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Psychological Strains Found from In-depth Interviews with 105 Chinese Rural Young Suicides¹

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Abstract

Perspective—To investigate the role of different aspects of psychological strain in Chinese rural young suicides, so as to test the strain theory of suicide with the Chinese samples.

Method—Psychological Autopsy (PA) was conducted on 105 suicides in rural China. The background and deep reasons for suicide were obtained from in-depth interviews with survivors and close friends. For each suicide, a story is composed out of the provided information, and the stories were content-analyzed with the SPSS Text Analysis for SurveysTM.

Results—Depression or other mental disorders were observed for less than half of the sampled suicides (42.9%). All suicides (100%) had experienced at least one type of the four strains: conflicting values, aspiration and reality, relative deprivation, and coping deficiency. While 24.9% of all suicides experienced only one type of strains, 36.2% for two strains, 32.4% for three, and only 6.7% of the suicides experienced all the four types of strains. Males are more likely than females to experience aspiration and deprivation strains, and the younger suicides (15-22 years of age) were more likely than the older suicides (23-29 years of age) to experience coping strain.

Conclusion—Psychological strains are more prevalent than mental disorders among Chinese rural young suicides. Mental illness might be a function of strain resulting from some negative life events, and future studies need to disentangle the relationship between strain and mental disorders.

Keywords

Psychological autopsy; Psychological strain; Qualitative research; Depression; Suicide; Chinese

In the United States, over 90 percent of suicides are associated with mental illness including substance abuse (Conwell et al., 1996; Harris & Barraclough, 1997), while in China, it is suggested that as few as 50-70% of people who commit suicide may be suffering from diagnosable depression or another mental disorder (Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001; Ji, Kleinman, & Becker, 2001; Phillips et al., 2002; Zhang, Conwell, Zhou,

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& Jiang, 2004). However, in the world over 95 percent of these affected individuals do not complete suicide (IOM, 2002). These numeric observations may indicate that factors other than mental health also play important roles in suicide in the world.

In a psychological autopsy study of 260 suicides completed by rural young women in China, it was reported that mental disorders were not related to those suicides (Xie & Song, 1999). It is noted that the study did not use SCID for mental disorders assessment, and mental disorders among suicides of this selected group may be under-detected. Rather, social and cultural factors have been the foci of discussions. The majority of the suicides were related to family conflicts: 47% resulting from confrontations between husband and wife and wife abuse, 13% due to arranged marriage and low status of women, and 30% related to in-laws, chastity, status in the family, and face (humiliation or shame) problems. Of the 260 consecutively sampled rural female suicides from 24 Chinese provinces in 1997, 92% were aged between 15 and 34, 68% of them were reported married. About 82% of them used pesticide to kill themselves and 51% of them were reported to have acted impulsively (Xie & Song, 1999). Thus, as one of the major areas in suicide research from the Western point of view, the study of psychiatric status of the suicide in China faces special challenges in the cross-cultural context.

Many studies have supported the above observations: negative life events, especially family and marriage related events are strongly related to Chinese rural young female suicide (Ji et al., 2001; Zhang et al., 2004). But why do these events which also frequently take place in Western societies, impact Chinese more strongly than Westerners? We may have to understand it from the culture, including social values cherished by Chinese people. The strain theory of suicide developed with studies of Chinese suicides may be able to generalize an etiology of Chinese suicides and account for the Chinese female suicide rates which are higher than those of Chinese men.

