Published in final edited form as:
Psychiatry Res. 2014 February 28; 215(2): 394–400. doi:10.1016/j.psychres.2013.11.005.

Effects of community stress and problems on residents' psychopathology

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Abstract

The connection between the community stress and problems and its residents' psychopathology is an understudied area, and the limited number of studies has reported inconsistent findings. This research aimed to estimate the effect of perceived social factors in the community environment on the residents' self reported psychopathology. The study sample consisted of 2034 men and women from 16 selected rural counties in three provinces of China. The social factors in the village community were measured by the WHO SUPRE-MISS scale of Community Stress and Problems. Psychological and mental health of the individuals were assessed by (1) suicidal thoughts, plans, and attempts (NCS-R), (2) pro-suicide attitudes (GSS), (3) depression (CES-D), and (4) suicide ideation (SSI). Multiple regressions were performed separately for each of the four psychopathologic traits with the scale of community stress and problems as its major predicting variable and age, gender, education years, marital status, family annual income, family status in village and religion as its confounding correlates. It is found that community stress and problems generally increase the rural Chinese residents' psychopathologies, especially the issues in health care, housing, and transportation, which play more important roles than others.

Keywords

Psychopathology; Mental health; Suicide; Rural area; Community; Environment; Case-control studies

1. Introduction

Structural sociologists and social psychologists postulate that the social structure, external social facts, and the environment play an important role in a person's behaviors and psychological functioning. For example, Durkheim believes that suicide, although a personal incident is a function of the social environment. (Durkheim, 1951). From a social psychologist's point of view, it is a fundamental attribution error if someone explains a personal happening with a focus on the person's internal traits instead of the external social facts (Ross and Nisbett, 1991). In addition, not only social facts but also subjective meaning

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people give to the social facts should be considered when discussed social action. Weber spoke of social action insofar as the acting individual attaches a subjective meaning to his behavior. (Weber 1978) Everyday life presents itself as a reality interpreted by men and subjectively meaningful to them as a coherent world. (Berger and Luckmann, 1966) For example, depressed individuals reported significantly more stressful events and experienced more severe life strains than normal controls (Billings et al., 1983).

Community has been studied by previous researchers as physical, social, and cultural environment to relate to people's physical and psychological wellbeing. However, the limited number of studies has been reported with conflicting findings. Some studies found there were negative effects between community stress and problems and its residents' psychopathology, including cross-sectional study and longitudinal study (Wilson et al., 2004; Henderson et al., 2005; Dalgard and Tambs, 1997). But others found there were no independent effects of neighborhood community factors on residents' psychopathology (Schootman et al., 2007; Thomas et al., 2007).

Inconsistent findings might be resulted from methodological flaws. Ecological fallacy, some false interpretation of aggregate-level data in individual-level terms, is likely to be found in some studies as reviewed (Firebaugh, 1978). Connecting the census data on such community characteristics as race, education, and income, etc. to individual incidence of depression may yields inaccurate conclusions, as the individuals sampled for the dependent variables may not representing the community characteristics (Schootman et al., 2007; Thomas et al., 2007). On the other hand, using a subject's perception of the neighborhood characteristics allows the community variable to be at the same level and comparable to the subject's personal traits (Wilson et al., 2004).

This current study aims to further test the relationship between community factors and the residents' psychopathology, using individual measures for both independent (perception, that is, subjective meaning of the community environment) and dependent variables (self-evaluation of psychopathologies). As mentioned above, social structure, external social facts, and the environment play an important role in a person's behaviors and psychological functioning; and lack of social integration, a measure of social cohesiveness and social support, etc. in the surroundings, is a strong predictor of suicide and insanity (Durkheim, 1951). It is hypothesized that community stress and problems have a negative effect on individuals' psychological wellbeing and mental health.

