SOCIO-COGNITIVE RISK FACTORS OF CONVENTIONAL SUBSTANCE ABUSE

Ikechukwu Uba[†]

Department of Human Development and Family Studies, Universiti Putra Malaysia

Siti Nor Yaacob

Family, Adolescent and Child Research Centre, Universiti Putra Malaysia

Mansor Abu Talib

Department of Human Development and Family Studies, Universiti Putra Malaysia

Rohani Abdullah

Department of Human Development and Family Studies, Universiti Putra Malaysia

Sakineh Mofrad

Department of Psychology, Sunway University, Malaysia

ABSTRACT

This study examined the socio-cognitive risk factors of conventional substance abuse among adolescents. The research utilized a set of self-report instruments on a sample of 352 high school students (13 to 18 years), from Lagos, Nigeria. The measures assessed substance abuse, peer substance use, stress, depression, self-esteem and religiosity. The result identified low self-esteem as the unique predictor of substance abuse among adolescents. Recommendations of the study emphasized the importance of high self-esteem among adolescents. Future research may examine other variables not assessed in the study.

Keywords: Stress, Self-esteem, Depression, Religiosity, Peer Substance Use, Substance abuse.

1. INTRODUCTION

Developmental epidemiologist suggests that substance abuse during adolescence unsettles important developmental outcomes (Liddle *et al.*, 2009), thereby facilitating the deviation from protective influences. In actual fact, adolescents who started substance abuse before the age of 15 take around 29 years to accomplish one year free of substances (Liddle *et al.*, 2009). Fundamentally, the problem with substance abuse is that abusing adolescents regularly exhibit co-occurring mental health challenges (Kim and Jackson, 2009). Scholars have argued that intact

family may act as an informal social control that decreases the probability of delinquent adolescent behaviors such as substance abuse. The term intact family means adolescents living with their biological parents (Father and Mother), while non- intact family means adolescents living in other social arrangements.

Both earlier (National Center on Addiction and Substance Abuse, 2003) and later studies (Barrett and Turner, 2006) associated non-biological living arrangements with elevated DSM-IV substance abuse, dependence symptoms and smoking commencement (Edelen *et al.*, 2007). Conclusively, research evidence suggests that adolescents who live in other arrangements report greater substance abuse hence intact family has been reported as a protective factor in the etiology of substance abuse.

Essentially, the contention of scholars is that the origin of substance abuse is multi-faceted. However, only few scholars have examined this multi-faceted nature of substance abuse in their studies, particularly within the Nigerian context.

Of the studies that examined the origin of substance abuse,Penning and Barnes (1982) identified alienation from the dominant values of society, Brunswick *et al.* (1992) found low religiosity, Block *et al.* (1988) identified rebelliousness, Trzesniewski *et al.* (2006) alleged low self-esteem, Brady *et al.* (2004) discovered stress, Otsuki (2003) pin pointed peer substance use, and Kessler *et al.* (2005) highlighted depression. Other recent studies also found diverse unique predictors of adolescent substance abuse.

Based on these previously hypothesized paradigms of substance abuse, the present study sought to discover the actual unique predictor of substance abuse from the posited variables for the study. The study thus filled a gap in the literatures by recognizing the influence of factors such as stress, peer-substance use, depression, low self-esteem and low religiosity; these were considered as socio-cognitive factors, in the maintenance and sustenance of substance abuse among adolescents.

Bandura (1977) contends that personal factors, mainly thought and cognition plays an important role in an adolescent's development. According to Bandura (1994) by surviving stressful situations, adolescents emerge from adversity stronger with high self-confidence to cognitively evaluate stressful situations as encounters to be understood and not as hazards to be circumvented. Adolescents with low self-confidence he thus argued have the tendency to overestimate stressful situations, thereby underestimating their ability to face challenges.

