

The Associations between Impulsivity, Loneliness, Social Support and Suicide Ideation in Ahwaz Metropolitan Male Drug Dependents

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The purpose of the accomplished research was to examine the correlation between impulsivity, loneliness, social support and suicide ideation in Ahwaz metropolitan male drug dependents. The sample included 200 of Ahwaz Municipal addicted men who were selected randomly via a multi-stage sampling procedure. The Barratt Impulsivity Scale (BIS-11), Loneliness Inventory (UCLA), Social Support Appraisals Scale (SSA) and Beck Scale of Suicide Ideation (BSSI) were administrated as data sources. The research was designed to be a correlation study. To analyze data the Pearson correlation coefficient and multiple regressions were applied as statistical procedures. The results revealed that impulsivity, loneliness, and social support were significantly associated with suicide ideation. Multiple regression outputs also indicated that the loneliness significantly predicted suicide ideation in Ahwaz metropolitan male addicts.

Keywords: impulsivity, loneliness, social support, suicide ideation and drug dependence

Drug dependence, in contrast to drug addiction and drug abuse, refers to a state where the individual is dependent upon the drug for normal physiological functioning. Abstinence from the drug produces withdrawal reactions which constitute the only evidence for dependence. Drug dependence can involve disturbances in general somatic functioning such as vomiting, diarrhea, sweating, conceived as physical dependence syndrome and disturbances in psychological functioning, such as inability to concentrate, anxiety, and depression as well that indicate a

psychological dependence syndrome. A physical dependence syndrome is usually specific for a given class of drugs while psychological dependence syndrome often shares common features with other abused drugs. It is important to note that psychological dependence has a physiological basis and thus it is preferable to use the term physical dependence to refer to disturbances in somatic function to avoid confusion. For Bornstein (1993) dependency is a personality style that is characterized by the following four principal components:

(1) Motivational (i.e., a marked need for guidance, approval, and support from others);

(2) Cognitive (i.e., a perception of the self as relatively powerless and ineffectual, along with the belief that others are powerful and can control the outcome of situations);

(3) Affective (i.e., a tendency to become anxious and fearful when required to function independently);

(4) Behavioral (i.e., a tendency to seek help, support, approval, guidance and reassurance from others). In summary, drug addiction describes the motivational strength of substance use; drug abuse describes the misuse of a substance without explicit reference to motivational strength; and drug dependence describes the necessity of using a substance to maintain normal psychological and/or somatic functioning without reference to the motivational strength of the substance use or to whether the substance use violates cultural norms. These three terms have distinctively different meanings although there are obvious and numerous cases where all three apply to the same drug-use situation (i.e., the individuals may be dependent upon a drug which they abuse because they are addicted). According to the current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), substance dependence is defined as: 'When an individual persists in the use of alcohol or other drugs despite problems related to the use of the substance, substance dependence may be diagnosed. Compulsive and repetitive use may result in tolerance to the effect of the drug and withdrawal symptoms when use is reduced or

stopped. This, along with substance abuse is considered substance use disorder... Substance dependence can be diagnosed with physiological dependence, evidence of tolerance or withdrawal, or without physiological dependence. Addictive disorders are not only characterized by a high dependency level or depression but also by suicidality. Several studies in alcoholics, drug abusers, and anorectic or bulimic patients have reported comorbidity among addiction, depression or suicidal groups (Hudson, et al., 1987; Helzer, et al., 1991; Fornari, et al., 1992; Brooner, et al., 1997).

Empirical studies that have explored the relationship between dependency and suicide have been reviewed by Bornstein and O'Neill (2000). Of the nine studies reviewed, three examined the relationship between the level of dependency and clinician ratings of suicidal ideation (mean $r=.21$), four assessed the relationship between dependency and the number of suicide attempts (mean $r=.27$), and two rated the links between dependency and completed suicide (mean $r =.17$).