The strain theory of suicide postulates that strain, resulting from conflicting and competing pressures (or stresses) in an individual's life, usually precedes a suicidal behavior (Zhang, 2005; Zhang & Lester, 2008; Zhang & Song, 2006). The assumption of the theory is that strain, in the form of psychological suffering due to conflicting pressures of which the victim may or may not be consciously aware, is so unbearable that the victim has to find a solution to release or stop it (Stack & Wasserman, 2007). This comprehensive and parsimonious theory is built on previous notions of anomie and strain (Durkheim, 1951), although Merton's strain theory of deviance and crime (Merton, 1957) and Agnew's general strain theory (Agnew, 1992) have not included suicide as a target for explanation. Previous strain theories of deviance and crime inspired the building of the current strain theory of suicide, but the latter may not be a development, revision, or refinement of the former, since suicidal deviance differs from criminal deviance in nature. While suicide is inward violent without other victims, crime usually involves outward violence with victims. Thus, the two types of violence may result from different sources of strain.

In daily life, we sometimes experience cognitive dissonance which is caused by holding two or more inconsistent notions or ideas or by the discrepancy between our own behaviors and our values (Festinger, 1957). It was discovered that dissonance is most powerful and most upsetting when people behave in ways that threaten their self-image. This is upsetting precisely because it forces us to confront the discrepancy between who we think we are and how we have in fact behaved (Aronson, 1998). Festinger and Aronson suggested three options to reduce this dissonance: (1) To change our behavior to bring it in line with the dissonant cognition, (2) to attempt to justify our behavior through changing one of the dissonant cognitions, or (3) to attempt to justify our behavior by adding new cognitions (Festinger & Aronson, 1960). Strain, in its psychological impact, could be even more

powerful than the cognitive dissonance, and the reduction of strain may require something beyond the above three options for cognitive dissonance.

Strain is not equivalent to simple pressure or stress. People may frequently have the latter but not necessarily the former in their life times. A pressure or stress in daily life is a single variable phenomenon. When we say we have pressure at work, we mean that we have a lot of work to do, we have a deadline to meet, or we have stressful relations with co-workers or bosses. A strain is made up by at least two pressures or two variables, similar to the formation of cognitive dissonance. Examples include, at least, two conflicting cultural values, aspiration and reality, one's own status and that of others, and a crisis and coping ability. Like cognitive dissonance, strain is a psychological frustration or suffering that one has to find a solution to reduce or do away with. But in truth, it is more serious, frustrating, and threatening than cognitive dissonance. The extreme solution for a strain is suicide. Figure 1 illustrates the diagram of this theory.

Strain may lead to mental disorders including substance abuse, and may precede other deviant behaviors such as property crimes and personal assaults (Merton, 1957). In the relationship between strain and suicide, mental disorders maybe an intervener, strengthening the association between strain and suicide. On the other hand, the relationship between strain and suicide may be moderated by social integration, social regulation, and psychological factors such as personality traits. An individual well-integrated into a social institution such as family, religion, school, and employment, may be at lower risk of suicide, even when confronting a major strain (Durkheim, 1951).

The strain theory of suicide was developed based on the above theoretical conceptualizations and supported by data collected from China (Zhang, 2005; Zhang & Song, 2006). The theory proposed four types of strain that precede a suicide. Each of the four types of strain is derived from specific sources. A source of strain must consist of two, and at least two, conflicting social facts. If the two social facts are not contradictory, there should be no strain. The first source of strain is Conflicting Values, which happens when two conflicting social values or beliefs are competing in an individual's daily life, such as mainstream culture and the religious beliefs experienced by a cult member. Another example is the conflicting values or beliefs experienced by some Chinese rural young women between Confucian traditional gender roles and communist modern ideology on gender equalitarianism. When the two conflicting values are taken as equally important in a person's daily life, the person experiences great strain. When one value is more important than the other, there is then no strain. The second source of strain is found in Aspiration vs. **Reality,** where there is a discrepancy between an individual's aspiration and the reality the person has to live with, such as the wish of being rich in life and the unprivileged social status that blocks the road to be success. If the reality is far from the aspiration, the person experiences strain. The larger the discrepancy between aspiration and reality, the greater the strain will be. **Relative Deprivation** is the third source of strain that focuses on deprivation in comparison with a reference, such as relative poverty that a poor individual realizes that other people of the same or similar background are leading a much better life. A person living in absolute poverty, where there is no comparison with others, does not necessarily feel bad, miserable, or deprived. Increased perception of deprivation indicates relatively greater strain for individuals. Coping Deficiency, the fourth source of strain, indicates the situation in which an individual is in lack of coping capability in front of a life crisis. Such crises as loss of money, loss of status, loss of face, divorce, death of a loved one, etc. may lead to serious strain in the person who does not know how to cope with these negative life events. The less experienced in coping, the stronger the strain when a crisis takes place. It is noted that the four types of strain can be overlapping in many instances. The strain illustrations in Table 1 present some of the contents that can be accounted for by two or