2. Methods

2.1 Subjects and data collection

It was a large psychological autopsy project investigating correlates of completed suicide in comparison with a group of living controls. Face to face interviews were performed at the household in villages. Data for the study were obtained from 16 rural counties from three provinces (Liaoning, Hunan, and Shandong) of China. Liaoning is an industrial province in northeast China, Hunan is an agricultural province in central-south China, and Shandong is a province with industrially and agriculturally prosperous located mid-way between Liaoning and Hunan province. Sixteen rural counties were randomly selected from these three provinces. In each selected county, suicides aged 15–34 years were recruited consecutively from October 2005 to June 2008. For each suicide case, two suicide-informants, one living control and two control-informants were enrolled; they were all interviewed with the same protocol to obtained information of the study. As a result, 786 informants for the suicide sample, 416 community living controls and 832 informants for the control sample were recruited for the psychological autopsy.

For this current study, we used only the data from the 2,034 subjects who were interviewed for their own demographics, psychopathology, as well as their perceived characteristics of the social environment in their own villages. These villages were divided into two types of communities based on whether the respondents from villages with a suicide occurrence or not.

2.2 Measures

There were four measures for self-reported psychopathology: (1) suicidal behaviors, (2) pro-suicide attitudes, (3) depression, and (4) suicide ideation.

To study the effects of neighborhood factors on suicidal behaviors (thoughts, plans, and attempts) among community people, we used the questions from The National Comorbidity Survey Replication (NCS-R) (Kessler et al., 1994). This instrument was also used in the WHO/SUPRE- MISS Community Survey (Bertolote et al., 2005). With this instrument, suicide behaviors were evaluated using three key questions: (1) Have you ever seriously thought of putting an end to your life? (2) Have you ever made a plan to do this? (3) Have you ever attempted suicide? They were all for the past 12 months. Respondents who reported making a 12-month attempt were then asked to describe the lethality intent of the attempt by indicating which of the following 3 statements best described their attempt: “I made a serious attempt to kill myself and it was only luck that I did not succeed.” “I tried to kill myself, but knew the method was not foolproof.” “My attempt was a cry for help. I did not intend to die.” Respondents who endorsed either of the first 2 statements were considered in the analysis to have made a suicide attempt, whereas respondents who endorsed the third statement were considered to have made a suicide gesture. (Kessler et al., 1994). In the analysis for this study, suicide behaviors was categorized to “yes” when endorsed of any of the items, and “no” when not endorsed of all of the items.

The pro-suicide attitudes were measured by the four items on attitudes towards suicide in the General Social Survey (GSS) study (Davis and Smith, 1972–1993). The four GSS questions asked respondents whether they approve a person has a right to commit suicide (no = 0, yes = 1) (1) when s/he faces an incurable disease, (2) when he/she is bankrupt, (3) when he/she has dishonored his/her family, and (4) when he/she is tired of living. The respondents were also asked if they would approve the suicide if the victim is a male and then if the victim is a female respectively on each of the four scenarios. The variable of pro-suicide attitudes was the sum score of the four items, with any positive response coded 1=yes, and all others 0=no.

The full version of the Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977) was used to assess the subjects’ depression level. Respondents were asked to indicate the frequency of the symptoms using a 4-point scale: 0=less than a day, 1=1–2 days, 2=3–4 days, and 3=5–7 days against a time frame of the past week. The four positively formulated items (item 4, 8, 12 and 16) were recoded in reverse. The total score consists of a sum of all 20 items, ranging from 0 to 60. Radloff recommended a total CES-D score of 16 or higher for indicating the likely presence of clinically significant depression (Radloff, 1977).

The Scale for Suicide Ideation (SSI) (Beck et al., 1979) is one of the most widely-used measures of suicide ideation in the world. The SSI is a 19-item, interviewer-administered rating scale that measures the current intensity of specific attitudes, behaviors, and plans to commit suicide. Each item consists of three options graded according to the intensity of the suicidality and rated on a 3-point scale ranging from 0 to 2 (no ideation to strong ideation). The ratings are then summed to yield a total score, which ranges from 0 to 38. Individual items assess characteristics such as wish to die, desire to make an active or passive suicide

attempt, duration and frequency of ideation, sense of control over making an attempt, number of deterrents, and amount of actual preparation for a contemplated attempt. Although the SSI was originally designed for psychiatric populations (Beck et al., 1979), it has been validated for use among non-psychiatric samples (Bruce et al., 2004). The scale can also be used for self-report data collection (Beck and Steer 1991; Beck et al., 1988).

