Published in final edited form as:

J Adolesc Health. 2012 March ; 50(3 0): S45–S51. doi:10.1016/j.jadohealth.2011.12.003.

ASSOCIATION BETWEEN CHILDHOOD SEXUAL ABUSE (CSA) AND ADVERSE PSYCHOLOGICAL OUTCOMES AMONG YOUTH IN TAIPEI

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Abstract

Purpose—The objective of this study is to examine the relationship between a history of CSA and negative psychological consequences in adulthood controlling for family environments and Confucian values.

Methods—The data used in this study was collected from Taipei. 4084 participants aged 15-24 composed the final analysis sample. Three sets of logistic regression models were fitted to verify the association between CSA and negative psychological outcomes. Socio-demographic variables, household instability and parenting variables, as well as Confucian value variables were controlled in models step by step. The overall prevalence of CSA in our analysis sample was 5.2 %.

Results—The overall prevalence of depression, anxiety and suicidal ideation among Taipei respondents were 11.8 %, 16.4 % and 16.7 %, respectively, but young people who experienced CSA had significantly higher rates of all three than young adults who had not experienced CSA. After controlled for other covariates, the odds ratios of depression, anxiety and suicidal ideation associated with a history of CSA were 1.78 (95% CI: 1.25-2.54), 1.77 (95% CI: 1.28-2.44) and 2.56 (95% CI: 1.56-4.29), respectively.

Conclusion—Our findings suggested that CSA is an independent predictor of negative psychological consequences in adulthood. In our analysis, we controlled for household, parenting and Confucian culture factors which provides a better understanding of how they work together to affect adult psychological status.

Keywords

childhood sexual abuse; depression; anxiety; suicidal ideation; Taipei

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Implications and contribution:

Our findings suggested that experience of CSA is associated with a substantial increased risk of psychological outcomes among youth in Taipei after controlling for family environment. And Confucian culture only has limited impact on this association.

Introduction

Concern over the issue of the childhood sexual abuse (CSA) has been elevated in the past two decades. This is not only because of its ubiquity in all societies in which it has been measured, but also its serious negative sequelae. Numerous studies have documented a wide variety of both immediate and long-term effects of CSA [1, 2]. The present study focuses on the extent to which exposure to CSA has long-term consequences for individual psychological health status.

Previous studies had found elevated levels of depression, anxiety, suicidal behavior, dissociation and memory impairment, somatization and personality disorders among people with experience of CSA [3-6]. A study [7] conducted in New Zealand among a birth cohort of over 1000 young adults found that people with a history of CSA were more likely to have mental disorders than those not exposed to CSA; the exposure to CSA contributed to approximately 13 % of the mental health problems experienced by the cohort. A study conducted in Ethiopia [8] shows the rate of negative psychological effects, such as suicide ideation, suicide attempt, and sexual dysfunction, as high among people with the experience of CSA.

Although increased risk for serious negative psychological outcomes has been reported for people with a history of CSA in many studies, the confounding aspect of family environment is always a concern in the interpretation of a reported association. Some studies suggest that CSA often co-occurs with other maltreatment in the environment or with adverse family conditions [9, 10]. Clausen and Crittenden stated that it is the poor parenting or a general maltreating environment as the root of the trauma in sexually abused children [11], but not the sexual abuse per se.

Despite the relationships between experience of CSA and psychological outcomes have been investigated extensively over the last two decades, there is a dearth of studies on these problems in Asian societies. Most of Asian area, including Taiwan, was strongly influenced by Confucianism. Some traditional values remain strong in Taiwan today in spite of the influence of industrialization [12]. Confucianism is an ethical and philosophical system developed by the Chinese philosopher Confucius [13]. One elementary theme in Confucianism consists of five “cardinal relationships”. Specific responsibilities and roles were prescribed among family members. Therefore, the family plays a central organizing role in people's lives and provides the individual with security, support and strong interdependent bonds which may protect CSA victims from adverse outcomes. Another major characteristic of Confucianism is its patriarchal perspective, which ascribes relatively high status to males and relatively low status to females. Sexually abused girls may blame themselves for their situation which could lead to severe psychological effects beyond the immediate consequences of sexual abuse.