Suicide ideation: Suicide and suicidal behavior have long been regarded as serious social problems. According to the World Health Organization (2000), globally there is one completed suicide every 40 seconds. In brief, suicidal ideation refers to thoughts about suicide that include serious intent and/or a formulated plan; in large part, because thoughts of suicide are regarded as a precursor to suicide completion (Beck, et al., 1999; Miller & Taylor, 2005). Studies on youth suicide have identified substance use as a significant correlate of suicidal ideation (Kandel, Raveis & Davies, 1991; Metha et al., 1998; Prinstein et al., 2000; Reynolds and Mazza, 1994). With regard to suicidal ideation, both general population and clinical samples suggest that lack of peer support is connected to an increased likelihood of suicidal behaviour among youth (Lewinsohn, Rohde & Seeley, 1996; Perkins & Hartless, 2002; Prinstein et al., 2000). Specifically, low levels of friendship quality and social self-concept have been empirically linked to suicidal ideation (Lewinsohn, Rohde & Seeley, 1993; Prinstein, et al., 2000). Similarly, the absence of a positive school environment is also significantly correlated with suicidality (Kidd, et al.,

2006; Perkins & Hartless, 2002). Adolescent suicidal ideation is a major public health issue. Suicide ideation is considered to be an important precursor to later attempted and completed suicide (Brent, Johnson, Bartle, et al., 1993; Gili-Planas, Roca-Bennasar, Ferrer-Perez, et al., 2001; Lewinsohn, Rohde, & Seeley, 1996; Reinherz, Giaconia, Silverman et al., 1995) and is of major public health significance. Measures aimed to prevent adolescent suicides should incorporate our understanding of factors that are associated with suicide such as impulsivity, loneliness, social support, gender disparity and the association observed with substance use. Does loneliness play a buffering role in suicidal ideation? Has the impulsivity a buffering impact on suicidal ideation? Does social support reduce suicidal ideation, as Durkheim (1897) suggested?

Impulsivity: Trait-impulsivity is characterized by behaviors reflecting a preference for immediate rewards and significant difficulty in resisting such rewards (Mitchell, 1999; Monterosso and Ainslie, 1999). It can be decomposed into three behavior specific aspects of impulsivity: motor impulsiveness, non-planning impulsiveness and attentional impulsiveness. According to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV), impulsivity is the failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or to others. There is conflicting information about the specificity of any relationship between impulsivity and severe suicidality. While the majority of suicides, particularly in adolescents, are impulsive in the moment (e.g., Carey, 2008). Impulsivity has also been associated with death by suicide and is one of the most frequently implicated risk factors for engaging in maladaptive behaviors, such as serious self-injury (Anestis, Selby, & Joiner, 2007). Impulsivity may be associated with nonlethal suicide attempts or suicide gestures (J Clin Psychiatry, 2001). Strength of the wish to die is related to planning which would appear to suggest lack of impulsivity in more lethal suicide attempts. Impulsivity as a character trait, however, was associated with severe suicide attempts (Beautrais Baca-Garcia, et al., 1999) or completed suicide (Maser et al;

2002) in patients with affective disorders. Impulsivity distinguished suicidal inpatients from nonsuicidal inpatients and comparison subjects (Horesh, et al., 1997), and suicidal from nonsuicidal depressed inpatients (Corruble, Damy & Guelfi, 1999). Suicidal intent correlated with impulsivity even after controlling aggression (Horesh, et al., 1999). Among suicide attempters, impulsivity predicted eventual completed suicide more than 12 months later (Maser, et al., 2002). These findings are consistent with models for suicidal behavior that require some disinhibitory factors even in predominantly premeditated attempts, suggesting that impulsivity increases risk when combined with depression (Mann, et al., 1999, Apter, Plutchik and van Praag, 1993; Baumeister, 1990). Also, individuals who are dependent on multiple substances are more impulsive than those dependent on a single substance (McCown, 1988; O'Boyle & Barratt, 1993; Moeller, et al., 2001).