The community environment in the village neighborhood was assessed with the scale developed by WHO SUPRE-MISS called the Community Stress and Problems (WHO, 2002). The scale has 16 items asking respondents about their perception of the social stress and problems in the neighborhood. All the 16 items were included in the data collection, and two more questions (gambling and superstition) were added to the scale to reflect something that may be particular to rural China. Respondents were asked to rank each of the 18 stresses or problems from 1 (not serious) to 5 (very serious).

Socio-demographic factors included age, gender, education years, marital status, family annual income, family status in the village, and religion. The variable of marital status was dichotomized to 0=single that included those people who had never married and who had been divorced and widowed, and 1=non-single that covered the currently married, remarried and unwed couples. The family annual income was measured in Chinese *Renminbi* (RMB). One US dollar was equivalent to about 7.00 RMB in the year when the data was collected. Family status in the village was categorized into 0=high that included best and better economic status in the village, and 1=low that included worse and worst economic status in the village. There were seven choices to access the respondents' religion, including no religion, believed in Daoism, Islam, Protestantism, Catholicism, Buddhism, and other religion. This religion variable was dichotomized to 0=No if the no religion was selected, and 1=Yes if any of the options was chosen.

2.3 Quality control

All the above standardized scales had been translated and back-translated multiple times by bilingual professionals for accuracy and consistency of the instrument. The protocol including all the scales was approved by both the US institutes and these institutes involved in China. All the Chinese version of the scales has been validated before their implication in this current study: The WHO/SUPRE- MISS measure on Suicidal Thoughts, Plans, and Attempts (NCS-R) (Zhang and Zhou, 2010), the Pro-Suicide Attitudes (GSS) (Zhang and Jia, 2010), the Center for Epidemiological Studies Depression Scale (CES-D) (Zhang and Norvilitis, 2002; Zhang et al., 2012), the Beck's Scale for Suicide Ideation (SSI) (Zhang and Norvilitis, 2002), and the WHO SUPRE-MISS Community Stress and Problems (Bertolote et al., 2005).

Interviewers were public health professionals or mental health professionals who were trained for two weeks on psychological autopsy methods and measure instruments by U.S. and China experts before research.

Previous study with proxy-based data examined the reliability and validity of the instruments used in the psychological autopsy method in China. Correlation matrix of the raters was run for each of the instruments. The raters were most consistent on most instruments; the correlations of most instrument score were significant at the 0.05 level (Zhang et al., 2003).

2.4 Ethics

This study was approved by the institutional review boards of State University of New York College at Buffalo; Provincial Center for Disease Prevention and Control, Liaoning; Central

South University, Hunan; and Shandong University, Shandong. Every informant have been notified the research nature, the background of the project and the rights before participating in the research. Whenever an informant presented distress and did not want to continue during the interview, the interview would be stopped.

2.5 Statistical analysis

Descriptive analyses, paired *t*-test, and Pearson's chi-square test were used to describe and compare the demographic characteristics and psychopathologies of respondents from village community with and without a suicide occurrence. Paired *t*-test was carried out to compare Community Stress and Problems in the village Community with and without a suicide occurrence. Psychopathologies and scores of Community Stress and Problems were disposed by Bivarite Correlations Analyze. Binary logistic regression model was employed to predict suicidal behaviors with Community Stress and Problems and other relevant variables, and multiple linear regressions were used to predict other psychopathologies.

All statistical analyses were carried out by SPSS, version 16.0.