Cross-cultural research has revealed that the pattern of CSA is shaped by broad cultural factors [14, 15]. A study [15] conducted in two American Indian tribes – Southwest and Northern Plains, CSA was associated with post-traumatic stress disorder (PTSD) for both

tribes, but only in the Southwest was it significantly associated with depression and anxiety. The authors proposed that these tribal differences may be attributed to cultural differences. Compared with Northern Plains, the Southwest has higher degrees of social integration and control. Therefore, it is important for research on the long-term consequences of CSA in Asian societies to consider Confucian influence. The goal of our study is to examine the relationship between a history of CSA and negative psychological consequences, and the effect of Confucian influence and family environments on this relationship.

Methods

Data Set and Analytic Sample

The data used in this study is from The Three-city Collaborative Research Study of Adolescent Health [16]. We adopted a two-part random sampling strategy in Taipei. The first part is the sampling of individual student from a school approach, and 3462 urban students and 311 rural students were selected from schools, colleges and universities. The second part is the sampling of non-student from a community-household approach. A sample of 392 urban and 189 rural community dwelling youth was drawn based on a prior screening enumeration of households. The very large percentage of youth in schools and universities in Taipei is reflected in the proportional sizes of these samples. The final sample size in Taipei is 4354 which is a representative sample for young people aged 15-24 in Taipei. In our study Computer assisted interview was used for sensitive questions.

In our study, we defined CSA as any sexual contact before age 14. All respondents were asked about their childhood sexual abuse experience. Among them, 231 respondents (5.3%) refused to answer and 39 (0.9%) reported the first experience of sexual abuse at or after 14; we dropped them from analysis, leaving 4084 respondents contributing to the analytical sample in our present study.

Study Variables

In the present study, the dependent variables are psychological outcomes including depression, anxiety, and suicidal ideations. Depression was estimated based on answers to the question – “In the past 6 months to what extent did you experience feeling depressed/that life is not worthwhile”- never, 1-3 times, 4-6 times, or >6 times. Those who reported 4-6 or > 6 times were coded as depressed in the past 6 months. Anxiety was measured based on answers to the question – “In the past 6 months to what extent did you experience being worried to the point of not being able to sleep”. Similar to depression, those who reported 4-6 or > 6 times were coded as suffering from anxiety. Suicidal ideation was measured by the question “During the past 12 months, have you ever thought about hurting yourself physically or killing yourself”.

Independent variables include the history of CSA, social-demographic variables, household stability, parenting variables and Confucian value scales. Based on respondents' answers on what type of sexual abuse they experienced (Exposed themselves to you or watched you while you were unclothed / Had you touch or fondle their genitals / Touched or fondled your genitals / Had their genitals touch you / Oral sex / Vaginal sexual intercourse / Anal sexual

intercourse), two composite variables for CSA were generated in this study: non-contact CSA and contact CSA.

Household instability was measured by the number of dwellings in which respondents have lived and migration before age 14. We asked the question that “Since your birth, in how many dwellings have you lived?” Those who reported having lived in more than 4 different dwellings were coded as having household instability, which account for top 5th quintile of whole analysis sample.

In our study, parenting behavior in the respondent's childhood was measured by 19 variables. Principal components analysis showed that fourteen variables were clustered and can be reduced to six dimensions. After collapsing these variables, overall eleven binary parenting variables were included in this analysis. They are “stopped live with parent before 14”, “discussed problems with mom/father at 13 or 14”, “low maternal/paternal warmth at age 13 or 14”[†], “close to mother/father”, “no maternal/paternal monitoring at age 13 or 14”, and “maternal/paternal conflict at age 13 or 14”.

