

Suicide Ideation and Behavior of Kosovar Adolescents: Effect of Negative Life Events, Reported Wellbeing, Happiness, Coping Mechanisms and Self-Esteem

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Keywords: suicide ideation; suicide behavior; self-esteem; negative life events; wellbeing; happiness; post-war

Abstract. After the war in 1999, suicide has become one of the major causes of death for youth in Kosova. This study reports on and evaluates the level of reported suicidal ideation and behavior among Kosovar adolescents, and tests relation to demographic variables (gender, rural/urban), self esteem, reported happiness and wellbeing, self-esteem, negative life events (including war events) and coping mechanisms. The interaction of each variable to reported suicide ideation and suicide behaviour is studied among a representative sample of 2077 male and female Kosovar adolescents with an average age of 17. Results indicate that self esteem, reported happiness and wellbeing are in negative relation to reported suicidal ideation and suicide behavior. The multiple regression analysis that for suicidal ideation reveals that wellbeing (and self-esteem coping mechanism factor were highly significant predictors followed by self-blame coping mechanism factor acceptance and venting coping mechanism factor; stressful events after the war; disengagement coping mechanism factor (suicide in family; active coping and planning coping mechanism coping mechanism factor; humour coping mechanism factor; life happiness. All these variables accounted for 23.3% or almost 1/5 of variance in the suicide ideation scores. The multiple regression analysis for the suicide behavior reveals that the linear regression analysis of variance revealed 35.3 % more than one third of suicide behavior scores explained by the following predictors: the main predictor was suicide ideation scores ; stressful events after the war; and active coping and planning coping mechanism factor.

1. Introduction

Suicide attempt and completion exists in every country and there has not been any historical era where suicide was not present [1]. As reported by WHO, from 1950 to 1995 the global rate of the suicide for both genders increased by 60% [2]. An estimated 873.000 people around the world commit suicide [3]. While suicide is reported to be the 13th leading cause of death globally, in the European region it is the seventh leading cause of death. For adolescents, however, it is one of the leading causes of death. In, Europe, the United States and in other countries, it is a growing public health problem both for fatal and non-fatal suicidal behavior [4] and [5]. Suicidal behavior is explained by one or a combination of psychological, cultural, ecological, medical/biological and sociological factors. It is also known that completed suicide [6] and suicide attempts increase during adolescence [7].The level of completed suicides increases in late adolescence and continues to rise

until the early 20's [8], [9] whereas suicide attempts peak at 16 to 18 year-old adolescents [10] particularly for girls. This study aims to research the psychological, ecological and some demographic factors and their relation to adolescent suicide ideation and behavior among Kosovar adolescents.

Suicide ideation refers to presence of thoughts/cognitions about self-destructive behavior regardless of whether death is intended or not. Such, thoughts might range from vague ideas about ending one's life to concrete plans to commit suicide [11].

Suicidal ideation is common among young people [12]. Suicidal ideation among adolescents can range from being harmless, of being transient thought, a mental representation of one possible solution, a romantic fantasy, many adolescents report suicidal thoughts especially when answering anonymously [13]. Although attempted suicides includes range of behaviors, a common characteristic of these behaviors is that people inflict acute harm to themselves, poison or injure themselves, or try to do and result with non-fatal outcome [13]. Considering the fact that suicide is the first or second cause of death among youth in various countries more specifically US, China, Sweden and Switzerland and that suicide attempt is one of the strongest predictors of suicide completion it is very important to understand better the suicide attempt among adolescents [14], [15] and [16].

A study made a review on the data presented from surveys conducted in Europe in general adolescent population where adolescents were asked to report on their suicidal thought and suicidal attempt [17]. The rates range from 2.2% of suicide attempt in Netherlands [18] to 8.3% in Norway [17]. Other countries ranging with percentages of suicide attempt between Netherlands and Norway include: Germany 5.6% (n=215); Switzerland 2.3% (n=1937) and 3% (n=9268); Sweden 3.6% (n=524); Slovenia 4% males and 5.9% male (n=184) [19]. The data presented above, however, should be taken with caution.

