Published in final edited form as:

J Nerv Ment Dis. 2018 September ; 206(9): 694–698. doi:10.1097/NMD.0000000000000863.

Suicide Acceptability and Suicide Attempt: A Case- Control Study with Medically Serious Suicide Attempters aged 15-54 Years in Rural China

Long Sun^a and Jie Zhang^{a,b,*}

^aCenter for Suicide Prevention and Research, School of Public Health, Shandong University, China;

^bState University of New York Buffalo State, Buffalo, New York, USA;

Abstract

In the past decades, many studies have discussed the topic about suicide acceptability. However, there is no empirical study which identified that suicide acceptability is associated with suicide attempt worldwide. Participants were 791 medically serious suicide attempters and controls aged 15–54 years in rural China. Suicide acceptability evaluated by four questions in the General Social Survey (GSS) and some social psychological variables were collected in a face-to-face interview. Logistic regression analysis was performed to examine the association between suicide acceptability and suicide attempt. After controlling some social psychological variables, suicide acceptability was still associated with suicide attempt ($OR=2.85$, $p<0.001$). Tired of living was the most acceptable reason for the medically serious suicide attempters (32.7%). Suicide acceptability should be assessed when we evaluate somebody's suicide risk. The results contribute to our understanding about suicide acceptability, and they may also be translated into practice in suicide prevention.

Keywords

Suicide acceptability; Suicide attempt; Case-control study; Rural China

1. Introduction

World Health Organization (WHO) estimated that there were approximately 800,000 suicide deaths worldwide in 2015, and it represented that one suicide related death occurred every 40 seconds (WHO, 2017). In addition, suicide attempt which is the single most important predictor of suicide deaths also brings a significant social and economic burden for the society due to health services to treat the injury (Yoshimasu et al, 2008). Hence better understanding about suicide attempt also can help us to strengthen programmatic suicide prevention strategies worldwide.

*Corresponding author. Department of Sociology, State University of New York Buffalo State, 1300 Elmwood Avenue, Buffalo, New York 14222, USA. Phone: 716-878-6425; FAX: 716-878-4009; zhangj@buffalostate.edu.

Conflict of interest

Both of the authors declared that they have no conflict of interest.

China was one of few countries which reported higher suicide rates in 1990s (Phillips et al, 2002). Although the Chinese suicide rates have decreased in the recent years, suicide remains to be an important problem in China, especially in rural region (Sun et al, 2015b; Wang et al, 2014). In the progress of exploring the risk factors of suicide, many factors were identified to be associated with suicide behavior in China (Dougherty et al, 2009; Zhou et al, 2012). Although previous studies supported that suicide acceptability may lead to the formation of suicide (Jeon et al, 2013), there is no empirical study which supports the relationship between suicide attempt and suicide acceptability.

In the past decades, most studies mainly reported the prevalence of suicide acceptability and its influencing factors in China. A Chinese study showed that college students had the most permissive attitudes about suicide than rural and urban residents, and the risk factors were women, lower age and higher education (Li et al, 2010). In Western countries, previous studies have identified that gender, marriage, religion and fear of death were associated with suicide acceptability (Hoelter, 1979; Stack, 1998; Stack et al, 2011). Recently, some studies supported that suicide acceptability were associated with suicide planning in adolescents, young adults and Veterans United States (Blosnich et al, 2013; Joe et al, 2007). However, little is known about if suicide acceptability is associated with suicide attempt worldwide.

In the current study, we aim to investigate the potential association between suicide acceptability and suicide attempt based on a case-control study in Chinese rural suicide attempters. Finding of this study can be helpful for suicide prevention in China as well as elsewhere in the world.

2. Method

2.1. Participants

In this study, the data was collected from two provinces which vary in geographic and commercial factors. Hunan is an agricultural province located on the south of China. In contrast, Shandong, located on the north of China, is an industrial and agricultural province known for manufacturing and petroleum. Totally, 13 rural counties from the two provinces were selected in this study.