Loneliness: The state of feeling sad or dejected as a result of lack of companionship or being separated from others. Subjective feelings of loneliness have been found to be associated with elevated rates of suicidal ideation and behavior, depression, and hopelessness (Brown and Day 2008). In fact, Brown and Day's (2008) study of 60 inmates found that those who reported higher levels of loneliness also scored higher on indicators of suicidal behavior (recited from: Kao, J. C., Chuong, A, M. K. Reddy, Gobin, R. L, Zlotnick , C., & Johnson, J. E, 2014).

Social support: Support systems that provide assistance and encouragement to individuals with physical or emotional disabilities in order that they may cope better. Informal social support is usually provided by friends, relatives, or peers, while formal assistance is provided by churches, groups, etc. Social support has consistently been reported to be effective in reducing suicidal ideation (Noguchi, M., Iwase, T., Suzuki, E., Kishimoto, Y., Takao, S. 2013). Rudatsikira, et al., (2007) researched suicidal ideation associated factors among school-going adolescents. The results indicated that in general 21.6% of the study participants, 21.3% males and 23.5% females had seriously considered committing suicide

within the past 12 months. Loneliness and worry were positively associated with suicide ideation after adjusting for age, gender, smoking, drinking, and the experience of having been bullied. Males were less likely to seriously consider committing suicide than females. Altogether 21.6% of the study participants, 21.3% males and 23.5% females had seriously considered committing suicide within the past 12 months. Loneliness and worry were positively associated with suicide ideation after adjusting for age, gender, smoking, drinking, and experience of having been bullied (OR = 1.59; 95% CI [1.12, 2.26] and OR = 1.19; 95% CI [1.12, 2.25]), respectively. Males were less likely to seriously consider committing suicide than females (OR = .70; 95% CI [.50, .98]). Stroebe, M; Stroebe, W; Abakoumkin (2005) investigated suicidal ideation in a bereaved sample (30 widows and 30 widowers). The obtained results revealed that suicidal ideation was higher among widowed people than married people and was most excessive for widows. The effect disappeared when there was control for emotional loneliness. Social support did not buffer bereaved individuals against suicidal ideation but reduced suicidal ideation among the married and bereaved alike. Although lack of social support appears to have a more deleterious effect (its association with higher suicidal ideation for women than for men), again, there is no evidence of a buffering effect. The reason for the failure of social support to buffer the bereaved against the deleterious impact of the loss of a partner became apparent from our analysis of covariance. Arria, A. M; O'Grady, K. E.; Caldeira, K. M.; Vincent, K. B. ; Wilcox, H. C. and Wish, E. D. (2009) Particularized 1, 249 first-year college students aged 17 to 19 in a sample to be studied for suicide ideation among college students. Depressive symptoms, low social support, affective dysregulation, and father-child conflict were each independently associated with suicide ideation. In the group who reported low levels of depressive symptoms, low social support and affective dysregulation were important predictors of suicide ideation. Alcohol use disorder was also independently associated with suicide ideation.

Objectives: The purpose of the accomplished research was to examine the correlation between impulsivity, loneliness, social support and suicide ideation in Ahwaz metropolitan male drug dependents.

Question: Does any probable association exist between impulsivity, loneliness, social support and suicide ideation in Ahwaz metropolitan male drug dependents.

Hypotheses

H1: There exists a correlation between impulsivity and suicide ideation in Ahwaz metropolitan male drug dependents.

H2: There exists a correlation between loneliness and suicide ideation in Ahwaz metropolitan male drug dependents.

H3: There exists a correlation between social support and suicide ideation in Ahwaz metropolitan male drug dependents.

H3-1: There exists a correlation between the support of friends and suicide ideation in Ahwaz metropolitan male drug dependents.

H3-2: There exists a correlation between family support and suicide ideation in Ahwaz metropolitan male drug dependents.