Three Confucian value scales for different aspects of Confucian culture were constructed in our analysis. Overall, 23 questions were asked to measure Confucian value in the survey. They fell into three dimensions: marriage, family and gender roles. Using principal components analysis, the 21 variables were collapsed into three scales, and then binary variables were generated-“high” versus “low”. A high score here means that respondents are more conservative in these three dimensions. They think that men should be dominant in marriage and that it is shameful to be divorced; family is very important and family members should support and take care of each other; men have privilege and more responsibility in society while women should stay at home.

Analytical Method

Bivariate and multivariate logistic regression was used to explore the association between independent variables and each of the outcomes. All analyses in the present study were first run by gender. If there was no significant difference between two groups, we only present the result using whole sample; otherwise we present the gender-stratified results.

Three sets of models were run to verify the association between CSA and each negative psychological outcome. The first set of models was controlled for socio-demographic variables; the second, in addition to controlling for socio-demographic variables, was also controlled for household instability and parenting variables; the third model was controlled for socio-demographic, household instability and parenting, and Confucian value variables. The socio-demographic and Confucian value variables controlled in the models were the same for all three outcomes; for household stability and parenting variables we only kept those significant in bivariate analysis in the model and they were different for the three outcomes. The OR of CSA was compared across models; when adding a covariate to the model changed the estimate of effect by >10%, we considered it to be a confounder [17]. To test for effect modification, two-way interaction terms were created between CSA and each of the variables that were significantly associated with negative psychological outcomes in bivariate analysis.

Results

The demographic characteristics of the study sample are presented in Table 1. The overall prevalence of CSA is 5.2 % in Taipei. Women are more likely to report this experience than men (6.2% vs. 4.3%, $p < 0.05$). The overall prevalence of depression, anxiety and suicidal ideation among Taipei respondents are 11.8 %, 16.4 % and 16.7 %, respectively. Women are more likely to report suicidal ideation than men. Males are more conservative in terms of social values regarding marriage and family, although only marginally significant in the latter case.

Bivariate analysis between different forms of CSA and negative psychological outcomes shows that a history of CSA is associated with more than twofold increase in the risk of depression, anxiety and suicidal ideation. The prevalence of these negative psychological outcomes is highest among those who reported penetrative sexual abuse. Even non-contact sexual abuse is significantly associated with increased odds of all three psychological outcomes. Figure 1 presents the unadjusted OR of each negative psychological outcome for non-contact CSA and contact CSA, separately. There is a tendency toward higher ORs for people with a history of contact CSA than non-contact CSA, especially for anxiety; however the 95% CIs overlapped between two groups due to small sample size.

Bivariate analysis between depression, anxiety and socio-demographic characteristics shows that respondents whose mothers had secondary education are 1.35 times more likely to report depression compared with those whose mothers only had primary or below education. The same is true but marginally significant ($p = 0.06$) for those whose mothers had education at college or above levels. Respondents' ages are positively associated with anxiety; with a one year increase in respondents' ages, the odds of anxiety are increased by 7%. Some household and parenting variables reached statistical significance in the bivariate association with depression. Household instability, low maternal or paternal warmth are positively associated with depression. Conversely, those who reported discussing problems with father, maternal conflict, no maternal or paternal monitoring and being close to mother or father are less likely to be depressed. A similar pattern is seen for anxiety. Respondents who had a high score on Confucian values regarding family are less likely to report depression compared with those having a low score. However, a high score regarding gender roles is positively associated with depression and the direction of association is the same among men and women. There is no association between Confucian value variables and anxiety found in bivariate analysis.

Our analysis showed that factors associated with suicidal ideation were different between men and women. Among socio-demographic variables, only respondents' age and maternal education reach statistical significance in the association with suicidal ideation for men. For women, older age and higher education are negatively associated with suicidal ideation. Compared with those with the poorest households, those with middle and richer household SES are more likely to report suicidal ideation. Household instability is not associated with suicidal ideation among men. Among parenting variables, discussing problems with one's mother and being close to mother/father were associated with lower odds of suicidal ideation, while low maternal warmth was associated with high odds for men. For women,

except stopping living with biological parents before 14, all household stability and parenting variables are associated with suicidal ideation. No Confucian value scales are significantly associated with suicidal ideation for men or women.