In each rural county, we consecutively recruited suicide attempters aged 15-54 years from May 2012 through July 2013. In these target rural counties, hospital emergency departments would notify the research team of any suicide attempters on a monthly basis. The enrollment of victims was limited only to those survivals whose injury and wounds were so serious as to require hospitalization or immediate medical care. The research team should verify that the recruitment process in each county was consistent.

This study was a case-control design. We also made strict inclusion criteria for the cases and controls. For the cases, the inclusion criteria were (1) those with wounds/injuries that were considered serious enough to warrant immediate care or hospitalization; (2) aged 15-54 years; (3) living in rural region more than six months. After reviewing each case, we asked the header of the rural village to introduce a control in the same or neighbor village. The control should also be interviewed by the same interviewee. Each control was also

introduced by according to the following inclusion criteria. Inclusion criteria for the controls were (1) those who had never attempted suicide; (2) the same gender with the case; (3) living in the same or neighbor rural village with the case; (4) living in rural region more than six months; (5) the age range between each case and control was less than 3 years; (6) aged 15-54 years.

The interview teams were strict trained for this study. The IRB approvals from both the Chinese institutions and the US based university where the Principal Investigator is affiliated ensured the human subjects protection and the ethical methodology regulated by the NIMH which funded the project. Informed consent was obtained from all participants of the study. Once consent was obtained an appointment was scheduled for a face-to-face interview.

2.2. Procedures

Because of the participant's weakness in the hospitals, they were interviewed when they had leaved hospitals in this study. Firstly, the participants were visited by the local health agency or the village administration. After their agreement on the written informed consent, the participants were interviewed by one trained interviewer. We asked the interviewee should be interviewed separately in a private place of a village medical room or their home. For those participants who were too weak to talk, their family members could assist in the interview by answering some of the questions on the protocol. In this study, the interview time was scheduled between one and six months after suicide incident. The average time for each interview was about 1.5 hours.

2.3. Measures

In this study, we collected basic social-demographic information about the participants, including gender, age, education years, marital status, occupation and religion belief. The other control variables were also included in the data analysis, such as physical disease, living alone, family suicide history, social support, impulsivity and mental health. For the cases, we asked the status when they attempted suicide, and for the controls, we collected the information when they were interviewed.

Suicide acceptability—Four questions in the General Social Survey (GSS) study were used to estimate suicide acceptability (Davis et al, 1993). They were also used to evaluate suicide acceptability in other studies (Blosnich et al, 2013; Zhang et al, 2010). The four questions were “Can he/she commit suicide if they got some incurable diseases,” “Can he/she commit suicide if they lost lots of money,” “Can he/she commit suicide if they were tired of living” and “Can he/she commit suicide if they dishonored his/her family.” The answer options were yes and no. The total score of the four suicide acceptability items was dichotomized into two groups.

Social-demographic variables—Gender was measured by male and female. Age was estimated by the participants' date of birth. For the cases, age was calculated until the time when they attempted suicide. For the controls, it was calculated until the time when they were interviewed. Education was measured by an open ended answer about the number of years which they were educated in the school. Because there are few participants were

separated, windowed, divorced and remarried, marital status was dichotomized into never married and ever married (including including married, separated, windowed, divorced and remarried). Occupation was measured by peasants, businessman, national staff, workers, students, teachers, rural doctors and others. As lots of the participants were peasants, we recoded into peasants and not peasants. Religious belief was measured by one question that which religion the target person believed in. The answers were no belief, Taoism, Muslim, Christianity, Buddhism, and others. As there were few subjects who had a religious belief, we recoded into yes and no.

Control variables—Physical disease was estimated by one item asking if they had any physical disease at the time of attempted suicide or interview. Living alone was also assessed by one single item, and it inquired about whether the participants were living with other persons. Similarly a single item was used to identify if a family member had previously died of suicide.

