

“Boy crisis” or “Girl risk”? The gender difference in non-suicidal self-injurious behavior (NSSI) among middle school students

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Contents

- **Introduction**
- **Data and Methods**
- **Results**
- **Discussion and Conclusion**

Introduction

- Non-suicidal self-injurious (NSSI) behaviors among adolescents refer to those behaviors wherein adolescents harm their body tissues and organs without the intention to die.
- In Western studies, these behaviors are often viewed as “feminine” behavior [7]

Introduction

- The prevalence of NSSI behaviors among middle school students in China is higher than among those in western countries, and fluctuates in a wider range. There is no clear and consistent conclusion on whether there are gender differences in NSSI behaviors among Chinese middle school students, and only limited studies have concentrated on this particular aspect.

Introduction

- A previous study conducted by this research team among undergraduate students in Grade 1 and 2 found that the prevalence of these behaviors among male students (25.2%) was significantly higher than the female students (20.4%).
- This suggested that there might be a boy crisis in the prevalence of NSSI behaviors among adolescents in China

Introduction

- A further Meta analysis study conducted by this research team found that the assumption of “boy crisis” was supported by the data from studies among college students;
- However, the prevalence of NSSI behaviors among middle school students still operated on the assumption of “girl risk.”

Introduction

- It was pointed out in existing research that gender role conflict and violent experiences such as sexual abuse during childhood were significantly associated with NSSI behaviors among adolescents.
- Gender role conflict->suicidal behavior &NSSI
- Violent experiences->physical, language, visual, cold, sexual

Introduction

- Is there a gender difference in NSSI behaviors among middle school students in China? Does this gender difference follow the “girl risk” pattern regarding NSSI behaviors evidenced in western countries or the previously validated “boy crisis” pattern regarding NSSI behaviors among Chinese college students?
- Can gender role conflict and violent experiences explain the gendered prevalence and gendered frequency of NSSI behaviors among middle-school students?

DATA AND METHODS

- The data used in this study is from “the survey on health risk behavior among middle school students” conducted in September and October in 2014 in Xi'an.
- The stratified proportion sampling methods were adopted for selecting Grade 7 to 12 boys and girls from seven middle schools in Xi'an (four key and three ordinary middle schools).

Measurements

- **NSSI behaviors for adolescents.** The Non-Suicidal Self-Injury Assessment Tool (NSSI behaviors-AT) developed by Janis Whitlock and Amanda Purington of Cornell University I would recommend including this in the reference list and citing this with the year.

Measurements

- **Gender role conflicts.** the Masculine Gender Role Stress (MGRS) developed by Eisler and Skidmore and Feminine Gender Role Stress (FGRS) developed by Gillespie and Eisler were modified for male and female adolescents in the Chinese context.
 - Finally, gender role conflict scales for female middle school students (35 items) and for male middle school students (40 items) were obtained.

Measurements

- **Violent experiences.** Based on the previous qualitative interviews and the existing research, the violent experiences were categorized into five types, including language, physical, visual, cold, and sexual violence.
- **Other demographic and socio-economic variables**

Results

- **Descriptive results**
- **Regression analysis results**

Table 1 the gender difference in NSSI behaviors among middle school students

	Male middle school students		Female middle school students	
	Cases/ Mean (Percentage / SD)	Cases/ Mean (Percentage / SD)	Cases/ Mean (Percentage / SD)	Cases/ Mean (Percentage / SD)
	Yes	No	Yes	No
The prevalence of NSSI behaviors	163(37.6%)	271(62.4%)	132(39.1%)	206(60.9%)
			$X^2=0.71$	
The frequency of NSSI behaviors	0.54(1.35)		0.55 (1.18)	
			$t=0.095$	
The types of NSSI behaviors	1.18(0.13)		0.88(0.08)	
			$t=1.96^*$	
The motivations of NSSI behaviors	2.36(1.34)		2.36(1.23)	
			$t=-0.022$	