more types of strain. Also, one individual may experience two or more than two types of strain at a given time, which is identified as strain clusters (Agnew, 1992; Stack & Wasserman, 2007).

An investigation of a suicide's personal history, social and economic background, previous life events, mental health, interpersonal relations, and what happened on the day of suicide may help us understand the causal factors of the suicide. More important, it allows us to identify the strains experienced by the suicide victims. This study, through analyzing the stories told by informants of the suicides, tries to find out to what extent the strains as defined in the theory exist in the Chinese rural young suicides, so as to propose a Chinese model of suicide prevention.

Method

Data for study were stories of Chinese rural young suicides told by their family members and close friends through in-depth interviews, which was part of the procedure of a large psychological autopsy study in China. Sample for the current study consisted of the 105 suicides (aged between 15 and 34) consecutively selected in six rural counties in Liaoning Province in 2006. This sample should be representative of Liaoning Province for the year of data collection and for the specific age group. The deaths were certified by a health agency or police as suicide. For each suicide identified, we conducted two interviews. One was with a family member (Informant 1) having lived together with the victim, and the second interview was with a close friend (Informant 2) of the victim. Each suicide's mental status was assessed with SCID (Spitzer, Williams, Gibbon, & First, 1988) and then diagnosed by psychiatrists in the research team. The variables used for the current study include age, gender, and mental disorder diagnoses by SCID.

In the psychological autopsy in-depth interviews, the story telling and recording were semi-structured. The informants were encouraged to discuss, from their subjective points of view and their personal perception, eight aspects of the suicidal incidents. The eight aspects were (1) Overall narrative of the incident, (2) things that had happened before the incident and after the incident, (3) the trigger or triggers of the incident, (4) cause or causes of the suicide, (5) what bothered the victim psychologically, (6) what made the victim angry or regretful, (7) the victim's feelings of the living conditions, and (8) the victim's skills in handling crisis. The two stories told by the two informants on the same case were afterwards put together by the interviewers, and if there were discrepancies, the informants were approached again for clarification.

The 105 written stories were content-analyzed with the SPSS Text Analysis for SurveysTM. The new SPSS product uses the linguistic technology to automate the coding of qualitative data such as stories into groups of concepts that are meaningful for quantitative analyses. It is more efficient than manual coding due to the speed of computer. It is more accurate and consistent than manual coding because of the linguistic program in the software. However, during the automatic coding, we need to provide the guidelines as exemplified in Table 1 for different linguistic presentations based on the Strain Theory of Suicide and the Chinese culture contexts.

Results

Of the 105 suicides, 59 were male and 46 female. Their ages were ranged from 15 to 34, and the mean age was 26.7 (SD = 6.6). The 105 ages were collapsed into three groups for analyses: Group 1 (Student Age: 15-22, n = 32), Group 2 (Young Adult Age: 23-29, n = 33), and Group 3 (Adult Age: 30-34, n = 40)

With the semi-structured SCID interviews and diagnoses by researchers and psychiatrists, 45 (42.9%) of the 105 suicides were diagnosed with at least one type of mental disorders, 12 (11.4) were found to have two or more types of mental disorders, and more than half, 60 (57.1%) had no perceived mental disorders. As Table 2 illustrates, the most frequent diagnosis is major depression (21.9%), followed by any type of mood disorder (8.6%). Schizophrenia accounts for 4.8% of the suicides, and all other diagnosed disorders were found in only one or two suicides. Where about half of the male suicides (49.2%) were free of mental illness, more than two thirds of the female suicides (67.4%) were mentally healthy.