Data shows that females attempt more suicide than males (females are three to nine time as likely to attempt suicide), however, males are four time more likely to kill themselves [20]. Suicide attempt appears to be a important predictor of future suicide behavior. Findings from various research in various cultures show that suicide attempt is cross-cultural phenomena, although studies used various methodologies and measures certain factors such as gender and other psychological variables appear to be predict suicide attempt.

Stressful events is an interesting aspect to be researched especially taking in to consideration that Kosova has recently (1999) experienced a war with approximately 12.000 victims (approximately 0.6% of the total population). After the war, Kosovar society is in major process of value, social, political and economical transition that in itself brings other challenges. Taking in to consideration Durkheimian concepts of social integration as determinant of suicide behavior, in Kosova in recent years, there have been mass migration from rural to urban areas in quest for a better life. [21] reported that residential mobility was associated with suicidal behavior especially among females.

Self-esteem is defined as favorable or unfavorable attitude toward self as well as component of personality and/or depression [22]. Self-esteem is widely discussed in the suicide literature and often is studied as one of the precipitating factors of suicidal behavior, verhosler [23] and [24] found in their research with adolescents that those adolescents who have attempted suicide had significantly lower self-esteem when compared to others in their age groups. Low self-esteem also appears to differentiate the suicide attempters (33% reported low self esteem) and non-attempters (13% reported low self-esteem) [25].

Self-esteem can be considered an indicator of the individual's capability to face and cope with various stressors [26]. If a person views himself or herself highly they are said to have high self-esteem and the person who has low opinion of himself or herself has low self-esteem and may be more susceptible to suicide than a person with high self-esteem [27].

It is reported that is not the number of stressful events or stressors that precipitate the suicidal behavior, but that deficient or maladaptive coping strategies are what precipitate the behavior when adolescents are faced with stress [28].

In general, in the literature, coping is categorized in emotion-focused coping and problem-focused coping [29]. Emotion focused coping consists primarily of cognitive processes with aim to lower the emotional distress by involving one or more of the following strategies: Avoidance, minimization, distancing, selective attention, positive comparison and focusing on the positive value of negative events. The same authors suggest that this type of coping may lower stress without distorting reality; however, this might lead to self-deception which hypothetically might be problematic. Problem - focused coping is focused on defining a problem, generating alternative solutions, weighting alternatives and finally action. [30]

In a nationwide study in US with sample of 18-24 and a 20-year follow-up study have found that life dissatisfaction had a long-term effect on the risk of suicide. Similarly, in South Korea the adolescents who reported lower life satisfaction were more at risk for suicide attempt [31] Although the research in construct of happiness and well-being is in the early stages, there is enough evidence to suggest that happiness and well-being are interesting factors to examine in relation to suicide as mediating variables.

The research question of the present study is: What is the interaction of the suicidal ideation and behavior variables of Kosovar adolescents individually with each and in combination with following variables: self-esteem, war experience, stressful events after the war, coping mechanisms and reported wellbeing and happiness.

2.0 Methodology

2.1 Study design

Prior to collection of the survey data, translation and standardization of measures was conducted from March 2007 until June 2007. Following the translation and standardization, permission was requested from Ministry of Education which was granted in August 2007 which granted also the ethical review of the study. From 7 until 15 September 2007 the researcher and a representative from Foundation "Together" visited 46 schools that were selected from the list of the high schools provided by Ministry of Education. In these 46 meetings we meet the school director or deputy director the researcher or the representative of Foundation "Together" explained the aim of the study and provided them the copy of the permission from the Ministry of Education.

2.2 Participants

In the above mentioned meetings, the researcher randomly selected two classrooms from 12th and 13th graders in big cities and one in a smaller municipality, in total 30 municipalities of Kosovo were included in the study. After the selection of the classrooms and based on number of the pupils in classrooms, the researcher provided copies of consent letters to be signed by the parent of adolescents and to be distributed by the school administration (see Annex 1). In total, 2,700 consent letters were distributed in 46 schools during the period of the visits. During the same meeting the dates and time of the assessment were confirmed. On average, the assessment took place one week after the initial meetings.

The sample consisted of 2093 adolescents of which 964 (46.1%) respondents revealed their name and surname and 1129 (53,9 %) responded anonymously. Average age of the adolescents was $M=17.14$ ($SD=.08$) no significant difference was found for age in terms of gender. The age range was from 15-20 year old students interviewed in school. In total, 76 or 3.6% were from 11th grade, 1057 or 50.5% from 12th grade and 960 or 45/9% from 13th grade. In terms of distribution of where they live 1079 or 51.9% were from rural areas, 300 or 14.3% from smaller towns and 700 (33.4%) from urban areas and 14 (.7%) did not indicate their address.