3. Results

The final samples from the three provinces consisted of 786 respondents from villages with a suicide (344 females and 442 males) and 1248 respondents from villages without a suicide (705 females and 543 males), all from rural China. Table 1 presented the data with demographic information and the psychopathologic scores for the respondents from villages with a suicide occurrence (study group) and without a suicide occurrence (control group). The two groups differed significantly in all demographic factors: age, gender, education years, marital status (single or non-single), family annual income, family status in the village and religion. Compared with the respondents from the villages without a suicide occurrence (control group), the respondents from villages with a suicide occurrence (study group) tended to be older, male, non-single and non-religion, to have lower education level and less family annual income, to be in poorer family status. Table 1 also showed that the respondents from villages with a suicide occurrence scored significantly higher than controls on most psychopathologies: suicidal behaviors, depression, pro-suicidal attitudes and suicidal ideation. However, there was no significant difference between these two groups in community stress and problems.

The 16 items of the standardized WHO SUPRE-MISS Community Stress and Problems Scale and the two added items were ranked by the respondents from 1 (not serious) to 5 (very serious). Table 2 illustrated the distributions of the 18 items in the Community Stress and Problems scale by the sample of the respondents from villages with a recent suicide (n=786) and the sample of the respondents without a recent suicide (n=1,248). It showed that there was no significant difference between the two types of communities in most community stress and problems except for health care and pollution, although there was a trend for most of the stresses and problems to be stronger in the study villages than in the control villages. The following problems were more likely to present in the villages with a suicide than in villages without a suicide, ranked by the *t*-test from high to low: (1) health care, (2) housing, (3) transportation, (4) alcohol abuse, (5) superstition, (6) education (7) job security, (8) poverty, (9) family disputes, and (10) quality of life.

Correlations between the total score of community stress and problems and psychopathologies were run for the total sample, the sample of the villages with suicides, and the sample of the villages without suicides (Tables 3). The correlation is not strong, but remarkable statistical significance was found in most variables for all three groups. There was a positive correlation between community stress and problem and suicidal behaviors

(suicidal thoughts, suicidal plans, and suicidal attempts), pro-suicide attitudes, depression, and suicidal ideation.

To determine the effect of community stress and problems on psychopathology, we need to study the relationship with other relative predictors. Therefore, multiple regressions were performed with psychopathology as the dependent variable and community stress and problems as well as socio demographic characteristics variables as predicting factors.

Results of the multiple regression models were displayed in Table 4–Table 8. Binary logistic regression model was employed to predict suicidal behaviors with Community Stress and Problems and other relevant variables (Table 4), and multiple linear regressions were used to predict other psychopathologies (Table 5–8). In village community with a suicide occurrence, the Community stress and problems showed a significant positive association with suicidal behaviors, pro-suicidal attitudes, depression and suicidal ideation individually (Table 4–7). When we combined these four dependent variables into one and named it as all psychopathologies, it performed very well, the Community stress and problems showed a significant positive association with higher levels of psychopathologies (Table 8). The same result occurred in village community without a suicide occurrence except pro-suicidal attitudes. This finding supported our hypothesis that community stress and problems had a negative effect on individuals' psychological wellbeing.

In addition, as shown in table 4, suicide behaviors was significantly associated with gender and status of family in village in case group, and significantly associated with age, gender and education year in control group (Table 4). From table 5 we could find pro-suicidal attitudes was associated with age, education years and status of family in village in case group, and significantly associated age and gender in control group. Table 6 showed that depression was strongly associated with age, gender, status of family in village and religion in case group, and strongly associated with gender, status of family in village and religion in control group. Table 7 presented that suicidal ideation was remarkable associated with status of family in village in both groups. Table 8 showed that psychopathologies was significantly associated with age, gender and status of family in village in case group, and significantly associated with gender, status of family in village and religion in control group.

Overall, the regression model with the community stress and problems predicting rural Chinese psychopathologies seemed to work best for the all psychopathologies in village community with a suicide occurrence, with a R^2 of 0.375.