H3-3: There exists a correlation between significant others' support and suicide ideation in Ahwaz metropolitan male drug dependents.

H4: There exists a multiple correlation between impulsivity, loneliness, social support and suicide ideation in Ahwaz metropolitan male drug dependents.

Method

Participants sample consisted of 200 males with drug-dependence that were selected by a multi-stage random sampling method from the "Well-Being, Hygiene and Cure Deputy" of therapeutic centers for male drug dependent clients in Ahwaz metropolitan areas in 2010.

Instruments

Barratt Impulsivity Scale (BIS-11). The Barratt Impulsiveness Scale is the most widely used self-report measure of impulsive personality traits.

The BIS-11 includes 30 items which are scored to yield a total score. Respondents are asked to indicate the extent to which the statements apply to them using a four-point scale ranging from rarely/never to always/almost always. The raw impulsiveness measure is the sum of the scores of these responses (the larger the sum, the more impulsive is the participant). The scale can be decomposed into three subscales measuring specific aspects of impulsivity: motor impulsiveness, non-planning impulsiveness and attentional impulsiveness. The BIS-11 has been used with a variety of populations (e.g. Crean, et al., 2000; Kirby, et al., 1999; Mitchell, 1999; Stanford, et al., 1996) and has demonstrated reliability and validity (Carrillo-de-la-Pena, et al., 1993; Fossati, et al., 2002; Patton, et al., 1995). Patton, et al. (1995) report internal consistency coefficients for the BIS-11 total score that range from .79 to .83 for separate populations of under-graduates, substance-abuse patients, general psychiatric patients, and prison inmates. To determine the reliability of the coefficient in the current research, the split-half method and coefficient alpha (Cronbach's α) were implemented. The .82 and .87 values for both cases, respectively, were quite acceptable with adequate reliability. To calculate concurrent validity for BIS-11 in the present study, its correlation with the single item criterion question was evaluated ($R = .52, p \leq .0001$).

The University of California, Los Angeles Loneliness Scale (R-UCLA). A 20-item 4-point Likert scale designed (to be self-administered) to measure one's subjective feelings of loneliness as well as feelings of social isolation. Participants rate each item as either O ("I often feel this way"), S ("I sometimes feel this way"), R ("I rarely feel this way"), N ("I never feel this way"). To keep scoring continuous make all O's =3, all S's =2, all R's =1, and all N's =0 (Russell, Peplau, & Ferguson, 1978).

The internal consistency of R-UCLA was evaluated in our research via the split-half method (.73) and Cronbach's alpha coefficient (.82) as well. Both methods implicated acceptable psychometric properties for the scale.

Philips Social Support Scale. This study also used the Social Support Appraisals Scale (SSA) (Vaux, Phillips, Holley, Thompson, Williams, &

Stewart, 1986). This is a 23-item instrument based on “the idea that social support is in fact support only if the individual believes it is available” (Corcoran & Fischer, 1987, p. 779). The items are rated on a Likert scale from 1-4. A score of one denotes “strongly agree” and four indicates “strongly disagree.” Higher overall scores imply a low evaluation of perceived social support. On the other hand, lower overall scores imply a high evaluation of perceived social support. The SSA has good concurrent, predictive, known-groups, and constructs validity. It also has good internal reliability (alpha coefficients ranging from .81 to .90 (Corcoran & Fischer, 1987). Sample questions include: “I am important to others,” “My friends don’t care about my welfare,” and “If I died tomorrow, very few people would miss me.” The internal consistency of the scale was found good enough through the split-half method (.68) and Cronbach's alpha coefficient ($\alpha = .76$) in this research.

Beck Scale of Suicide Ideation (BSSI): The researcher also examined the internal consistency of the Beck Scale of Suicide Ideation (BSSI). Split-half and Cronbach's alpha coefficient procedures implied an internal consistency of .91 and .86, respectively, as evidence of acceptable psychometric properties for the scale.