To further examine the association between history of CSA and different negative psychological outcomes, multivariate analyses were conducted for depression, anxiety and suicidal ideation. The results of all three models for each outcome are presented in Tables 2-5. In the first model presented in Table 2, the odds ratio of CSA, approximately double, does not significantly differ from the bivariate logistic regression, and none of the socio-demographic variables are significantly associated with depression. In the second model, which adds household stability and parenting factors to the variables in model 1, most of the significant associations found in the bivariate analysis remain significant, but they have little effect on the significance or ORs of CSA. Even the addition of Confucian values regarding family and gender roles in model 3, which are significantly associated with depression, has a negligible effect on ORs of CSA. A similar pattern is seen for anxiety (Table 3). Potential interaction terms with CSA and the other independent variables were checked in all three models with no significant findings.

For suicidal ideation, the analysis was stratified by gender (Tables 4 and 5). Household instability and migration are associated with greater suicidal ideation for females but not for males; higher maternal education is associated with lower odds among males only, and discussing problems with father at age 13/14 is associated with lower odds among both genders. No association was found between any Confucian value variable and suicidal ideation for either group. CSA remains significantly associated with suicidal ideation in all models for both genders.

Discussion

We estimated that the overall prevalence of depression, anxiety and suicidal ideation among Taipei respondents are 11.8 %, 16.4 % and 16.7 %, respectively. Our estimation of depression prevalence is close to the findings in a study conducted in Taiwan in 2006, where the prevalence of depression was 12.3% among young people[18].

In the present study, we found an association between childhood sexual abuse and negative psychological outcomes. This association is strong and consistent in depression, anxiety and suicidal ideations. After controlling for socio-demographic, household and parenting, and Confucian value scales, people with a history of CSA were still about 2 times more likely to have depression, anxiety and suicidal ideation. Figure 1 also showed a tendency of a dose-response relationship between CSA and negative psychological outcomes. The ORs of depression, anxiety and suicidal ideation are higher among people with contact CSA than those with non-contact CSA. However, the confidence intervals of ORs overlapped due to the small sample size. Molnar and colleagues [19] found a similar relationship in their study: among women with a history of CSA, rape was associated with higher odds of psychological disorders than those experiencing other forms of molestation. Some studies have revealed biological plausibility underlying the association between CSA and negative psychological outcomes [20].

Psychological disorders are likely to be complex. They may have not a single cause but multiple causal chains [21]. The effect of one risk factor cannot be fully understood if we do not study it in the context of others. The results from multivariate analysis showed that the effect of CSA cannot be fully explained by family environment, as well as was not modified by family environment. We also hypothesized that in addition to the history of CSA and family environments, Confucian values were associated with young people's psychological status and modified the effect of CSA. After controlling for other variables, only the Confucian values regarding family were negatively associated with depression. It suggested that young people who believe that family is an important source of support and that family members should take care of each other were less likely to be depressed. The lack of the effect of traditional culture here may be explained by the high level of westernization in Taipei. Increased Western influence via the mass media, growing market economy, and the loosening of the traditional extended family have weakened the effect of traditional Confucian culture on people's daily life, especially for young people.

Some interesting association between parenting and psychological status we found in present study deserves an extended discussion. In multivariate analysis, maternal and paternal conflict was negatively associated with depression and anxiety, respectively. Studies have suggested that adverse family conditions such as parental conflict were risk factors for psychological disorders in western countries [21, 22]. The contradiction here may be due to the different parenting style between west and east. Filial piety is one of the virtues to be held above all else in Confucianism: a respect for the parents and ancestors. Therefore, Chinese parents may be more likely to adopt authoritarian parenting style and emphasis on educational achievement and set high standards for their children [23]. In such situation, conflict between parents and children may indicate a less authoritarian parenting style, which was negatively associated with depression among children.