Social support was measured by a Chinese version of the four item social interaction subscale from the Duke Social Support Index (DSSI). The items focus on the number of people that participants have connected or communicated with recently. The Chinese version of this scale has previously shown good validity (Jia et al, 2012). The cronbach's alpha for this subscale in this study was 0.700.

Impulsivity was measured by a Chinese version of the Dickman Impulsivity Inventory (DII) (Dickman, 1990). It consists of 23 items which describe moments of impulsivity, and participants are asked to indicate if each items describes them in general. The Chinese version of DII had been testified to have good validity in Chinese rural population (Gao et al, 2011). The cronbach's alpha for this scale in this study was 0.587.

Mental disorder was evaluated by the Chinese version of the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders (SCID) (First et al, 2002). This tool was provided by the Department of Psychiatry of Kaohsiung Medical College in Taiwan, and we have received the permission for using in the current study (Gu et al, 1993). The Chinese version of SCID had been successfully used for the diagnosis of mental disorders in Taiwan, Hong Kong, Macau, and mainland China in previous studies (Germans et al, 2010; Lyu et al, 2014). The diagnoses of mental disorders in the current study were made by the psychiatrists based on the written information from the interviewers on each suicide attempt participant and community control participant. In total there were 27 Axis I diagnoses identified. As the purposes of this study and the low percentages for each disorder, the diagnoses were recoded into yes (at least one kind of diagnosis) and no (without diagnosis).

2.4. Statistical methods

SPSS for Windows (version 21.0) was used for data analysis. T-tests or Chi-square tests were used to compare the difference on categorical and continuous variables across groups. Logistic regression analysis was performed to examine the factors related to attempted suicide. All tests were two-tailed and a p value of 0.05 was considered statistically significant.

3. Results

3.1 Sample characteristics

This sample contained 791 suicide attempters and 791 community controls. As we controlled the age and gender in the data collection, there were no statistical differences for age and gender between cases and controls. The single analysis results showed that the cases had fewer education years ($t=-11.11$, $p<0.001$), more percentage of peasants ($\chi^2=15.40$, $p<0.001$), more religion belief ($\chi^2=5.62$, $p<0.05$), more physical disease ($\chi^2=20.82$, $p<0.001$), more family suicide history ($\chi^2=28.02$, $p<0.001$), lower social support ($t=-14.05$, $p<0.001$), higher impulsivity level ($t=5.58$, $p<0.001$) and more mental disorder ($\chi^2=108.00$, $p<0.001$). The detailed information was shown in Table 1.

3.2 Suicide acceptability

Table 2 showed the results of suicide acceptability between cases and controls. There were 32.7% of cases and 11.8% of controls who believed suicide was acceptable when somebody encountered any of the four fatalistic reasons. For all of the suicide acceptability, the cases had significantly higher proportions than controls. Incurable diseases and tired of living were most commonly acceptable for suicide behavior among cases (20.5% and 22.0%). For controls, incurable diseases were most commonly acceptable for suicide behavior (9.5%).

3.3 Logistic regression analysis of suicide acceptability between cases and controls

The results of logistic regression analysis were shown in Table 3. Because gender and age had been matched in the data collection, they were not in the regression analyses. After controlling social-demographic and other relative variables, suffering incurable diseases (OR=1.78, $p<0.001$), losing lots of money (OR=4.29, $p<0.001$), dishonoring his/her family (OR=2.58, $p<0.01$) and tired of living (OR=7.80, $p<0.001$) were all associated with suicide attempt. The other significant variables were education years, physical disease, family suicide history, social support, impulsivity and mental disorder.

4. Discussion

The main objectives for the current study were to identify the association between suicide acceptability and suicide attempt among Chinese rural young medically serious suicide attempters. This was due in that many studies have analyzed the factors associated with suicide acceptability, but we had little knowledge about the effect of suicide acceptability in suicide attempt in China and elsewhere in the world. Thus, it is essential to understand if suicide acceptability is associated with suicide attempt.