The research was designed to be a correlation study. In general, within a correlation or a co-relation study two or more sets of data for a group or a set of data for two or more groups are taken into account. Such a procedure is implemented to assess the magnitude of variance in one or more variables (the criteria or dependent variable) due to the variance in other variables (predictive or independent variable). In the present correlation study the strength and direction of a linear relationship between two random variables, the dependent and independent variables, were merely evaluated. The researcher planned to examine the simple and multiple correlations between the predictive variables (impulsivity, loneliness, social support) and the criterion variable (suicide ideation) in Ahwaz metropolitan male drug dependents. To analyze data, Pearson’s

correlation coefficient and multiple regression analysis were applied as statistical procedures.

Results

The findings were summarized and presented in two sections:

Descriptive Findings

Descriptive findings, the statistical indices of mean, standard deviation (SD), minimum, maximum scores and total number of the subjects for all the research variables, are presented in Table 1.

Table 1

The Statistical Indices (Scores' Mean, Max, Min and the Numbers of the Subjects) for Impulsivity, Loneliness, Social Support (and its Sub-Components) and Suicide Ideation in Ahwaz Metropolitan Male Drug Dependents

Variables / Indices	Mean	S. D.	Min	Max	No
Impulsivity	67.78	12.54	41	98	
Loneliness	41.33	9.79	23	67	200
Social Support	21.09	1.69	16	23	
components	Friend Support	6.67	.469	6	7
	Family Support	6.94	.973	4	8
	Others Support	7.47	.755	5	8
Suicide Ideation	6.41	6.40	0	25	

As can be seen in Table 1, all the 200 subjects gained 67.78, 12.54, 41 and 98 for impulsivity as score means, standard deviation, minimum and maximum. For loneliness the above mentioned indices of the scores were 41.33, 9.79, 23 and 67, respectively; and for social support, these indices

are 21.09, 1.69, 16 and 23; and for suicide ideation they are 6.41, 6.40,0 and 25.

Findings Pertinent to the Research Hypotheses:

To analyze data, Pearson’s correlation coefficient and multiple regression were applied as statistical procedures. The results are depicted in Tables 2- 5 as follows:

Table 2
Pearson Correlation Coefficient of Impulsivity, Loneliness, Social Support and its Sub-Components and Suicide Ideation

Criterion Variable	Statistical Index		P Vale	No
	Predictor Variable	Correlation Coefficient (r)		
Suicide Ideation	Impulsivity	.20	.004	200
	Loneliness	.23	.001	
	Social Support	-.16	.018	
	components	Friends’ Support	-.14	.05
		Family Support	.05	.42
		Others’ Support	-.21	.002

According to the data embedded in Table 2, impulsivity is significantly correlated with suicide ideation ($r=.20$, $p \leq .004$) and, therefore, the first hypothesis is confirmed. That means, there is a significant relation between impulsivity and suicide ideation in Ahwaz metropolitan male drug dependents.

Regarding the data in Table 2, loneliness is significantly associated with suicide ideation ($r=.23$, $p \leq .001$); therefore, the second hypothesis is consolidated, too. That means, there is a significant link between loneliness and suicide ideation in Ahwaz metropolitan male drug dependents.

Referring to the indicated data in Table 2, social support is significantly related to suicide ideation ($r= -.16$, $p \leq .018$); so the third hypothesis is also confirmed. That means, there is a significant negative association between social support and suicide ideation in Ahwaz metropolitan male drug dependents.

Concerning the sub-components of social support, there is a significant negative correlation between friends' support and suicide ideation ($r= -.14$, $p \leq .05$), while family support was not significantly correlated to suicide ideation ($r= -.05$, $p \leq .42$). Therefore, the second sub-hypothesis was rejected. Finally, as can be observed in Table 4, the support of others was significantly associated with suicide ideation ($r= -.21$, $p \leq .002$).

