

The Construction of the Influential Model of College Students' Life Values on Suicidal Ideation

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Abstract: Life values, which is reportedly linked to suicidal behaviors, are going through prominent establishment and consolidation during college stage. To explore and construct the theoretical model of the impact of college students' life values on suicidal ideation, 4085 undergraduates in 5 universities were surveyed to investigate the impact of college students' life values on suicidal ideation. Results show that there are significant negative correlations between Personal Orientation, Social Orientation, Initiative Accepting, Active Devoting, Fantasy Avoidance, Positive Optimism, Destined Pessimism and suicidal ideation score, despair and Positive Optimism factor, and significant difference with the sleep factor of suicidal ideation Positive correlation. The values of college students' life are related to the three factors of sleep, despair and Positive Optimism of suicidal ideation, whether positive or negative, and in different degrees. The constructed model provides both theoretical basis and practical instructions for college students' intervention in suicide crisis and helps to alleviate and reduce suicidal ideation.

1. Introductions

Suicide remains one of the most significant health issues nowadays. Reports by World Health Organization estimated there are more than 700 thousands of people died by suicide annually, and about 1.3 in every 100 deaths were resulted by suicide^[1]. In China, despite of the relatively low suicide rate (of 8.6/100000) comparing to global level, suicide is still the fifth most important cause of death (Phillips et al., 2002)^[2]. For younger Chinese people, suicide become the leading cause of death, and both the individual and social loss brought by suicide cases involving college students have raised large amounts of concerns (Li et al., 2014)^[3]. In college period, students frequently face multi-channel challenges during the self-developing processes. In dealing with the problems at hand, college students endure rapid change of mindsets, including life values. Petrie et al. (1992) found that the suicidal ideation of college students is related to the lack of recognition of one's own existence purpose and life value, which leading to forfeiting struggles and feeling helplessness when encountering failures, and choosing suicide facing severe setbacks^[4]. There are studies pointing out that life values is able to influence suicidal ideations and behaviors, among other factors like hopelessness and depression (Bryan et al., 2013)^[5].

As an important component of Values, the concept of Life Values refers to the opinions of the purpose and meaning of life, and therefore is also mentioned as Purpose of Life, Meaning of Life and meaning in life, etc. One's Life Values determine what attitude and behavior would be adopted towards one's own life. The earlier questionnaire developed for the measuring of life meaning was by Crumbaugh et al. (1964), namely The Purpose in Life Test (PIL)^[6] according to Frankl's theory. The test was found out to be associated with suicide attempt and ideation (Lester et al., 1992)^[7]. Mitchell (1984) designed an inventory to access Life Values, and find significant relations between life value preferences and personality traits. The study calculated the correlated loads between 16 PF

personality inventory variables and Life Value Inventory variables^[8]. Brown et al. (1992) developed the more widespread Life Value Inventory (LVI), specifically to measure values that guide behavior and contains both quantitative and qualitative approaches to values measurement^[8].

There are growing interest of the associations that Suicidal Ideation has with Life Values, or with similar concepts like Purpose of Life, Meaning in Life, etc. In the research of Edwards et al. (2001), purpose in life would generally be negatively associated with suicidal manifestations, and performed moderating role between coping and suicidal manifestations, indicating activities designed to increase life meaning can provide enhancement for suicide prevention and intervention^[10]. Heisel et al. (2004) also found that Purpose in Life significantly moderated the association between depression and suicide ideation and was most protective against suicide ideation under higher levels of subjective depression^[11]. There are other studies supported the above opinions, such as Kleiman et al. (2013)^[12], and Wilchek et al. (2017)^[13]. Liu et al. (2020) suggested meaning in life could be the moderator between abusive supervision and suicidal ideation, it was also indicated that intervention strategies that focus on the meaning in life can be influential in mitigating suicidal ideation in subordinate^[14]. Beach et al. (2021) also found meaning in life to be a moderator of the associations between negatively stimulating factors and passive suicide ideation^[15].