Bandura (1997) also reasoned that obvious self-efficacy affects every phase of change in substance abuse - initiation, achievement, recuperation and abstinence. Bandura in his model suggested that stressful situations in the environment have a bidirectional relationship with human behavior, implying their significant effect on each other. In this regard, Bandura revealed the effect of adolescent's peers in their abuse of substances. He therefore contended that the ability to display effective coping behaviours varies widely among adolescents (Bandura, 1969).

Besides the above factors, religiosity as a type of reasoning and creed plays an important role in substance abuse behavior among adolescents. Religious affiliations in actual fact, helps in the reduction of life disturbances and problems and is associated with better effects in the wake of distress and life pressures (Ashby-Wills *et al.*, 2003). Those who religion plays a large part in their life perceive daily stressors and aggravations as less harmful (King and Schafer, 1992). In line with

the above, a recent study revealed the influence of religiosity as extending beyond the social influence exerted by peer groups (Bahr and Hoffmann, 2008) hence, affirming the role of religiosity as a protective factor in cases of substance abuse and by implication revealing the role of low religiosity as a risk factor in cases of substance abuse.

The present study is overwhelmingly important because there is increasing concerns in findings with adolescents in therapy for substance abuse because they relapsed easily under conditions of intended or unintended social stress (66%) in contrast with (34%) adults (Ramo and Brown, 2008).

In view of the above, much research has been conducted globally on the relationship between substance abuse and various health issues like low self-esteem, stress, peer substance use, depression and low religiosity. However, limited studies exist on these relationships among adolescents in Somolu, Lagos, Nigeria, despite the upsurge in substance abuse and its effect on the society at large. This study therefore sought to illuminate the truth and fallacies of adolescent substance abuse, by ascertaining its unique predictor. The current research exercise thus responded to the following research concerns:

1. Is there a difference in substance abuse between adolescents from intact family and non- intact families?
2. What is the unique predictor of substance abuse?

2. DATA AND METHODS

The participants of the study comprised of 352 eligible adolescent's between 13 to 18 years (M=15.48, SD = 1.53) from randomly selected schools in Somolu local government area of Lagos, Nigeria. Of the number, 54.5% were males, while 45.5% were females. Each booklet contained a number of validated scales to measure substance abuse, peer substance use, stress, depression, self-esteem and religiosity. The respondents also provided information on age, gender, number of siblings and other relevant demographic information.

Substance abuse was measured with the Drug Abuse Screening Test (Skinner, 1982), a 20item self-report measure scored on a 2-point scale ranging from no to yes, "no" is scored as 0, and "yes" is scored as 1.

Example of questions includes: "Have you used drugs other than those required for medical reasons"? "Have you abused prescription drugs"? "Do you abuse more than one drug at a time"? The scale was used in evaluating the degree to which substances are abused. The scores of DAST were obtained by reversing the tallies on items 4 and 5 before summing all the scores of the 20 item. The higher the score obtained in DAST, the higher the level of substance abuse.

The internal consistency as reported by the authors was from .74 to .92. In the present study, the Cronbach alpha coefficient obtained was.86. The measure has been extensively used in numerous studies.

Peer substance use was measured with the Peer Substance Use Sub-Scale (PSUS) of the Communities that Care Youth Survey (Hawkins *et al.*, 1992) a 4item self-report measure scored on a 6 point scale ranging from 0 to 5.

Examples of questions include: "In the past year, how many of your best friends have smoked cigarettes"; "In the past year, how many of your best friends have tried beer, wine, or hard liquor that their parents did not know about"; and "In the past year, how many of your best friends have used marijuana".

The scale assesses the rate to which an adolescent's peer uses substances. The scores range from 0 to 20. High scores indicate high peer substance use. In the opinion of (Hawkins *et al.*, 1992) the PSUS has acceptable internal consistency, with a Cronbach alpha coefficient of .84. In the current study, the Cronbach alpha reliability obtained was .75.