Our findings also suggested that household instability was associated with psychological status among respondents after controlling for other covariates. Previous studies have found that childhood family mobility predicted risk behaviors among adolescents [24, 25]. Frequent moving could cause heightened feelings of stress and anxiety, as well as lessened parental supervision. Other study [26] also found that living in an unstable neighborhood where residents move in/out frequently during childhood was a predictor of the development of adolescent psychopathology outcomes. This association may be explained by low "collective efficacy" in such neighborhood.

We acknowledge a few limitations in this study. Our findings relied on retrospective self-reporting of events, including an experience that is very difficult to report. Memory studies [27, 28] among people with an experience of CSA have shown that some people don't recall the abuse when questioned as adults. Also substantial stigmatization is involved in reporting sexual abuse experience. Thus, CSA was likely to be underreported in this and other studies. Such bias is difficult to avoid and may lead to a conservative estimate of the relationship between CSA and psychological outcomes. Our study offers some insight into the possible causal relationship between CSA and negative psychological outcomes. Although the relationship, we feel is likely to be causal, we cannot confirm that conclusion given that the data are cross-sectional and necessarily non-experimental. Since malfunctioning family

environments often co-occur with CSA, their inclusion in the study is critical. Other studies have shown that other childhood adversities, such as verbal and physical abuse, can coexist with sexual abuse in the same families [19] but information on these childhood adversities is not available in our data. Molnar and colleagues' findings showed that after controlling for other childhood adversities, the ORs of psychological outcomes for CSA were reduced but most remained statistically significant. Last but not the least, we were only able to measure psychological outcomes using single question.

Despite the aforementioned limitations, a number of observations offered here could be helpful when developing interventions. Our compelling evidence that CSA is associated with a substantial increased risk of psychological outcomes highlights the necessity for prevention strategies to integrate not only with health care systems, but also with social services and the legal system as well. The providers of clinical services for abused children should note that there is a potential for elevated risk of adult psychological outcomes and thus the importance of monitoring into adulthood. Conversely, a history of CSA should be investigated for people who are in treatment for psychological outcomes since survivors of CSA require additional clinical attention. Knowledge about the long-term effects of CSA should be promoted so adults can advocate for themselves and obtain treatment for childhood traumas.

In the present study, we controlled for household, parenting and Confucian culture factors which provides a better understanding of how they work together to affect adult psychological status. For further study, pathway analysis should be developed to understand what mechanisms are involved in the relationship between CSA and subsequent psychological outcomes.

Acknowledgments

The authors would like to acknowledge and thank the Bill and Melinda Gates Institute for Population and Reproductive Health, Johns Hopkins Bloomberg School of Public Health, USA, who provided financial support for the study and we are especially appreciative of our colleagues, Nguyen Huu Minh, Ersheng Gao, Chaohua Lou, Yi-Li Chuang, Baai-Shyun Hurng and their teams in the field who collected all the data. We also acknowledge the input of Mark Emerson for cleaning the data and Robert Blum and David Bishai for technical support.

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Figure 1.
Unadjusted OR for different forms of CSA, Taipei, 2007

Table 1

Distribution of demographic characteristics and key variables among respondents stratified by gender, Taipei, 2007

Characteristics	Male (%)	Female (%)	<i>p</i> -value
Age			
15-16	18.2	18.3	0.06
17-18	22.5	23.8	
19-20	22.4	24.8	
>20	36.9	33.1	
Region			
Urban	87.1	88.9	0.08
Rural	12.9	11.1	
Currently in school			
Otherwise	7.6	7.3	0.73
Yes	92.4	92.7	
Highest education level			
Primary or below	1.5	1.2	0.03 [*]
Secondary	86.2	88.9	
College or above	12.3	9.9	
Migrant			
No	66.9	68.0	0.45
Yes	33.1	32.0	
Depression			
No	89.0	87.5	0.12
Yes	10.1	12.5	
Anxiety			
No	83.9	83.3	0.65
Yes	16.2	16.7	
Suicidal ideation			
No	86.8	79.7	0.00 [*]
Yes	13.2	20.3	
CSA			
No	95.7	93.8	0.01 [*]
Yes	4.3	6.2	
Regarding marriage			
Low	74.9	82.8	0.00 [*]
High	25.1	17.2	
Regarding family			
Low	54.3	57.0	0.08
High	45.7	42.9	
Regarding gender role			
Low	49.5	50.7	0.43