In investigation of Tan et al. (2018) for Chinese adolescents, meaning in life mediated the relation between mental health status (by Mental Health Test, MHT) and suicidal ideation^[16]. Sun et al. (2021) conducted similar investigation on psychiatric patients and came up with similar conclusions^[17], while other research on psychiatric patients (Costanza et al., 2020)^[18] and physically ill elder patients (Lutzman et al., 2021)^[19] suggested otherwise. The structural role of Life Values could differ due to the variation of studied group and the consideration of variables.

Many studies focused on the military veterans with high suicidal risks from a life value aspect. Braden et al. (2014) concluded the three best indicators of suicidal ideation, namely depression severity, history of a suicide attempt, and life meaning^[20]. Interview records showed that veterans who have suicidal ideation did express purposeless and a lack of meaning in their post-deployment lives (Denneson et al., 2015)^[21], and placing a low value on relationships can also exacerbate the risk to a greater extent (Monteith et al., 2015)^[21]. The presence of meaning in life may serve as a protective factor for veterans' moral injury, and therefore prevent suicidal ideation (Kelley et al., 2021)^[23].

Sinclair et al. (2016) suggested that pursuing meaning in life is painful and suicidal, while the presence of meaning in life provides protection against suicidal ideation and attempts^[24]. However, some studies suggested that the presence of meaning in life would not mitigate the odds of reporting suicidal attempt while concerning alcohol misuse groups (Kopacz et al., 2018)^[25]. Recently, Moscardini et al. (2021) argued that although presence of life meaning may be protective against the escalating intensity of suicidal ideation, the search for life meaning's relation with suicidal ideation appeared to be non-significant^[26].

Although the association between life values and suicide has been discussed from multiple aspects, there are few studies focusing on the forming and transforming period of life values. During college period, there are multi-channel approaches that can be taken to adjust and cultivate the life values of students. Suitable measures can be established accordingly to provide intervention and prevention of college students' suicidal behaviors, which has become serious issues in present China. In this paper, the College Students' Life Values Inventory (CSLVI) is introduced. College Students' Life Values is defined as the college students' opinions on the value and significance of life, which include Life Values Targets, Life Values Process, and Life Values Assessment. The associations between Suicidal Ideation and 7 factors from Life Values are analyzed through multi-regression, and the mechanisms behind the influential patterns are discussed with consideration of clinical practice.

2. Objects and Methodologies

2.1. Participants

Participants of the current study are drawn from students in five universities of Liaoning Province. There are 4150 students received the questionnaires, among whom 4120 answers were collected with

a retrieving rate of 99.28%. Some participants were then excluded due to in-effective answers, leaving 4085 effective answers with an effective rate of 98.43. The effective participants included 2474 male students, 1611 female students. In order of school year, there are 838 freshmen, 961 sophomores, 1166 juniors and 1120 seniors in the participants.

2.2. Measures

2.2.1. College Students' Life Values Inventory

In the current study, we adopted the College Students' Life Values Inventory (CSLVI) for the investigation. The inventory included the three dimensions of life value target, life value process and life value evaluation. The dimension of life value target involves two factors, namely Personal Orientation and Social Orientation. Meanwhile, the dimension of life value process involves three factors, namely Active Devoting, Initiative Accepting and Fantasia Avoidance. The dimension of life value evaluation involves two factors, namely Positive Optimism and Destined Pessimism. The life value target, which is the core of life value, refers to the individual's pursuits that bear most significance for his or her life. The life value process, which is the actual appearance of life value, refers to the individual's routes and methodologies to achieve the life value target. The life value evaluation, which can either be the motivator or the obstrucater throughout the process of achieving life value target, refers to the individual's judgements towards the meaning of life based. Likert scale is adopted for the CSLVI. Through confirmatory factor analysis, the CSLVI showed an acceptable internal structure, with the split-half reliability of 0.887 and the internal consistency of 0.923.