Stress was measured with the Perceived Stress Scale (PSS: (Cohen *et al.*, 1983), a 14 item Likert instrument scored on a 5-point scale, ranging from never to very often. Example of questions includes: "How often have you been upset because of something that happened unexpectedly"? "How often have you felt that you were unable to control the important things in your life"? "How often have you felt nervous and "stressed".

The scale assessed the degree to which situations in life are appraised stressful. The scores of the PSS were obtained by reversing the scores on items 4,5,6,7,9,10 and 13 before summing all the 14 item measure.

The higher the score obtained in the PSS, the higher the level of stress. The PSS has acceptable reliabilities ranging from .84 to .86. In the present study, the Cronbach alpha coefficient obtained was .94. The measure has been widely used in several studies.

Depression was measured with the Beck Depression Inventory (Beck *et al.*, 1996), a 21 item Likert self-report instrument scored on a 4-point scale ranging from 0 to 3. Each of the items of the instrument is a list of four statements arranged in increasing severity about a particular symptom of depression.

The scale assessed the severity of depressive symptoms from normal mood flings to extreme depression. The instrument is scored by adding the ratings for the 21 items. The scores range from 0 to 63, higher scores represents higher levels of depression. The internal consistency as reported by the authors was .93. In the current study, the Cronbach alpha reliability obtained was .96. The scale has been widely validated in several studies.

Self-esteem was measured with the Rosenberg (1965) self-esteem scale, a 10-item Likert instrument scored on a 4-point scale ranging from strongly dis-agrees to strongly agree. Example of questions include: "At times I think I am no good at all" "I feel I do not have much to be proud of" "I certainly feel useless at times".

The scale has been used globally in the assessment of self-esteem. The scores of the RSS were obtained by reversing the scores on items 1, 3, 4, 7 and 10 before summing all the scores of the 10 items.

The higher the score obtained in the RSS, the greater the level of self-esteem. The RSS has acceptable internal consistency, with a Cronbach alpha coefficient of between .85 and .88. In the current study, the Cronbach alpha reliability obtained was .90. The scale has been widely used in several studies.

Religiosity was measured with the Religious Background and Behaviors Questionnaire (RBB: (Connors *et al.*, 1996). The first item of the 13item Likert Scale is a descriptor that describes respondents as: atheist, agnostic, unsure, spiritual or religious. While the next 6 items, asked

respondents to indicate, on an 8-point Likert scale, the frequency with which they engaged in the following behaviors, thought about God, prayed, meditated, attended worship services, read/studied holy writings, and had direct experiences of God during the past year.

The last 6 items tap these domains in terms of lifetime occurrence on a 3-point ordinal scale. Scoring of the first item of the *RBB* was accomplished by assigning a score from atheist to religious (atheist = 0, agnostic = 1, and so forth) before all the 13item scale was standardized and summed. The higher the score obtained in the RBB, the higher the level of religiosity. The RBB has acceptable internal consistency, with a Cronbach alpha coefficient of .94. In the current study, the Cronbach alpha reliability obtained was .96.

2.1 Procedure

Ethical approval for the study was obtained from the Lagos State Ministry of Education. Schools within Somolu Local Government were selected from a list of schools, one school from the North and the other from the South.

Pertinent issues like confidentiality and the voluntary nature of adolescents participation was read to the respondents after meeting the research sample criteria. Data for the study was collected using the multi-stage cluster sampling technique. In each class sampled, information regarding the study was collected during a two-hour period.

To ensure reliable responses, the research assistants read the questions aloud, while volunteer assistants inspected the measure filling process for clarity and understanding by the participants. Despite the efforts of the research assistants in ensuring the proper filling of the instruments, 20 booklets were rendered void due to incomplete and in-consistent responses.

3. RESULTS

In line with the first research question of the study, an independent-samples t-test was conducted to compare substance abuse scores for adolescents from intact and non-intact families. A preliminary assumption testing was conducted to check for normality and homogeneity of variance with no violations identified.