The present finding initially supported that suicide acceptability can be a risk factor for suicide attempt. In fact, the result is not counterfactual. According to the Cognitive Ability Theory in Sociology, certain cognitive abilities are important in determining socioeconomic outcomes (Huang et al, 2015). Suicide acceptability which can be seen as one kind of cognition about suicide should also be associated with suicide attempt. This possible association was also discussed in a previous study (Galyunker et al, 2015).

We also analyzed the relationship between each kind of suicide acceptability and suicide attempt, and the results showed that somebody who accepted suicide behavior when others were tired of living had the highest risk for suicide attempt (OR=7.80), following is losing lots of money (OR=4.29), dishonoring his/her family (OR=2.58) and suffering incurable diseases (OR=1.78). Comparing with other fatalistic reasons, suicide is one of few methods to fix tire of living (Sun et al, 2015a). However, there are many methods which can fix other reasons of suicide. Thus, somebody who fell tired of living would be more acceptable than other reasons.

In the present study, there were 32.7% of attempters who would accept the suicide behavior, which was even higher than the percentage of mental disorder (19.1%). For controls, the percentage is 11.8%. A study in Chinese rural females reported that there were about 4.8% of the rural females who deemed the acceptability of suicide (Zhang et al, 2014). These results are much lower than ours. It may be caused by participants. Previous studies had identified that male with older age was associated with higher suicide acceptability (Stack, 1998). Thus, the percentage in our study is higher than the results in previous studies.

There were also some other factors which were also associated with suicide attempt among Chinese rural young medically serious suicide attempters, such as family suicide history, mental disorder, social support and impulsivity. It is consistent with previous studies. All of these factors had been identified to be risk factors to suicide attempt in China and elsewhere in the world (Bae et al, 2015; Cho, 2014; Oh et al, 2015).

In the current study, we also found that there were some factors which were not consistent with previous studies, such as married, religious belief and living alone. In Western countries, being married, religious belief and living with others are all protective factors (Boren et al, 2017; Roelands et al, 2018). However, in China, previous studies supported that being married, religious belief and living alone were all risk factors for suicide behavior (Sun et al, 2017). It may be caused by the Chinese culture which has been discussed in other studies (Zhang, 2014). In the current study, all of them are not statistically significant. It may be caused by the small percentage of the sample in the data analysis.

There were some limitations which should also be noted. First, the participants were interviewed between one and six months after the suicide incident, so the recalling bias can be an issue for the psychological variables. Second, suicide acceptability was estimated by four questions in GSS. Although it is a tool used a national wide survey, there should be some other reasons of suicide which also can be included in the evaluation of suicide acceptability. Third, as a case-control study, we cannot infer any causal relationship on the basis of the results.

Despite its limitations, this study also overcomes several shortcomings of previous studies, such as large number of samples, exact definition of medically serious suicide attempt. It also fills the research gap about the empirical-supported association between suicide acceptability and suicide attempt. The results support that suicide acceptability is an important factors which is associated with suicide attempt in rural China. Thus, suicide acceptability should be assessed when we evaluate somebody's suicide risk. The results

contribute to our understanding about suicide acceptability, and they may also be translated into practice in suicide prevention.

Acknowledgments

Funding

The research was supported by the United States National Institute of Mental Health (R01 MH068560) and National Natural Science Foundation of China (71603149).