The SPSS Text Analysis for SurveysTM was able to automate the coding of the responses from the suicide stories and then group the linguistic presentations into four types of strains based on the Strain Theory of Suicide. All the 105 suicides (100%) under study could be traced with at least one type of psychological strain. While 24.8 percent (n=26) of the suicides experienced only one type of strain, a total of 75.2 percent (n=79) of the cases included reference to two or more types of strain. It was most common to contain two types of strain (36.2%, n=38), and 32.4% (n=34) included three types of strain. It was least likely for a suicide to experience all four types of strain (6.7%, n=7). For the suicide cases under study, 14 combinations of strains were identified. Coping Deficiency was the most common strain identified either by itself or in combination with other strains and accounts for 89.7 percent (n=94) of all cases. Overall, the most common patterns of strains identified included:

Coping (21%, n=22)

Coping, Values, and Aspiration Strains, (20%, n=21)

Coping and Values Strains, (14.3%, n=15)

Coping and Aspiration Strains, (13.3%, n=14)

Each of the remaining potential patterns represented less than 10% of all of the possible combinations. There were no significant differences in these strain patterns based on gender or age grouping.

Gender differences were found in the averaged numbers of strains reported, t = 2.63, p=.01. Generally speaking, male suicides experienced significantly more strains (M=2.42, SD=0.83) as compared to female suicides (M=1.96, SD=0.92).

Table 3 shows the comparisons of strains reported by gender and age. Reports related to male suicides were 1.43 times more likely to include reference to themes of Aspiration vs. Reality strain (X^2 (1, N=105) = 4.41, p<05, Cramer's V =.21) and 2.13 times more likely to include reference to Relative Deprivation strain (X^2 (1, N=105) = 4.00, p<05, Cramer's V =. 20) compared to female suicides.

Specifically in aspiration strain, health and medical related strain was the most dominant for both male and female suicides. The second highest strain for males was work choice opportunities, and for females it was educational opportunities. For deprivation strain, poverty was the most frequent explanation given for both male and female suicides. However, as noted earlier male suicides stories had more reported other deprivation strains than female suicides.

Coping deficiency is significantly related to the age of the suicide person ($X^2 = 6.05$, p<05, Cramer's V =.24). The proportion of reports that included deficient coping as a strain was 1.00 for student age suicide, .82 for young adult suicides, and .90 for adult suicides. Pair wise caparisons were conducted to evaluate the differences among these proportions. The only pair wise comparison difference that was significant was between Group 1 (student age

suicides between 14 and 22 years) and Group 2 (young adult suicides between 23 and 29 years): X^2 (1, N=64) = 6.22, p<05, Cramer's V =.31). Suicides in Group 1 are more likely than the older suicides in Group 2 to have experienced coping strains.

Specifically for coping strain, family conflicts and health problems were the top two explanations given as to the cause for suicide for both males and females. However, while stories to explain female suicide reasons included marriage/relationship disruption, an impulsive reaction style and loss of money were not among the dominant themes in stories for male suicides.

Discussion and Conclusion

The current study was part of a large psychological autopsy project trying to identify culture and risk factors for Chinese rural young suicides. This study employed 105 suicide stories and psychiatric diagnoses obtained from psychological autopsy interviews and content-analyzed the written stories with the new statistical software, SPSS Text Analysis for SurveysTM.