2.2.2. The Self-rating Idea of Suicide Scale

The Self-rating Idea of Suicide Scale (SIOSS) was designed by Zhaoyun Xia. The scale contains 26 items, which can be divided into 4 factors, namely desperation, (reverse scored) Positive Optimism, sleep disorder and concealment. The individuals with scores exceeding the threshold ($M+2SD$) are considered with suicidal ideation. The scale has a test-retest reliability of 0.81 and the internal consistency of 0.79 through CFA.

3. Results

3.1. Correlation analysis of Life Value and Suicidal Ideation

The analyzed correlation coefficients between Life Values and Suicidal Ideation, as shown in Table 1. All seven factors of Life Value exhibit negative correlations with the total score of Suicidal Ideation, and also with Desperation and Positive Optimism factors. Meanwhile those seven factors also have positive correlations with the Sleep Disorder factor.

Table 1 The correlation coefficients between Life Value and Suicidal Ideation.

	Personal Orientation	Social Orientation	Active Devoting	Initiative Accepting	Fantasia Avoidance	Positive Optimism	Destined Pessimism
Desperation	-.163**	-.325**	-.419**	-.348**	-.119**	-.395**	-.297**
Sleep disorder	.041**	.111**	.123**	.114**	.037*	.117**	.083**
Optimism	-.132**	-.220**	-.275**	-.202**	-.112**	-.254**	-.233**
Suicidal Ideation	-.179**	-.336**	-.437**	-.352**	-.133**	-.410**	-.322**

3.2. The regression analysis of Life Value and Suicidal Ideation.

The multiple regression model adopted Life Value related factors as independent variable and Suicidal Ideation related factors as dependent variables, and its regression coefficients were then calculated by stepwise algorithm to make further predictions of the three factors of SIOSS. The analyzed results are shown in Table 2, the 6 factors from Life Value, namely Social Orientation, Active Devoting, Initiative Accepting, Fantasia Avoidance, Positive Optimism and Destined Pessimism, showed significant influence towards the dependent variable of Desperation. The 6 factors explained 25.8% of the variance on total, and with strong significance ($P<0.01$). The

significance level gradually improves as more independent variables add into the regression model. Furtherly, the factors of Active Devoting, Destined Pessimism, Initiative Accepting, and Positive Optimism affect the Desperation factor negatively, with partial effects (beta) of -0.087, -0.140, -0.091, -0.043 respectively. The Social Orientation and Destined Pessimism affect Suicidal Ideation positively, by partial effects (beta) of 0.061, 0.045 respectively.

Table 2 The regression analysis of Life Value factors and Suicidal Ideation factors.

Independent Variable	Dependent Variable	b	Beta	t	Sig.	R	R ²	adR ²	F	Sig.
Despera-tion	Active Devoting	-.087	-.244	-6.375	.000	.509	.259	.258	237.3	.000
	Destined Pessimism	-.140	-.289	-19.994	.000					
	Initiative Accepting	-.091	-.158	-6.968	.000					
	Positive Optimism	-.043	-.127	-3.972	.000					
	Social Orientation	.061	.093	3.406	.001					
	Fantasia Avoidance	.045	.036	2.536	.011					
Optimism	Initiative Accepting	-.028	-.258	-17.484	.000	.347	.120	.120	278.82	.000
	Destined Pessimism	-.031	-.212	-14.422	.000					
Sleep Disorder	Initiative Accepting	.006	.058	2.253	.003	.151	.023	.022	31.536	.000
	Destined Pessimism	.012	.084	5.274	.002					
	Initiative Accepting	.013	.074	2.886	.005					

The factor of Active Devoting and Destined Pessimism have significant influence over the Optimism. The two factors from Life Value explained 1.2% of the total variance, and with strong significance ($P < 0.01$). The significance level gradually improves as more independent variables add into the regression model. Furtherly, the factors of Active Devoting and Destined Pessimism affect the Optimism negatively, by partial effects (beta) of -0.028 and -0.031.

The factor of Active Devoting and Initiative Accepting, and Destined Pessimism have significant influence over the Sleep Disorder. The three factors from Life Value explained 2.2% of the total variance, and with strong significance ($P < 0.01$). The significance level gradually improves as more independent variables are added. Furtherly, the factors of Active Devoting, Destined Pessimism and Initiative Accepting affect the Optimism positively, by partial effects (beta) of 0.006, 0.012 and 0.013.