Characteristics	Male (%)	Female (%)	<i>p</i> -value
High	50.5	49.3	
N	2050	2034	4084

*
p 0.05

Table 2

Multivariate logistic regression result of depression, Taipei, 2007

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
CSA	2.06	1.46, 2.91 *	1.80	1.26, 2.56 *	1.78	1.25, 2.54 *
<i>Background variable</i>						
Gender (Female vs. Male)	1.12	0.92, 1.35	1.18	0.97, 1.44	1.19	0.97, 1.45
Maternal education						
Primary or below	1.00		1.00		1.00	
Secondary	1.28	0.96, 1.68	1.29	0.97, 1.71	1.31	0.98, 1.74
College or above	1.25	0.90, 1.73	1.26	0.91, 1.75	1.26	0.91, 1.75
<i>Household & parenting factors</i>						
Household instability	---	---	2.16	1.62, 2.86 *	2.17	1.63, 2.89 *
Maternal conflict at age 13/14	---	---	0.61	0.44, 0.85 *	0.61	0.44, 0.85 *
No maternal monitoring at age 13/14	---	---	0.75	0.58, 0.99 *	0.75	0.58, 0.99 *
Close to Mother	---	---	0.64	0.41, 1.00 *	0.66	0.43, 1.04
Discuss problems with father at 13/14	---	---	0.70	0.57, 0.86 *	0.70	0.57, 0.87 *
Paternal conflict at age 13/14	---	---	0.78	0.63, 0.98 *	0.79	0.63, 0.99 *
Close to father	---	---	0.70	0.52, 0.94 *	0.71	0.53, 0.96 *
<i>Confucian value</i>						
Regarding marriage (High vs. Low)	---	---	---	---	1.08	0.85, 1.38
Regarding family	---	---	---	---	0.81	0.66, 0.99 *
Regarding gender role	---	---	---	---	1.29	1.05, 1.57 *

Note: Each model also controlled for respondents' region, education, paternal occupation and household SES.

*
p 0.05

Table 3

Multivariate logistic regression result of anxiety, Taipei, 2007

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
CSA	2.00	1.46, 2.73 *	1.78	1.29, 2.45 *	1.77	1.28, 2.44 *
<i>Background variable</i>						
Age						
15-16	1.00		1.00		1.00	
17-18	1.30	0.98, 1.76	1.25	0.93, 1.66	1.25	0.93, 1.67
19-20	1.15	0.86, 1.54	1.12	0.83, 1.49	1.11	0.82, 1.49
>20	1.85	1.40, 2.44 *	1.80	1.36, 2.38 *	1.79	1.35, 2.65 *
Gender (Female vs. Male)	1.03	0.87, 1.21	1.06	0.90, 1.26	1.07	0.90, 1.27
Household SES						
Poorest	1.00		1.00		1.00	
Poorer	0.86	0.66, 1.11	0.88	0.67, 1.14	0.88	0.67, 1.14
Middle	0.85	0.65, 1.10	0.88	0.68, 1.15	0.88	0.68, 1.15
Richer	0.84	0.66, 1.07	0.90	0.70, 1.15	0.89	0.70, 1.14
Richest	0.82	0.60, 1.13	0.89	0.65, 1.24	0.90	0.66, 1.24
<i>Household & parenting factors</i>						
Household instability	---	---	1.78	1.37, 2.31 *	1.78	1.38, 2.31 *
Migration before 14	---	---	1.36	1.06, 1.75 *	1.36	1.06, 1.75 *
Low maternal warmth at age 13/14	---	---	1.45	1.11, 1.89 *	1.43	1.09, 1.86 *
Discuss problems with father at 13/14	---	---	0.80	0.67, 0.96 *	0.80	0.67, 0.96 *
Paternal conflict at age 13/14	---	---	0.75	0.62, 0.90 *	0.75	0.62, 0.91 *
Close to father	---	---	0.73	0.56, 0.94 *	0.73	0.56, 0.95 *
<i>Confucian value</i>						
Regarding marriage (High vs. Low)	---	---	---	---	1.11	0.90, 1.36
Regarding family	---	---	---	---	0.91	0.76, 1.08
Regarding gender role	---	---	---	---	1.01	0.85, 1.20