The finding that less than half (42.9%) of the sampled suicides were diagnosed with any type of mental disorders supports earlier studies in which mental illness is less prevalent in Chinese suicides than in suicides of other areas of the world (Conner, Duberstein et al., 2001; Ji et al., 2001; Phillips et al., 2002; Zhang et al., 2004). All the studies indicate that mental disorders are not as important for Chinese suicides as for suicides in other observed areas of the world. We have been trying to identify other major risk factors of suicide in China, and hypothesized that suicidal behaviors are usually preceded by psychological strains.

For each of the 105 suicides studied for this research, we found at least one type of strain. Strains are more prevalent than mental disorders for Chinese suicides. It is found that male suicides are more likely than female suicides to experience aspiration and deprivation strains. In rural China, males are usually considered to be major bread winners and assume the responsibilities of economic support of the family. Therefore, lack of opportunities might be more salient or better perceived by them than by their female counterparts. It is also found that the younger suicides (15-22 years of age) are more likely than the older suicides (23-29 years of age) to experience coping strain. Obviously, coping skills in front of some life crisis should be improved as age increases.

For suicides, mental illness might be a function of strain resulted from some negative life events. As Figure 1 proposes, there is a direct link between strain and suicide, and a second link between strain and suicide is intervened by psychopathological factors. For those suicides who were diagnosed with a mental illness, some further investigation with psychological autopsy interviews may reveal a strain that happened before the person became mentally ill. For more than half of the Chinese suicides in this current study, mental disorders were not found, but strains existed. For the less than half of the Chinese suicides in this study, both mental disorders and strains were found. Strains presented in 100 percent of the suicides no matter whether they were mentally ill or not. However, future studies need to disentangle the relationship between strains and mental disorders.

That strains precede suicide is also supported by an earlier study of suicides in the United States with a sample of suicide notes written by 40 American suicides and suicide attempters (Zhang & Lester, 2008). It was found that at least one strain was experienced by 39 of the 40 suicide note writers, and the majority of them (83%) had two or three strains expressed in the notes. The most common strains that were found in the US sample of 40 notes were aspiration and coping strains, followed by value and deprivation strain. Value conflicts and

relative deprivation may not be as salient for the US suicides and suicide attempters as for those living in the comparatively less developed rural China.

This study supports the strain theory of suicide. It shows that at least one strain can be found preceding almost every suicide. As earlier discussed, strain involves frustration so unbearable that some solution must be taken to reduce the psychological pressure. Strain can lead to criminal behaviors towards others (Agnew, 2001; Merton, 1957), and when the aggression is inwards, suicide takes place (Henry & Short, 1954). Psychiatric illness especially mood disorders and substance abuse could be a function of severe strain and a lack of social integration. In this sense, the psychiatric model of suicide etiology may be too limited. Therefore, suicide prevention may have to begin by monitoring and curbing the strains in society.

The concept of strain in the strain theory of suicide is different from the strain conceptualized and measured in Stack and Wasserman (2007) study. Their dimensions of strain included exposure to noxious stimuli (e.g. problems with coworkers, nasty neighbors over the long term), vicarious strains (being affected by the strains experienced by people in one's social network), anticipated strains (sometimes the anticipation of strain drives suicide and other deviant behaviors more than the actual experience of such strains), and the unfairness strains (a perception that one's lot economic or otherwise is profoundly unfair) (Stack & Wasserman, 2007). In the strain theory of suicide, strain is a psychological frustration resulted from two or more conflicting realities experienced by an individual. A single problem or a single stressor does not comprise the strain.

Certain limitations existed in the current study. Although there has been established validity in the proxy reports on SCID and other psychosocial measures in psychological autopsy studies (Conner, Conwell, & Duberstein, 2001), informants' reporting on psychological strain in post-mortem setting may lack accuracy, and it may be especially true for value strain assessments. There was no control group for the study. Without comparison, it may be hard to draw conclusions on the presence and strength of association between strain and completed suicide. Future studies using case-control design is expected. The current study used the new program of SPSS Text Analysis for SurveysTM and identified the strain types and their contents with its linguistic technology from stories composed by researchers in the psychological autopsy interviews. The new technique still needs time to prove its reliability and validity. Although our earlier studies with suicide notes (Zhang & Lester, 2008) and questionnaire surveys (Zhang & Song, 2006) have also supported the Strain Theory of Suicide among the American and Chinese victims respectively, more rigorous studies with different samples and various methods of coding are needed to further evidence the Strain Theory of Suicide.