4. Discussion

With data from 786 informants for the suicide sample and 1,248 informants for the control sample from China, this study examined the association between the community stress and problems and its residents' psychopathologies, investigated whether these associations vary between community with suicides and without suicides. The results showed that the community stress and problems had a negative effect on individuals' psychological wellbeing, even when taking into account individual socio-economic status. The community stress and problems could increase the risk of rural Chinese suicidal behavior (including suicide thought, suicidal plane and suicidal attempts), pro-suicidal attitudes, depression, suicidal ideation and all psychopathologies. At the same time, certain problems, such as health care, housing and transportation played more important roles than others to increase the rural Chinese psychopathology.

This result lent support to Durkheim's theory of social and psychological impact of the community factors to individual health (Durkheim, 1951). It confirmed the findings of some

previous research, besides mentioned above, the community environment are related to residents' health in different areas of the world, both in urban and rural area, including US, Canada, Australia, England, Scotland, Sweden, Denmark, India and Korea (Cummins et al., 2005). Moreover, it was in keeping with our previous research that community stress and problems increase rural Chinese suicide risks (Zhang and Wang, 2011). This time we used larger sample size to make sure to get the finding that has more statistical power to detect neighborhood effects. This finding could be a further evidence of the association between the community stress and problems and residents' psychological wellbeing, especially suicidal risk factors. We thus believe that our results may also be expounded for other community environment in health-promoting and suicide prevention strategy.

Some health researchers and policy makers had recognized the importance of community stress and problems to people's health, community-based public health-promoting and suicide prevention strategies to increase community participation had been increasingly developed. Growth in variables associated with protection from suicide in past research as evidence of impact has been assessed, these variables included support and opportunities in the community as perceived by youth, adult behaviors fostering support and opportunities for youth, setting limits, creating safe environments in the community and role modeling, such as talking to youth about how alcohol can lead to loss of control, providing advice for a young person, providing a youth activity to keep them busy and prevent their boredom, and volunteering for a community youth activity like basketball or outdoor activities and so on (Allen et al., 2009; Merzel and D'Afflitti, 2003).

At the same time, one important thing should be noted that the community environment and residents' health were measured by the individual perceptions of the respondents. It was not only the real status of the community environment but also the perception of the community environment that affected the residents' health at the same time. The relationship between perceived neighborhood environment and self-rated health had been studied by previous researchers. They found people's experiences in the same neighborhood can be quite different, individual perceptions of neighborhoods showed importance of for shaping health, and perceptions about the neighborhoods in which people lived were just as important for health as the neighborhoods themselves (Wen et al., 2006; Wilson et al., 2004; Cummins et al., 2005).

To answer the question why residents living in a same community had different perceptions of community environment that were related to different effects on health, there could be some possibility that community effects on health were not straightforward, and there were other factors that influenced the self-rated health. Except for the community environment that independently affected residents' health, there might be some other variables, and the third variables played some important role too. According to the Strain Theory of Suicide and Mental Disorder (Hvistendahl, 2012; Zhang et al., 2011), relative deprivation or relative poverty, one of the four sources of psychological strains, could be a strong influencing factor here. When an individual with perceived low economic status realized that other people of the same or similar background were leading a much better life, the person may feel frustrated and maybe depressed, so as to perceive the environment differently from those who did not feel relative deprived. A person living in absolute poverty, where there was no comparison with others, did not necessarily feel bad, miserable, or deprived. Increased perception of deprivation indicated relatively greater strain for individuals (Zhang et al., 2009).

So health policy makers should pay more attention to how to reduce strain and improve the satisfaction of perception while adopting other measures, especially to depressed community residents. In addition to reporting significantly more stressful events than controls, depressed

individual also experienced more severe life strains. They may perceive a normal environment as deceiving and degraded one because they were less likely to use problem-solving and more likely to use emotion-focused coping responses and had fewer and less supportive relationships (Billings et al., 1983).

Not in agreement to west literature, this study found belief in religion could increase depression subjects. It suggested that religion could be a risk factor for individual's psychopathology. Unlike most mainstream religions in the West, Chinese religions are often associated with superstition as the saying of religious superstition in terms of supernatural being, afterlife, rituals and organization. To some individuals, death is a solution to all the problems and the beginning of a new life (Zhang et al., 2010). This should be concerned to meet the prevention of suicide.