Note: Each model also controlled for respondents' region, education, mother's education and paternal occupation.

*
p 0.05

Table 4

Multivariate logistic regression result of suicidal ideation among males, Taipei, 2007

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
CSA	2.81	1.71, 4.62 *	2.59	1.57, 4.29 *	2.59	1.56, 4.29 *
<i>Background variable</i>						
Age						
15-16	1.00		1.00		1.00	
17-18	1.16	0.79, 1.69	1.14	0.78, 1.67	1.11	0.76, 1.63
19-20	0.72	0.47, 1.08	0.72	0.47, 1.09	0.69	0.45, 1.05
>20	0.50	0.32, 0.77 *	0.48	0.31, 0.74 *	0.45	0.29, 0.69 *
Maternal education						
Primary or below	1.00		1.00		1.00	
Secondary	0.83	0.60, 1.16	0.85	0.61, 1.19	0.86	0.62, 1.20
College or above	0.57	0.38, 0.88 *	0.59	0.38, 0.91 *	0.60	0.39, 0.92 *
<i>Household & parenting factors</i>						
Close to Mother	---	---	0.52	0.31, 0.88 *	0.62	0.48, 0.81 *
Discuss problems with father at 13/14	---	---	0.62	0.47, 0.80 *	0.55	0.32, 0.93 *
<i>Confucian value</i>						
Regarding marriage (High vs. Low)	---	---	---	---	1.29	0.96, 1.74
Regarding family	---	---	---	---	0.79	0.60, 1.04
Regarding gender role	---	---	---	---	1.23	0.94, 1.61

Note: Each model also controlled for maternal education and paternal occupation.

*
p 0.05

Table 5

Multivariate logistic regression result of suicidal ideation among females, Taipei, 2007

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
CSA	2.02	1.35, 3.04 *	1.59	1.03, 2.43 *	1.60	1.03, 2.42 *
<i>Background variable</i>						
Age						
15-16	1.00		1.00		1.00	
17-18	0.92	0.68, 1.25	0.79	0.58, 1.09	0.79	0.57, 1.09
19-20	0.44	0.32, 0.62 *	0.41	0.29, 0.58 *	0.41	0.29, 0.58 *
>20	0.40	0.28, 0.57 *	0.34	0.24, 0.49 *	0.34	0.24, 0.49 *
<i>Household & parenting factors</i>						
Household instability	---	---	2.33	1.63, 3.33 *	2.32	1.62, 3.32 *
Migration before 14			1.51	1.09, 2.10 *	1.51	1.08, 2.09 *
Discuss problems with mother at 13/14	---	---	0.76	0.56, 1.01	0.77	0.57, 1.01
Maternal conflict at age 13/14	---	---	0.59	0.41, 0.84 *	0.59	0.41, 0.84 *
Close to Mother	---	---	0.47	0.28, 0.81 *	0.45	0.27, 0.81 *
Discuss problems with father at 13/14	---	---	0.75	0.57, 0.98 *	0.75	0.57, 0.97 *
Low paternal warmth at age 13/14	---	---	1.70	1.20, 2.41 *	1.70	1.20, 2.40 *
<i>Confucian value</i>						
Regarding marriage (High vs. Low)	---	---	---	---	1.07	0.78, 1.45
Regarding family	---	---	---	---	1.04	0.83, 1.32
Regarding gender role	---	---	---	---	1.03	0.82, 1.30

Note: Each model also controlled for age, household SES and paternal occupation.

*
p 0.05