3.3. Constructing the Model of Life Value’s influence over Suicidal Ideation

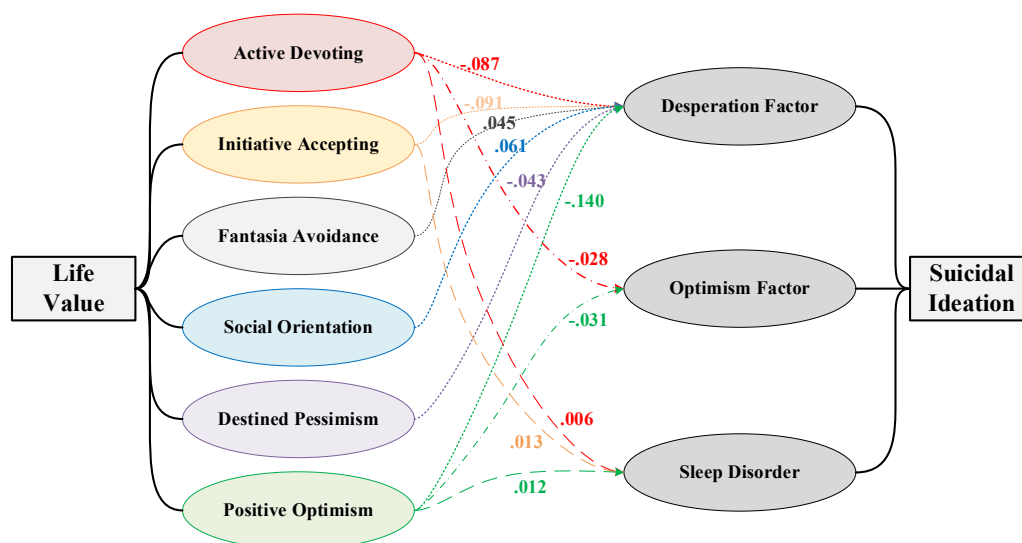


Figure 1 Illustration of the Model.

The illustration of the Model which describes Life Value’s influence over the Suicidal Ideation is given in Figure 1. The factors of Active Devoting, Initiative Accepting, Positive Optimism and

Destined Pessimism have affected the Desperation factor negatively, while Social Orientation and Destined Pessimism affect Desperation factor positively. Meanwhile, Active Devoting and Destined Pessimism can negatively affect the factor of Optimism. The factors of Active Devoting, Initiative Accepting and Destined Pessimism affect the Sleep Disorder positively.

4. Discussion

The correlation analysis in Section 2 indicates that all the 7 factors of Life Value are negatively correlated with the total score of Suicidal Ideation, Desperation factor and Optimism factor, while being positively correlated with the Sleep Order factor of Suicidal Ideation.

The factors of Social Orientation, Active Devoting, Destined Pessimism, and Initiative Accepting, and Destined Pessimism have negative effects on Desperation factor, while the factors of Social Orientation and Positive Optimism have positive ones. The reason why the former 4 factors have negative effect is they reduced the inclination and extent of desperation. And the later 2 factors leading to the increase of desperation can be attributed to multiple aspects of causations. For instance, the problem is related to too many uncontrollable issues, one's personal ability is simply not suffice, unproper attribution of reality, and fossilization of recognition. Those results implicate that moderate expectations should be established for college students during educating of life values. Occasionally, predestinate handling can be used in when facing major setbacks which can't be overcame, so that the anxiety and other emotional problem can be remised, and eventually reduce suicidal ideation. Moreover, there are researches indicate that desperation often comes from the lack of confidence. The individual would regard oneself as a failure, a useless person with no future, and therefore prefers the ending of one's life. The feeling of desperation brings the generalized negative expectations of future life, and is one of the major risks for suicidal people in long term. Analyzing and utilizing the factors in Life Values of college students can play valuable role for effectively constraining desperation feelings, and eventually help remise or prevent the formation of suicidal ideations.

