction*, 93, 205–218.
- Miller, W. R. (1998). Researching the spiritual dimensions of alcohol and other drug problems. *Addiction*, 93, 979–990
- National Institute on Drug Abuse (NIDA) (2003). Preventing Substance Abuse among Children and Adolescents: Risk Factors and Protective Factors Retrieved on July 20, 2010 from <http://www.nida.nih.gov/prevention/risk.html>.
- Pour-Razavi, S., Allahverdi-Pour, H., & Toupchian, A. (2015). Determining the predictive role of selfregulation and self-control on cell-phone over-use in university students. *Scientific Journal of Hamadan University of Medical Sciences and Health Services*, 22(2), 152-160.
- Proudfoot, W. (1985) Religious Experience Berkeley, CA: University of California Press
- Regnerus, M. D., & Elder, G. H. (2003). Religion and vulnerability among low-risk adolescents. *Social Science Research*, 32, 633–658.

- Volkow, N. D, Wang, G. J., Fowler, J. S., Logan, J., Gatley, S. J, Hitzemann, R. (1997). Decreased striatal dopaminergic responsiveness in detoxified cocaine-dependent subjects. *Nature*, 386, 830-833.
- Wallace, J. Jr., & Williams, D. (1997). Religion and adolescent health compromising behavior. In health risks and development transitions during adolescence. Edited by J. Schulenberg and J. M. Maggs, PP. 444-468. New York: Cambridge University Press.
- Weiss F, Koob G. F (2001). Drug addiction: functional neurotoxicity of the brain reward systems. *Neurotox Res*, 3, 145-156.
- Volkow, N. & Fowler, J. (2000). Addiction, a disease of compulsion and drive: involvement of the orbitofrontal cortex. *Cereb Cortex*, 10, 318-325.
- Zare, H., Alipour, A., Qobari Bonab, B., & Asemi, Z. (2015). Efficacy of intervention program on divorce children on their self-control coping skills. *Applied Psychology Quarterly*, 9(2), 65-77.