Limitations of the study are similar to most quantitative cross-sectional studies on community environment and health. Based on Durkheim's theory of social and environment impact of the community factors to individual behaviors and psychological functioning, we tested the relationship between community press and problem vs. resident's psychopathology, using community press and problem as independent variable and psychopathologies as dependent variables. But only associational claims could be verified because reverse causality couldn't be excluded. Further research in this field is still in need. This study focused on perceived aspects of the community environment and suicide, which was relative and subjective and may result in response bias (Ellaway et al., 2001). We had no information about how long residents had lived in the community, and the duration of they lived in the community will certainly bring different responses, so as to produce other response bias. In addition, although this study restricted to a well-defined geographical area allowed the study to access statistical power to detect the neighborhood effects on the residents' psychopathology, it didn't necessarily mean that the sample is representative to the general population. Future studies with larger samples may be conducted to further test the hypothesis.

Acknowledgments

This research was supported by the United States National Institute of Mental Health (US NIMH): R01 MH68560. We thank our research collaborators in Liaoning, Hunan, and Shandong Provinces of China. We also thank all interviewees for their unique contribution to the study.

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Table 1

Demographic Characteristics and Psychopathologies of the Respondents from Village Community with (n=786) vs. without (n=1248) a Suicide Occurrence.

Socio demographic Characteristics and Psychopathology	Respondents From Village Community with a Suicide (n=786)	Respondents From Village Community without a Suicide (n=1248)	x^2/t	*P*
Age, years, mean (SD)	45.15 (12.893)	32.04 (12.031)	22.881	<0.001
Gender (n, %)			31.265	<0.001
Male	442 (56.2)	543 (43.5)		
Female	344 (43.8)	705 (56.5)		
Education, years, mean (SD)	7.719 (8.0893)	8.554 (2.8641)	−13.840	<0.001
Marital status (n, %)			34.738	<0.001
Non-single	672 (85.5)	930 (74.5)		
Single	114 (14.5)	318 (25.5)		
Family annual income, *yuan*, mean (SD)	15830 (19010)	19300 (15973)	−4.430	<0.001
Family status in village (n, %)			91.402	<0.001
High	583 (74.2)	1125 (90.1)		
Low	203 (25.8)	123 (9.9)		
Religion			5.824	0.016
Yes	40 (5.1)	98 (7.9)		
No	746 (94.9)	1150 (92.1)		
Suicidal Behaviors			67.386	
Yes	142 (18.1)	80 (6.4)		<0.001
No	644 (81.9)	1168 (93.6)		
Pro-Suicide Attitudes, mean (SD) GSS	0.38 (0.83)	0.23 (0.59)	4.231	<0.001
Depression, mean (SD)	18.47 (9.32)	14.64 (5.12)	10.479	<0.001
Suicidal Ideation, mean (SD)	14.95 (7.65)	8.95 (5,41)	3.609	0.001
Community Problem Score, mean (SD)	30.65 (9.04)	30.43 (9.53)	0.520	0.603

Note: SD=standard deviation

Differences are tested using a two-tailed t-test.

During the study period, the exchange rate was approximately 7 yuan to 1 US dollar.

Table 2

Comparing Community Stress and Problems in the Village Community with (n=786) and without (n=1248) a Suicide Occurrence