An inspection of the two means revealed no significant difference ($t=.325$, $p >. 05$) in the substance abuse scores for adolescents from intact (M=11.08, SD=5.18) and non-tact (M=10.89, SD=5.11) families. In consonance with the relationship found between the socio-cognitive predictors of substance abuse (stress, peer substance use, depression, self-esteem and religiosity) (see Table 1), the study sought to identify the unique predictor of substance abuse through the conduct of regression analysis.

Traditionally, regression analysis is used to infer causality and identify predictors. Based on collinearity diagnostics (Pallant, 2007), none of the variable has a tolerance value smaller than 0.10 and variance inflation factor (VIF) less than 10.0. This indicated no multi-collinearity problem among the predictor variables of the model. Since the assumptions of normality, equality of variance and linearity were all met, hence, it is reasonable to conclude that the final model was proper.

Table-1. Correlation Matrix of Main Research Variables

Variables		1	2	3	4	5	6
1	Substance abuse	1	$.360^{**}$	$.498^{**}$	$.403^{**}$	$-.536^{**}$	$-.382^{**}$
2	Stress		1	$.727^{**}$	$.630^{**}$	$-.538^{**}$	$-.434^{**}$
3	Peer Substance Use			1	$.763^{**}$	$-.675^{**}$	$-.522^{**}$
4	Depression				1	$-.657^{**}$	$-.436^{**}$
5	Self-Esteem					1	$.711^{**}$
6	Religiosity						1

**. Correlation is significant at the 0.01 level

Following the volume of literatures highlighting the influence of age and gender in adolescent substance abuse, the present study controlled their effect on other predictor variables. To control the effect of age and gender, both variables were entered into the first block of the regression model, while all other variables (self-esteem, peer substance use, stress, depression and religiosity) were entered into the second block (see Table 2).

Table-2. Multiple Regression Analysis of Substance abuse

Variables	Step 1			Step 2		
	B	SE. B	Beta	B	SE. B	Beta
Background						
Age	-.153	.180	-.045	-.090	.151	-.027
Gender	.364	.551	.035	.254	.471	.025
Independent variables						
Stress				-.013	.027	-.032
Peer substance use				.491	.129	.317*
Depression				-.027	.025	-.081
Self-Esteem				-.278	.053	-.407*
Religiosity				.007	.018	.023

Note: * $p<.05$, **$p<.01$,Dependent Variable**:** Substance Abuse

Step 1**:** F $(2,349) = .604$, $R^2 = .003$, Adjusted $R^2 = -.002$, R^2 change $= .039$

Step 2**:** F $(7, 344) = 23.685$, $R^2 = .325$, Adjusted $R^2 = .311$, R^2 change $= .322$

At step 1, age and gender explained only about .3% of the variance in substance abuse ($R^2 = .003$, Adjusted $R^2 = -.002$), implying that both variables made minimal or no significant contribution to substance abuse among the subjects of the study.

The arguement of the current enquiry consequently is that situational or environmental backgrounds are an essential element in the recognition of the nexus between age and gender in relation to substance abuse. At step 2, the independent variables of the study were included into the model (stress, peer substance use, depression, self-esteem, and religiosity).

At this step, $F (7, 344) = 23.685$, Adjusted $R^2 = .311$, $p \leq .05$, implying that the regression model is significant. The $R^2 = .325$ suggested that the addition of age and gender with the independent variables (stress, peer substance use, depression, self-esteem, and religiosity) accounted for about 33% of the variance in substance abuse. R^2 change at step 2 revealed that all the independent variables of the study contributed about 32% to the variance in substance abuse. At

the same step 2, only two variables were statistically significant, low self-esteem (*Beta* = -.407, *p*<.05), followed by peer substance use (*Beta* = .317, *p* ≤ .05).

4. DISCUSSIONS

This study is important because it deviates from the traditional studies on prevalence and correlates by examining the unique predictor of substance abuse among adolescents. The study also examined age and gender differences in substance abuse. Although some studies found age (Thai *et al.*, 2010) and gender (Ray *et al.*, 2011) differences in substance abuse among adolescents, the present study did not find any such difference or relationship.