Multiple regression analysis, as the main statistically implemented procedure, revealed that there were significant multiple correlations ($MR=.25$, $p \leq .006$) between impulsivity, loneliness and social support on one hand and suicide ideation on the other hand. Hence, the fourth hypothesis was confirmed as well. With respect to Adjusted R Squared ($ARS= .06$) only 6% of the suicide ideation variance could be explained by the independent variables. The results also indicated that the most portions (totally 5%) of the dependent variable variance could be significantly explained by just one of the independent variables: loneliness. That means, loneliness played the only significant role and impulsivity and social support had no significant role in predicting suicide ideation.

Table 3
Multiple Correlation Coefficients of Impulsivity, Loneliness, Social Support and Suicide Ideation in Male Drug Dependents by Enter and Stepwise Methods

Enter Method	Statistical Indices	MR	RS	F Ratio P Value	Regression (β)	Coefficient		
Criterion Variable	Predictor Variable				#1	#2	#3	
Suicide Ideation	#1 Impulsivity	.20	.04	F=8.54 p≤ .004	β =.20 t =2.92 p≤ .004			
	#2 Loneliness	.24	.06	F=6.30 p≤ .002	β = .09 t =1.10 p≤ .05	β= .17 t =1.98 p≤ .48		
	#3 Social Support	.25	.06	F=4.32 p≤ .006	β = .08 t = .86 p≤ .05	β= .16 t =1.78 p≤ .05	β=-.05 t = .62 p≤ .05	
Stepwise Method	Statistical Indices	MR	RS	F ratio P value	Regression (β)	Coefficient		
Criterion Variable	Predictor Variable				Loneliness			
Suicide Ideation	Loneliness	.23	.05	F=11.37 p≤ .001	β = .23 t =3.37 p≤ .001			

Discussion

The outcomes supported investigations that resulted in significant (multiple) correlations between impulsivity, loneliness and social support on the one hand and suicide ideation on the other hand in (male) drug dependents and were in accordance with Hudson, et al., (1987); Helzer, et al., (1991); Fornari, et al., (1992); Brooner, et al., (1997), Bornstein and O'Neill (2000), Kandel, et al., (1991); Metha, et al., (1998); Prinstein, et al., (2000); Reynolds and Mazza, (1994), Lewinsohn, Rohde & Seeley, (1996); Perkins & Hartless, (2002); Prinstein, et al., (2000); Lewinsohn, et al., (1993); Rudatsikira, et al.; (2007) Stroebe, M.; Stroebe, W.; Abakoumkin, G. (2005); Arria, et al, (2009)...

To suggest a possible explanation for the finding results, it may be discussed that drug dependency was associated with increased risk for suicidal ideation/behavior on the one hand and somehow with increased impulsivity/ loneliness and lack of social support on the other hand. It is possible that drug dependency acted as a mediator variable, being responsible for the effect of impulsivity, loneliness and lack of social support on suicidal ideation/ behavior. Impulsivity, loneliness and lack of social support which contributed to suicidal ideation/ behavior were much studied. Impulsivity, loneliness and lack of social support were responsible for suicide ideation/ behavior in many studies. The data reported here, however, did not support such a relationship. First, the effect of impulsivity and social support appeared weaker than that of loneliness. Second, impulsivity and social support had non-interacting main effects on immediate suicidal ideation/behavior. This fact became obvious via stepwise regression analysis (Table 3). Third, immediate loneliness made a highly significant contribution to predicting suicide ideation whereas impulsivity and social support did not (Stepwise regression analysis).

Conclusion

This study identified several potential targets for suicide prevention initiatives directed at men with drug dependency. Many of the risk factors identified here—especially perceived social support and loneliness—represent possible areas for intervention, but additional research is needed to determine whether these risk factors can be effectively modified to reduce suicide ideation. Suicidal thoughts and behavior during drug dependence present unique challenges to both researchers and clinicians.

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