Community Stress and Problems	Village Community with a Suicide mean (SD) (n=786)	Village Community without a Suicide mean (SD) (n=1248)	*t*	*P*
Health Care	1.91 (1.18)	1.71 (1.05)	3.702	<0.001
Housing	1.59 (1.03)	1.51 (0.94)	1.760	0.079
Transportation	1.86 (1.22)	1.78 (1.11)	1.528	0.127
Alcohol Abuse	1.66 (0.89)	1.60 (0.86)	1.467	0.142
Superstition	1.72 (0.89)	1.68 (0.90)	1.011	0.312
Education	1.98 (1.20)	1.93 (1.17)	0.936	0.350
Job Security	2.24 (1.36)	2.18 (1.27)	0.902	0.367
Poverty	2.56 (1.26)	2.51 (1.12)	0.898	0.369
Family Disputes	1.77 (0.92)	1.73 (0.90)	0.747	0.455
Quality of Life	1.89 (0.98)	1.86 (0.97)	0.561	0.575
Security and Safety	1.38 (0.76)	1.38 (0.78)	−0.029	0.977
Crime	1.52 (0.89)	1.55 (0.88)	−0.718	0.473
Child/Spouse Abuse	1.28 (0.54)	1.31 (0.65)	−0.892	0.373
Gambling	1.61 (0.92)	1.65 (0.94)	−0.973	0.331
Official Corruption	1.92 (1.27)	1.99 (1.27)	−1.062	0.289
Ethnic Tension	1.09 (0.41)	1.12 (0.49)	−1.492	0.136
Drug Abuse	1.11 (0.38)	1.15 (0.59)	−1.665	0.096
Pollution	1.56 (1.04)	1.79 (1.17)	−4.517	<0.001

Note: SD=standard deviation

Differences tested with two-tailed t-tests.

Table 3

Predicting Psychopathologies with Community Stress and Problem Scores among the Village Community Residents (N=2,034)

Psychopathology	Total (n=2,034)		Village Community with a Suicide		Village Community without a Suicide	
	r	*P*	*r*	*P*	*r*	*P*
Suicide Behaviors	0.075	0.001	0.080	0.025	0.074	0.009
Suicidal Thoughts	0.090	<0.001	0.087	0.015	0.090	0.001
Suicidal Plans	0.087	<0.001	0.078	0.028	0.103	<0.001
Suicidal Attempts	0.063	0.005	0.070	0.049	0.055	0.050
Pro-Suicide Attitudes	0.086	<0.001	0.078	0.028	0.088	0.002
Depression	0.141	<0.001	0.104	0.004	0.161	<0.001
Suicidal Ideation	0.086	<0.001	0.107	0.003	0.063	0.027

Note: *r* = correlation coefficient

Table 4

Logistic Regressions Predicting Village Community Residents' Suicide Behaviors with Community Stress and Problems and Other Relevant Variables (N=2,034).

Variable	Village Community with Suicides					Village Community without a Suicide				
	B	*P*	*Exp(*	*95.0% C.I.*		*B*	*P*	*Exp(*	*95.0% C.I.*	
				Low	*Upp*				*Low*	*Upp*
Community Stress	0.024	0.024	1.025	1.003	1.047	0.036	0.002	1.037	1.013	1.061
Age	0.009	0.259	1.009	0. 994	1.025	0.027	0.006	1.028	1.008	1.048
Gender (Male)	−1.032	0.000	0.356	0.238	0.533	−0.695	0.009	0.499	0.296	0.842
Education Years	−0.047	0.194	0.954	0.889	1.024	−0.107	0.049	0.898	0.808	0.999
Family annual	0.000	0.190	1.000	1.000	1.000	0.000	0.336	1.000	1.000	1.000
Marital status	−0.184	0.487	0.832	0.494	1.399	0.053	0.879	1.054	0.535	2.077
Status of Family in	0.812	0.000	2.253	1.486	3.417	0.589	0.070	1.802	0.952	3.410
Religion (Yes)	−0.098	0.815	0.907	0.400	2.057	0.165	0.680	1.180	0.538	2.589
Constant	−1.951	0.003	0.142			−3.556	0.000	0.029		
R	0.110.					0.07				

Psychiatry Res. Author manuscript; available in PMC 2015 February 28.

Table 5

Multiple Liner Regression Predicting GSS (Village Community Residents' Pro-Suicidal Attitudes) with Community Stress and Problems and Other Relevant Variables (N=2,034).