The majority of participants declared belonging to Islam religion 95%, 3.2% Catholics, 0.3% Christian Orthodox, 0.5% Protestants and 0.4% Atheist.

2.3 Data Collection and Measures

The assessment was conducted by a team of 10 trained third-year undergraduate students of psychology who were trained beforehand by the researcher on the content of the questionnaire. The interviewers were provided with written guidelines on how to address to classrooms when they enter to administer the questionnaire. Overall, there were no problems or issues faced during the September 17, 2007 – October 4, 2007 implementation period. On average, the assessment lasted 35 minutes. The majority of the data collection was done during the first period of the school day.

Stressful event - were measured for two separate periods of the life course of adolescent one for the period of the war and the other for the period after the war. The specific measures are listed below. Four items were taken from the Harvard Trauma Questionnaire [32]. The items included in the present study were those that were thought to be main traumatic events from the war. In order to fill in the the gap after the war we asked the respondents on experience of negative life events from 1999 to 2007 with questions such as: loss of close and dear person, chronic illness, violent and abusive crime, accident and injury, natural disaster, financial hardship, move to a larger city; changes in the family responsibility, separation from the romantic partner and parental divorce. Reported life happiness of the adolescent was assessed by using the 4-item measure of Global Subjective Happiness [33]. The well-being index measure used in this study is the World Health Organization – 5 (WHO-5). This is a five-item screening instrument for the detection of depression in the general population [34] provide detailed information on development of the WHO-5 index of wellbeing. The coping skills of adolescents were assessed by using the Brief COPE [35]. The Rosenberg self-esteem scale is one of the most widely used measures and assesses global self-esteem of the person [36]. In an attempt to cover the whole process of suicidal behavior and contributing factors, developed the clinician-rated semi-structured Questionnaire on Suicide ideation and Behavior (Q-SIB) [19]. The questionnaire enables to create continuous scores for suicide ideation and attempt.

3. Results

The percentage of females who thought about committing suicide was 11.5% compared to 5.9% for males. Similarly and as found elsewhere in the literature, females report significantly higher levels of attempted suicide (4.1%) compared to males (2.4%) at $\chi^2 = .374, p = .053$. No significant difference between males and females was observed for the questions related to family history of suicide, both reported similar rates (4.2 % of males and 4.3% of females reported blood relative/s have attempted suicide, lower level of committed suicide as would be expected were reported 2.0% by males and 2.6% by females.

Table 1 Mean comparison for common coping mechanisms with significant mean difference for males and female adolescents that have reported suicide ideation and not reported suicide ideation

Gender		Suicidal ideation Male: Yes (n=39) Female: Yes (n=123)	Suicidal ideation Male: No (n=699) Female: No (n=1138)	t-test
Male	Behavioral disengagement	(M=4.28, SD=1.79)	(M=3.64, SD=1.62)	t(736,1)=-2.39, p=.017
	Self Blame	(M=5.33, SD=1.72)	(M=4.24, SD=1.85)	t(736,1)=-3.608, p=.001
Female	Behavioral disengagement	(M=4.63, SD=1.61)	(M=4.03, SD=1.61)	t(1259,1)=-3.88, p=.001
	Self Blame	(M=5.82, SD=2.01)	(M=4.52, SD=1.86)	t(1259,1)=-7.29, p=.001

Males who reported suicide ideation, other than on these two coping mechanisms used in stressful situations, males scored significantly lower also on instrumental support. Male adolescents that reported suicidal ideation reported lower levels of seeking instrumental support (M=4.90, SD=1.86) compared to those who did not report suicide ideation (M=5.57, SD=1.82) at $t(736,1)=2.24, p=.025$.