References

- Bae SM, Lee SA, Lee SH. Prediction by data mining, of suicide attempts in Korean adolescents: a national study. *Neuropsychiatr Dis Treat*. 2015; 11:2367–75. [PubMed: 26396521]
- Blosnich J, Bossarte R. Suicide acceptability among U.S. Veterans with active duty experience: results from the 2010 General Social Survey. *Arch Suicide Res*. 2013; 17:52–7. [PubMed: 23387403]
- Boren EA, Folk JB, Loya JM, Tangney JP, Barboza SE, Wilson JS. The Suicidal Inmate: A Comparison of Inmates Who Attempt Versus Complete Suicide. *Suicide Life Threat Behav*. 2017
- Cho KO. Physical Activity and Suicide Attempt of South Korean Adolescents - Evidence from the Eight Korea Youth Risk Behaviors Web-based Survey. *J Sports Sci Med*. 2014; 13:888–93. [PubMed: 25435782]
- Davis JA, Smith TW. General Social Surveys, 1972-1993. Chicago: National Opinion Research Center; 1993.
- Dickman SJ. Functional and dysfunctional impulsivity: personality and cognitive correlates. *J Pers Soc Psychol*. 1990; 58:95–102. [PubMed: 2308076]
- Dougherty DM, Mathias CW, Marsh-Richard DM, Pervette KN, Dawes MA, Hatzis ES, Palmes G, Nouvion SO. Impulsivity and clinical symptoms among adolescents with non-suicidal self-injury with or without attempted suicide. *Psychiatry Res*. 2009; 169:22–27. [PubMed: 19631392]
- First MB, Spitzer RL, Gibbon M, Williams JBW. Biometrics Research. New York: New York State Psychiatric Institute; 2002. Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition (SCID-I/P).
- Galynker I, Yaseen ZS, Briggs J, Hayashi F. Attitudes of acceptability and lack of condemnation toward suicide may be predictive of post-discharge suicide attempts. *BMC Psychiatry*. 2015; 15:87. [PubMed: 25884153]
- Gao Q, Zhang J, Jia C. Psychometric properties of the Dickman Impulsivity Instrument in suicide victims and living controls of rural China. *J Affect Disord*. 2011; 132:368–374. [PubMed: 21440306]
- Germans S, Van Heck GL, Masthoff ED, Trompenaars FJWM, Hodiament PPG. Diagnostic efficiency among psychiatric outpatients of a self-report version of a subset of screen items of the Structured Clinical Interview for DSM-IV-TR Personality Disorders (SCID-II). *Psychol Assess*. 2010; 22:945–52. [PubMed: 21038969]
- Gu J, Chen Y. Instruction Manual for the Structured Clinical Interview for DSM-III-R (Chinese Edition). Kaohsiung: Kaohsiung Medical College, Taiwan; 1993.
- Hoelter JW. Religiosity, fear of death and suicide acceptability. *Suicide Life Threat Behav*. 1979; 9:163–72. [PubMed: 473289]
- Huang G, Xie Y, Xu H. Cognitive Ability: Social Correlates and Consequences in Contemporary China. *Chin Sociol Rev*. 2015; 47:287–313. [PubMed: 27570709]
- Jeon HJ, Park JH, Shim EJ. Permissive attitude toward suicide and future intent in individuals with and without depression: results from a nationwide survey in Korea. *J Nerv Ment Dis*. 2013; 201:286–91. [PubMed: 23538973]
- Jia C-X, Zhang J. Psychometric characteristics of the Duke Social Support Index in a young rural Chinese population. *Death Stud*. 2012; 36:858–869. [PubMed: 24563931]
- Joe S, Romer D, Jamieson PE. Suicide acceptability is related to suicide planning in U.S. adolescents and young adults. *Suicide Life Threat Behav*. 2007; 37:165–78. [PubMed: 17521270]