Variable	Village Community with a Suicide			Village Community without a Suicide		
	B	***t***	***P***	***B***	***t***	***P***
Community Stress and Problems	0.006	1.765	0.048	0.003	1.618	0.106
Age	0.006	2.634	0.009	0.007	4.107	0.000
Gender (Male)	−0.043	−0.685	0.493	0.091	2.666	0.008
Education Years	−0.020	−1.793	0.043	0.013	1.730	0.084
Family annual income	7.844E-7	0.711	0.477	−8.283E-7	−0.915	0.360
Marital status (Non-single)	−0.079	−0.917	0.359	−0.054	−1.213	0.226
Status of Family in Village (Low)	0.170	2.399	0.017	0.032	0.567	0.571
Religion (Yes)	0.169	1.234	0.218	−0.070	−1.131	0.258
Constant	0.089	0.453	0.651	−0.163	−1.709	0.088
R^2	0.185			0.171		

Table 6

Multiple Liner Regression Predicting CES-D (Village Community Residents' Depression) with Community Stress and Problems and Other Relevant Variables (N=2,034).

Variable	Village Community with a Suicide			Village Community without a Suicide		
	B	***t***	***P***	***B***	***t***	***P***
Community Stress and Problems	0.053	2.427	0.024	0.102	6.701	0.000
Age	0.092	3.539	0.000	0.009	0.617	0.538
Gender (Male)	−1.960	−2.897	0.004	−0.777	−2.613	0.009
Education Years	0.067	0.544	0.587	0.019	0.305	0.760
Family annual income	−1.141E-5	−0.960	0.338	1.250E-5	1.588	0.113
Marital status (Non-single)	−0.722	−0.779	0.436	−0.365	−0.937	0.349
Status of Family in Village (Low)	6.180	8.003	0.000	1.269	2.556	0.011
Religion (Yes)	1.354	1.906	0.045	1.267	2.359	0.018
Constant	12.697	5.905	0.000	11.237	13.533	0.000
R^2	0.364			0.227		

Table 7

Multiple Liner Regression Predicting Beck's SSI (Village Community Residents' Suicidal Ideation) with Community Stress and Problems and Other Relevant Variables (N=2,034).

Variable	Village Community with a Suicide			Village Community without a Suicide		
	B	***t***	***P***	***B***	***t***	***P***
Community Stress and Problems	0.012	2.354	0.019	0.003	1.929	0.047
Age	0.006	1.547	0.122	0.001	1.013	0.311
Gender (Male)	−0.183	−1.860	0.063	−0.040	−1.320	0.187
Education Years	0.003	0.144	0.885	−0.003	−0.438	0.661
Family annual income	−2.658E-7	−0.153	0.878	1.542E-8	0.019	0.985
Marital status (Non-single)	−0.021	−0.157	0.875	−0.015	−0.373	0.710
Status of Family in Village (Low)	0.437	3.921	0.000	0.145	2.875	0.004
Religion (Yes)	−0.306	−1.425	0.155	−0.056	−1.026	0.305
Constant	−0.250	−0.805	0.421	−0.008	−0.093	0.926
R^2	0.206			0.115		

Table 8

Multiple Liner Regression Predicting Village Community Residents' Psychopathologies with community Stress and Problems and Other Relevant Variables (N=2,034).

Variable	Village Community with a Suicide			Village Community without a Suicide		
	B	***t***	***P***	***B***	***t***	***P***
Community Stress and Problems	0.076	1.922	0.038	0.110	6.973	0.000
Age	0.110	3.884	0.000	0.019	1.349	0.178
Gender (Male)	−2.171	−2.932	0.003	−0.756	−2.467	0.014
Education Years	0.061	0.450	0.653	0.038	0.594	0.553
Family annual income	−1.169E-5	−0.894	0.371	1.149E-5	1.419	0.156
Marital status (Non-single)	−0.867	−0.852	0.395	−0.388	−0.967	0.334
Status of Family in Village (Low)	6.871	8.165	0.000	1.514	2.957	0.003
Religion (Yes)	1.305	0.805	0.421	1.254	2.273	0.023
Constant	12.376	5.291	0.000	10.853	12.682	0.000
R^2	0.375			0,237		

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