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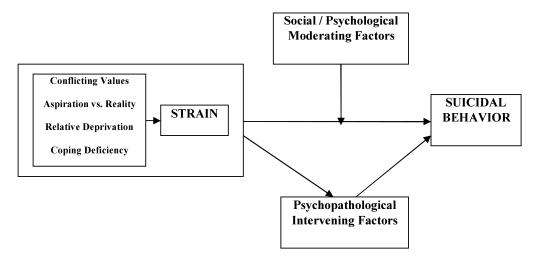


Figure 1. Diagram of the Strain Theory of Suicide

 Table 1

 The Four Sources of Strain and Their Possible Contents in the Chinese Culture Contexts

Source of Strain	Possible Contents in Chinese Culture
Value Strain from Conflicting Values	Traditionalism and modernity for status of women
	Traditionalism and modernity for love affairs
	Religion and atheism
	Chinese values and western values
	Others
Aspiration Strain from the Discrepancy between Aspiration and Reality	Marriage partner selection
	Education
	Work choice
	Social participation
	Choice of belief
	Health
	Others
Deprivation Strain from the Relative Deprivation Including Poverty	Sheer poverty
	Relative poverty with comparing with others
	Deprivation of chances for marriage
	Deprivation of chances for education
	Deprivation of chances for free belief
	Deprivation of chances for work
	Deprivation of chances for social life
	Others
Coping Strain from Deficient Coping Skills in the Face of a Crisis	Loss of job
	Loss of money (investment)
	Loss of property
	Loss of loved ones
	Loss of face
	Physical accident
	Family conflicts
	Marriage disruption
	Failure at school
	Trouble at work
	Interpersonal problems
	Introverted personality
	Health problem
	Others

Table 2
Diagnosed Mental Disorder Distributions among the 105 Suicides by Gender

Diagnoses	Total f (%)	Male f (%)	Female f (%)
Major Depressive Disorder	23 (21.9)	15 (25.4)	8 (17.4)
Mood Disorder NOS	9 (8.6)	7 (11.9)	2 (4.3)
Schizophrenia	5 (4.8)	1(1.7)	4 (8.7)
Bipolar Disorder	2 (1.9)	1(1.7)	1 (2.2)
Alcohol Dependence	2 (1.9)	2 (3.4)	
Alcohol Abuse	1 (1.0)	1(1.7)	
Dysthymic Disorder	1 (1.0)	1(1.7)	
Mood Disorder Due to General Medical Condition	1 (1.0)	1(1.7)	
Psychotic Disorder NOS	1 (1.0)	1 (1.7)	
No Diagnosis	60 (57.1)	29 (49.2)	31 (67.4)
Total	105 (100.0)	59 (100.0)	46 (100.0)

Table 3

Types of Strains by Gender and Age

	Gender (M = 59, F = 46)		Age Group (G1 =32, G2 = 33, G3 = 40)	
Type of Strain	χ^2	Cramer's V	χ^2	Cramer's V
1. Conflicting Values	0.49	.07	1.06	.10
2. Aspiration vs. Reality	4.41*	.21	0.75	.09
3. Relative Deprivation	4.00*	.20	0.92	.09
4. Coping Deficiency	0.01	.01	6.05*	.24

^{* &}lt;u>p</u> < .05

Note: G1 included high school and college age students between 15 and 22 years of age; G2 included young adults between 23 and 29 years of age; G3 included adults between 30 and 34 years of age.