- Li X, Phillips MR. The acceptability of suicide among rural residents, urban residents, and college students from three locations in China: a cross-sectional survey. *Crisis*. 2010; 31:183–93. [PubMed: 20801748]
- Lyu J, Zhang J. Characteristics of schizophrenia suicides compared with suicides by other diagnosed psychiatric disorders and those without a psychiatric disorder. *Schizophr Res*. 2014; 155:59–65. [PubMed: 24657011]
- Oh DJ, Park JY, Oh M, Kim K, Hong J, Kim T, Han JW, Kim TH, Kim KW. Suicidality-based prediction of suicide attempts in a community-dwelling elderly population: Results from the Osan Mental Health Survey. *J Affect Disord*. 2015; 184:286–92. [PubMed: 26120807]
- Phillips MR, Li X, Zhang Y. Suicide rates in China, 1995–99. *The Lancet*. 2002; 359:835–840.
- Roelands M, Vanoverloop J, Maron L, Bilsen J. Socioeconomic risk factors for hospital admittance due to a suicide attempt in Belgium: a population-based study using administrative data. *Soc Psychiatry Psychiatr Epidemiol*. 2018; 53:53–61. [PubMed: 29143859]
- Stack S. Gender, Marriage, and Suicide Acceptability: A Comparative Analysis. *Sex Roles*. 1998; 38:501–520.
- Stack S, Kposowa AJ. Religion and suicide acceptability: a cross-national analysis. *J Sci Study Relig*. 2011; 50:289–306. [PubMed: 21969937]
- Sun L, Zhang J. Coping Skill as a Moderator Between Negative Life Events and Suicide Among Young People in Rural China. *J Clin Psychol*. 2015a; 71:258–266. [PubMed: 25534274]
- Sun L, Zhang J. Gender differences among medically serious suicide attempters aged 15–54 years in rural China. *Psychiatry Res*. 2017; 252:57–62. [PubMed: 28249203]
- Sun L, Zhang J. Potential years of life lost due to suicide in China, 2006–2010. *Public Health*. 2015b; 129:555–560. [PubMed: 25769349]
- Wang C-W, Chan CLW, Yip PSF. Suicide rates in China from 2002 to 2011: an update. *Soc Psychiatry Psychiatr Epidemiol*. 2014; 49:929–941. [PubMed: 24240568]
- WHO. World health statistics 2017: monitoring health for the SDGs, Sustainable Development Goals. Geneva: 2017. 32
- Yoshimasu K, Kiyohara C, Miyashita K. Suicidal risk factors and completed suicide: meta-analyses based on psychological autopsy studies. *Environ Health Prev Med*. 2008; 13:243–56. [PubMed: 19568911]
- Zhang J. The Gender Ratio of Chinese Suicide Rates: An Explanation in Confucianism. *Sex Roles*. 2014; 70:146–154.
- Zhang J, Jia CX. Attitudes toward Suicide: The Effect of Suicide Death in the Family. *Omega: J Death Dying*. 2010; 60:365–382.
- Zhang J, Sun L. Suicide ideation and acceptability among females aged 15 to 34 years in rural China. *J Nerv Ment Dis*. 2014; 202:161–166. [PubMed: 24469529]
- Zhou X, Jia S. Suicidal communication signifies suicidal intent in Chinese completed suicides. *Soc Psychiatry Psychiatr Epidemiol*. 2012; 47:1845–1854. [PubMed: 22366911]

Table 1

Comparison of sample characteristics between the cases and controls

Variables	Cases (n=791)	Controls (n=791)	t/ χ^2
Gender, male, n (%)	293 (37.0)	293 (37.0)	1.000
Age, mean (SD), yrs	31.63 (8.00)	31.76 (8.00)	-0.321
Education, mean (SD), yrs	6.90 (3.26)	8.85 (3.72)	-11.11 ***
Marital status, ever married, n (%)	659 (83.3)	657 (83.1)	0.02
Occupation, peasants, n (%)	422 (53.4)	344 (43.5)	15.40 ***
Religion belief, yes, n (%)	148 (18.7)	113 (14.3)	5.62 *
Physical disease, yes, n (%)	133 (16.8)	72 (9.1)	20.85 ***
Living alone, yes, n (%)	35 (4.4)	30 (3.8)	0.40
Family suicide history, yes, n (%)	56 (7.1)	13 (1.6)	28.02 ***
Social support, mean (SD)	7.68 (2.17)	9.09 (1.82)	-14.05 ***
Impulsivity, mean (SD)	9.89 (4.08)	8.86 (3.25)	5.58 ***
Mental disorders, yes, n (%)	151 (19.1)	22 (2.8)	108.00 ***