Female adolescents that reported suicidal ideation showed higher usage of coping mechanisms in stressful situation when compared to female adolescents that have not reported suicidal ideation: denial (M=6.12, SD=1.63 vs. M=4.74, SD=1.81) at $t(1258,1)=-2.91, p=004$; venting (M=5.46, SD=1.85 vs. M=4.79, SD=1.49) at $t(1258,1)=-4.64, p=001$, substance use (M=2.23, SD=.78 vs. M=2.08, SD=.52) at $t(1258,1)=-2.90, p=004$, acceptance (M=5.74, SD=1.82 vs. M=5.32, SD=1.57) at $t(1258,1)=-2.77, p=006$, and humour (M=2.97, SD=1.54 vs. M=2.71, SD=1.22) at $t(1258,1)=-2.14, p=032$.

Similar analysis was conducted for the coping mechanisms used in stressful situations when grouping variable was reported suicide attempt. Both male and female adolescents that reported suicide attempt reported higher levels of venting, behavioral disengagement acceptance and self-blame.

Males that have reported suicide attempt differ from females by substance use as risk factor with higher averages for male suicide attempters (M=2.83, SD=1.58 vs. M=2.17, SD=.074) at $t(741,1)=-3.58, p=001$. Whereas females that have reported suicide attempt differ from males by use of denial (M=5.47, SD=2.08 vs. M=4.77, SD=1.83) at $t(1258,1)=-2.68, p=007$

Independent t-test analysis was conducted to compare the scores of adolescents who have reported suicide attempt compared to those with no suicide attempt. As expected, adolescents with history of suicide attempt reported lower mean scores on life happiness (M=26.3, SD=3.65) compared to adolescents with no history of suicide (M=29.1, SD=3.1) resulting with significant mean difference $t(2029)=7.3, p=.001$. Similar results were found for reported well-being where adolescents with history of suicide attempt reported lower mean scores on well-being (M=12.85, SD=6.7) compared to adolescents with no history of suicide (M=17.58, SD=5) resulting with significant mean difference $t(2000)=7.71, p=.001$.

Adolescents who reported to have thought about suicide reported significant lower levels of self-esteem M=26.62; SD=3.4 compared to adolescents that did not report thoughts of suicide M=29.27; SD=3.1 at $t(1, 2028)=10.42$ at $p=.001$. Similar results were found also for adolescents that have reported suicide attempt M=26.2; SD=3.66 compared to adolescents that have not reported suicide attempt M=29.14; SD=3.15 at $t(1, 2029)=7.36$ at $p=.001$.

Logistic regression was used to determine which variables predicted best suicidal ideation and suicide attempt among Kosovar adolescents. The models are formulated in terms of odds p (suicide ideation) / p (non suicide ideation) and p (suicide attempter) / p (suicide non-attempter). All of the research variables presented in this study were entered in regression model separately conducted for suicidal ideation and suicide attempt. Following the univariate binary logistic regression the significant variables were simultaneously entered in a multivariate binary logistic regression for both the presence and absence of suicidal ideation and attempt.

Table 2 Binary logistic regression results for the suggested model

	Suicidal ideation		Suicide attempt	
	OR	(95% CI)	OR	(95% CI)
Wellbeing	.918 **	(.89 - .95)	.918**	(.87 - .96)
Happiness	.971	(.93 - 1.0)	.972	(.91 - 1.03)
Self-esteem	.884 **	(.83 - .94)	.901**	(.82 - .98)
Stressful events	1.17 *	(1.0 - 1.3)	1.23*	(1.0 - 1.6)
Suicide in family	1.34	(.86 - 2.1)	1.9*	(1.1 - 3.2)

Cope factor 1 – Active coping and planning	1.30 *	(1.1 – 1.6)	1.38*	(1.0 – 1.9)
Cope factor 2 – Emotional and instrumental support	.887	(.75 – 1.1)	1.31*	(1.0 – 1.7)
Cope factor 3 – religion and positive reframing	.893	(.75 – 1.1)	1.11	(.84 – 1.4)
Cope factor 4 – denial and disengagement	1.23*	(1.0 – 1.5)	1.26	(.97 - 1.6)
Cope factor 5 – Self blame	1.38**	(1.1 – 1.6)	1.16**	(1.2 – 2.1)
Cope factor 6 – Humour	1.16	(.99 - 1.3)	1.09	(.86 - 1.3)
Cope Factor 7 – Substance use	1.04	(.90 - 1.2)	1.10	(.93 – 1.3)
Cope factor 8 – Acceptance and venting	1.37**	(1.1 – 1.6)	1.48*	(1.1 – 1.9)