 The contention of the present study therefore is that situational or environmental context is a necessary factor in the identification of differences between age and gender in relation to substance abuse. Though some literatures found adolescents from intact families less prone to substance abuse (Grunbaum *et al.*, 2002) regrettably this was not found in the present study. In view of the above, the posited hypothesis for the segment was not supported. The finding of the study is noteworthy because common substance abuse was the main focus of the study. Common substance abuse essentially affects all strata's of society irrespective of family groupings. On the other hand, some scholars have argued that peer influence overrides family influence, thus negating the influence of the family on adolescents. In the present study however it was not found unique.

The main finding of the present study is in consonance with (Abela *et al.*, 2006) revealing an adolescent's self-esteem as an enormous segment of their self-understanding that is likely to fluctuate and is receptive to both obvious and secret influence.

In predicting substance abuse, self-esteem becomes a necessary prerequisite because it encompasses beliefs about oneself as well as other emotional response to those beliefs (Mann *et al.*, 2004). Stryker (1980) paradigms were therefore similar to Bandura (1969) conjecture in the imitation of peer behaviour by adolescents. The result of the present research is notable because it underlined the role of low self-esteem in the prediction of substance abuse. Self-esteem actually is the indication of an adolescent's psychological adjustment such as happiness (Cheng and Furnham, 2004), positive and negative effect (Orth *et al.*, 2012) with reduced psychological symptoms (Orth *et al.*, 2009).

Stryker (1980) emphasized the importance of group for adolescent's self-concept and self-esteem. Hence some adolescent substance abusers used drugs as a coping mechanism. The result of the present study therefore revealed low self-esteem as the strongest and unique predictor of substance abuse among adolescents. Bandura (2006) suggested that adolescents vary on how effectively they accomplish the beliefs they hold about their competence to produce results, because their achievements is a powerful personal source used in negotiating their development. Consequently adolescents with low self-esteem were likely to become depressed which leads to substance abuse (Patterson *et al.*, 2004).

In line with Stryker (1980) theory, adolescents who imitate the behavior of their peers are mostly adolescents with low self-esteem, while high self-esteem is seen as a shield for the self, by conferring protection from detrimental practices such as group influences (Cast and Burke, 2002). According to identity theory (Stryker, 1980), self-esteem performs a protective role when adolescents are incapable of confirming the characters that shields them from sufferings.

Peer substance use on the other hand plays a key role in adolescent risk behavior, particularly in adolescent smoking. Peer substance use was identified as the second unique predictor of substance abuse in the study. The result is supported by Valente *et al.* (2007) that a student in the same class room with friends or adolescents who consumed substances was likely to abuse substances. Social cognitive theorists therefore propose that adolescents imitate or model what they see and hear in the society (Thomas, 2005). Although throughout the history of human development, depression has been thought as a key factor in substance abuse however the construct was not found significant in the prediction of substance abuse in the present study.

5. CONCLUSIONS

The findings of the present study revealed the dangers of low self-esteem in the prediction of substance abuse among adolescents. The lower the level of adolescent's self-esteem, the greater the tendency to abuse substances. The import therefore is that adolescents with high self-esteem are immune to the deleterious consequences of substance abuse.

The general finding of this study have highlighted the need to examine substance abusing adolescents within the boundaries of their self-esteem. However, results such as these must be interpreted with caution pending further validation from other scholars. Although low self-esteem and peer substance use predicted substance abuse among the adolescent sample of the study, however their combined contribution to the variance in substance abuse was rather low, because both variables only accounted for about 32% of the total variance in substance abuse, hence affirming the contribution of other variables not examined in the present study. The present finding validates Banduras socio-cognitive theory. Future studies would therefore be wise in examining some other variables not scrutinized in the present study.

Conflict of Interest

The authors report no competing interests.

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