The factors of Active Devoting and Destined Pessimism affect Optimism negatively. Optimistic individuals tend to fill their lives with matters that interest them, leading to more satisfactory feelings. And they would consider the frustration at hand as temporary problems due to environmental or accidental causes. Optimistic individuals consider their lives of higher value, and seek happiness and hope no matter encountering affiliate or adverse situations. While the pessimists attribute the situations to their own faults, believing the abominable situations will be long-lasting and unchangeable. The study provides new verifications for the Hope Theory introduced by Snyder, which assumed hope as an individual inclination of thinking and behavior that can come from nurture acquisition. Individual's hope is based on targets, and includes both agency thought and pathway thinking. Agency thought refers to the motives and belief system to initiate individual actions and to uphold the efforts on route. Pathway thinking refers to the cognitive operations, i.e., methodologies, planning and organizing to achieve one's desired goals. Destined Pessimism belongs to agency thought with motives and belief system towards targets, while Active Devoting belongs to pathway thinking with methodologies, planning and organizing. Scheier suggested that optimistic individuals would adopt effective strategies and constantly adjust their own status during their persistent struggling to maximum the possibility of realizing their targets^[27]. In a meta-analysis involving more than 11000 cases from 50 studies, Solberg Nes discovered that temperamental Positive Optimism had positive correlations with the coping strategies^[28]. The above studies indicate better abilities of withstanding misfortune from individuals possessing more positive emotions than less positive ones. The discrepancy can determine one's physical health, practical success, and eventually the quality of life. Conducting educations on Life Value process will help the Life Value experience of college students through methodology aspect. We can also introduce Active Devoting as coping strategy to the students, and advocate optimistic attitudes toward life to accommodate themselves to the situation encountered. Those are the fundament for preventing Suicidal Ideations from forming.

The factors of Active Devoting, Initiative Accepting and Destined Pessimism have significant positive effects on the factor of Sleep Disorder. When facing unchangeable situations, those who tends to not believe Destined Pessimism and tends to be initiative and devoting to solve the problems,

appear to have less sleep time and worse sleep quality. Hence, their scores of Sleep Disorder increase. Since sleep is a physiological indication reflecting psychological status, when organic lesions can be excluded, the deterioration of sleep is generally attributed to emotional distresses. Sleep Disorder is an important factor for Suicidal Ideation because it is initiated by internal struggles. Lengthened Sleep disorder will bring even severer physiological and psychological distresses, leading to difficulties of behavior choices and self-abandon inclination. Both Active Devoting and Initiative Accepting are positive coping patterns. Although positive coping patterns can be beneficial, such as improving immunity under dangerous situations. But positive coping does not equate to perfectly handling each single matter, nor simply conquering the environment without external help. For instance, a college student with neurosis uncontrollably washed and checked his hands over and over to an extent of surpassing his own abilities, leading to replacing objective reality with subjective will. All those unreasonable thoughts and behavior can only cause contradictions and conflicts internally. The proper positive coping patterns include accepting and facing the reality that ought to be received at the time. Deciding what one can actually do and achieve is the best positive attitude, cause sometimes accepting itself is the best of choice. The results imply that we can improve the sleep quality and life experience of college students with education on Life Value. By help constructing their views and methodology for considering and solving problems, the formed suicidal ideation can be adjusted.

College period is a pivotal period for constructing the sense of worth, and life values are important contents in the value structure. The education of life values is an important means of preventing psychological crisis. The universities could set up life value education courses on the basis of Ideological and Civic and Citizenship Education courses and Psychological Health courses, so as to enhance the ideal faith of the students and introduce the better pathways of treating one's life.

5. Conclusions

In this study, the life values and suicidal ideations of college students were investigated with CSLVI and SIOSS. By building the multi-regression model, the mechanism of college student life value's influence on suicidal ideation is discussed through correlation analysis. In the end, the study proposes to construct positive life value for weakening the suicidal ideations.

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