Nagelkerke R Square = .222 Nagelkerke R Square = .226
 Hosmer & Lemershow Test = .521 Hosmer & Lemershow Test

= .434

* p<.005

** p<.001

Binary logistic regression analysis for the suicidal ideation as dependent variable revealed that 7 out of 13 independent variables appeared to be statistically significant in the following order: coping mechanism factor self-blame (OR = 1.38, p = .001); coping; coping mechanism of active coping an planning (OR = 1.30, p = .007); stressful events after the war (OR = 1.17; p = .009); well-being (OR = .918, p = .001); self-esteem (OR = .884, p = .001). In other words, the results show that adolescents with high levels of self-blame, low levels of active coping and planning, high stressful events after the war, low levels of reported well being and self-esteem are at increased risk for suicide ideation. The Hosmer & Lemershow test = .521 shows that the model is fit and that the null hypothesis can be rejected.

Binary regression for the suicidal attempt as dependent variable revealed that 8 out of 13 dependent variables appeared to be statistically significant in following order: suicide in family (OR = 1.91, p = .017); coping mechanism factor self blame (OR = 1.65, p = .001); coping mechanism factor of active coping an planning (OR = 1.39, p = .044); coping mechanisms factor of instrumental and emotional support (OR = 1.31, p = .046); stressful events after the war (OR = 1.26; p = .007); well-being (OR = .918, p = .001); self-esteem (OR = .901, p = .022). Similar to the suicide ideation for the suicide attempt the Hosmer & Lemershow test = .434 shows that the model is fit and that the null hypothesis can be rejected.

4. Summary and Conclusions

This study investigated several variables and their interaction with reported suicide ideation and suicide behavior of Kosovar adolescents. Adolescents that have reported suicide ideation and suicide attempt scored significantly higher in self-esteem, certain coping mechanisms, reported well-being and happiness and experience of stressful events differ significantly from adolescent with no history of suicide ideation and suicide attempt.

The following section will follow the order of the research questions that guided the study. Although it is very difficult to compare internationally the data from Kosova due to various methodologies used, it can be stated that suicide ideation and suicide attempt is present among Kosovar adolescents and this is the first systematic research in this field in country level. Common sense would suggest that adolescents that reported anonymously would score significantly higher than those who revealed their identity. In this study no significant difference was found between

these two groups, therefore the further analysis was done by bridging these two sub-samples into one.

The suicide ideation and attempt is more frequent and present among female adolescents and this is in consistency with the findings from other countries and cultures. Female adolescents in present study scored significantly higher on measures of suicide ideation and behavior.

Variables such as self-esteem and coping mechanisms considered as personality related variables appear to be related to reported suicidal ideation and suicidal behavior of adolescents. Adolescents that reported suicidal ideation and suicidal behavior scored significantly lower on self-esteem items regardless of gender. [37] Beck argued that sense of worthlessness can contribute to depression which consequently might lead to suicidal thoughts. Self-esteem appears to be an independent predictor of suicidal ideation and suicidal behavior as seen in the multiple regression analysis and in other studies [39], [40] and [41].

This study is the first of its kind in Kosova and attempts to assess the presence of suicidal ideation and suicide related behavior among adolescents. The results clearly indicate the presence of suicide ideation and suicide attempt among Kosovar adolescents. Although the rates are lower than in other countries, the data clearly the existence of the problem and available data indicates an increasing trend. Several variables appear to have predicting power to identify the adolescents with risk of suicide ideation and behavior, stressful events experienced after the war appear to be more powerful factors compared to stressful events experienced during the war. Emotion-focused coping combined with lower levels of self-esteem, happiness and well-being is associated with suicidal ideation and behavior.

The study has several limitations. The conclusions should take the following into consideration: the measures measuring the war experience are few and do not represent the full experience and the effect of the war to suicide ideation and behavior of Kosovar adolescents; the happiness as a construct might not be a stable construct in adolescence; the sample didn't include the minorities therefore eventual generalization are for Albanian adolescents; the study is a cross sectional one and in order to have more solid conclusions longitudinal studies are needed.

5. Acknowledgement

This study was supported by Foundation Together, Ljubljana, Slovenia.

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