Note:

* : P<0.05;

*** : P<0.001

Table 2

Comparison of suicide acceptability between the cases and controls [n (%)]

Acceptability	Cases (n=791)	Controls (n=791)	t/ χ^2
Incurable diseases, yes	162 (20.5)	75 (9.5)	37.56 ***
Losing lots of money, yes	57 (7.2)	9 (1.1)	36.43 ***
Dishonoring his/her family, yes	71 (9.0)	21 (2.7)	28.85 ***
Tired of living, yes	174 (22.0)	22 (2.8)	134.55 ***
Any acceptability, yes	259 (32.7)	93 (11.8)	100.69 ***

Note:

: P<0.001

Table 3
Logistic regression analysis of suicide acceptability between the cases and controls (N = 1582)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Education years	0.86 (0.83, 0.89) ***	0.86 (0.83, 0.89) ***	0.86 (0.83, 0.89) ***	0.85 (0.82, 0.88) ***	0.86 (0.82, 0.89) ***
Ever married	0.75 (0.54, 1.05)	0.75 (0.54, 1.05)	0.75 (0.53, 1.04)	0.71 (0.50, 1.00)	0.72 (0.51, 1.01)
Peasants	0.90 (0.70, 1.16)	0.89 (0.69, 1.14)	0.91 (0.70, 1.17)	0.90 (0.69, 1.17)	0.90 (0.70, 1.17)
Religion belief	1.13 (0.83, 1.54)	1.14 (0.84, 1.55)	1.15 (0.85, 1.57)	1.03 (0.75, 1.43)	1.07 (0.78, 1.46)
Physical disease	1.57 (1.10, 2.24) *	1.62 (1.14, 2.31) **	1.60 (1.12, 2.27) **	1.54 (1.07, 2.20) *	1.55 (1.09, 2.22) *
Living alone	1.02 (0.56, 1.88)	1.03 (0.56, 1.88)	1.07 (0.58, 1.95)	0.93 (0.50, 1.76)	0.97 (0.52, 1.79)
Family suicide history	4.25 (2.14, 8.44) ***	4.48 (2.27, 8.85) ***	4.51 (2.28, 8.93) ***	4.23 (2.09, 8.56) ***	4.03 (2.01, 8.08) ***
Social support	0.74 (0.70, 0.78) ***	0.74 (0.70, 0.79) ***	0.74 (0.70, 0.79) ***	0.76 (0.71, 0.80) ***	0.75 (0.70, 0.79) ***
Impulsivity	1.10 (1.06, 1.13) ***	1.09 (1.06, 1.13) ***	1.10 (1.06, 1.13) ***	1.09 (1.06, 1.13) ***	1.09 (1.06, 1.13) ***
Mental disorders	5.13 (3.15, 8.35) ***	5.28 (3.24, 8.60) ***	5.24 (3.22, 8.53) ***	4.87 (2.96, 8.02) ***	4.85 (2.97, 7.93) ***
Acceptability 1	1.78 (1.28, 2.49) ***	-	-	-	-
Acceptability 2	-	4.29 (2.03, 9.07) ***	-	-	-
Acceptability 3	-	-	2.58 (1.49, 4.47) **	-	-
Acceptability 4	-	-	-	7.80 (4.79, 12.72) ***	-
Any acceptability	-	-	-	-	2.85 (2.12, 3.82) ***
Constant	16.91 ***	17.04 ***	16.93 ***	15.15 ***	15.10 ***
R ²	0.31	0.32	0.31	0.36	0.34

Note: Only odds ratio (OR) and its 95% confidence interval (CI) of variables retained in the final regression models were presented in the table.

* : P<0.05;

** : P<0.01;

*** : P<0.001

Acceptability 1: Acceptance when suffering incurable diseases

Acceptability 2: Acceptance when losing lots of money

Acceptability 3: Acceptance when dishonoring his/her family

Acceptability 4: Acceptance when tired of living