Table 1 the gender difference in NSSI behaviors among middle school students

	Male middle school students	Female middle school students
Body parts of NSSI behaviors' (top five)	Hand(48 person-times) Arm(46 person-times) Wrist(35 person-times) Head(20 person-times) Face(20 person-times)	Hand(54 person-times) Arm(53 person-times) Wrist(29 person-times) Face(12 person-times) Thigh(10 person-times)
Methods of NSSI behaviors (top three)	To scratch or tear skin (51 person-times) Not to let the wound heal intentionally (39 person-times) To pull hair, eyelashes or eyebrows consciously and violently (34 person-times)	To scratch or tear skin (56 person-times) To severely scratch skin with nails or other objects (eg, glass slag, needles, thumbtacks, etc.), resulting in bleeding and leaving scars (41 person-times) To pull hair, eyelashes or eyebrows consciously and violently (32 person-times)
Motivations of NSSI behaviors (top three)	I am very angry with myself, so decided to try (20 person-times) Unable to remember (19 person-times) To show courage (18 person-times)	I am very angry with myself, so decided to try (18 person-times) Unable to remember (14 person-times) I am very angry with others, and decide to try (12 person-times)
Consequences of NSSI behaviors (top three)	Difficult to deal with interpersonal relationships (32 person-times) Unable to complete studies or work (27 person-times) Unable to engage in things of interest (20 person-times)	Difficult to deal with interpersonal relationships (17 person-times) Difficult to realize self-worth / self-esteem (15 person-times) Unable to engage in things of interest (13 person-times)

Results

- There was no significant gender difference in the prevalence of NSSI behaviors, the frequency of these behaviors, body parts, methods, motivations, and consequences of NSSI behaviors. Only the types of NSSI behaviors for male students (1.18) was significantly higher than that among female students (0.88) ($t = 1.96 *$).

Table 2 Gender difference in gender role conflict and violent experiences of middle school students

		Male middle school students		Female middle school students	
		Mean	S.D.	Mean	S.D.
Gender	role	88.79	27.56	109.44	25.95
conflicts				$t=12.438***$	
Language violence		2.39	1.08	2.06	0.97
				$t=-5.408***$	
Physical violence		1.96	0.89	1.73	0.85
				$t=-4.41***$	
Visual violence		2.67	1.28	1.85	0.89
				$t=-12.73***$	
Cold violence		1.90	1.02	1.97	0.91
				$t=-1.08$	
Sexual violence		1.15	0.61	1.07	0.43
				$t=-2.64**$	

RESULTS

- The mean score of gender role conflict among female middle school students was significantly higher than that among male middle school students ($t = 12.438$, $p < 0.001$).
- Except for the experiences of cold violence, the experiences of language, physical, visual, and sexual violence among male students were significantly higher than that among female students (language violence: $t = -5.408$, $p < 0.001$; physical violence: $t = -4.41$, $p < 0.001$; visual violence: $t = -12.73$, $p < 0.001$; sexual violence: $t = -2.64$, $p < 0.01$).

Table 3 The impact of gender role conflict and violent experiences on the prevalence of the NSSI behaviors among middle school students by gender

Dependent: whether NSSI behaviors behavior occurs (reference: No)			Male students			Female students		
			Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent variables	Gender role conflict		1.005	0.999	0.998	1.011*	1.005	0.999
	violent experiences	Language		1.362*	1.345+		1.373+	1.365+
		Physical		1.385*	1.424*		1.020	0.950
		Visual		1.045	1.174		1.509**	1.778**
		Cold		1.307*	1.337+		1.038	1.026
		Sexual		2.368**	2.284*		0.950	1.133
Control variables	Age				0.862			0.739**
	Whether is the only child (reference: No)				0.904			0.811
	Father's educational level(reference: primary school and below) middle school				1.201			0.772
	College and above				1.259			1.342
	Mother's educational level (reference: primary school and below) middle school				0.573			0.913
	College and above				0.926			0.606
	Family economic situation				1.283			0.850
	2 Log Likelihood			514.27	387.86***	326.59***	390.78*	334.40**
Cox & Snell R ²			0.004	0.146	0.164	0.014	0.082	0.143
Nagelkerke R ²			0.006	0.199	0.225	0.019	0.110	0.192

RESULTS

- For male students, gender role conflict had no significant impacts on NSSI prevalence no matter whether other variables were included.
- For female students, gender role conflict had significant impact on NSSI prevalence, but which has been disappeared when other variables were included.

RESULTS

- For male students, language, physical, cold and sexual violence had significant impacts on NSSI prevalence, but which were adjusted by control variables.
- For female students, language and visual violence had significant impacts on NSSI prevalence.

Table 4 The impact of gender role conflict and violent experiences on the number of NSSI behaviors among middle school students by gender

Dependent: whether NSSI behaviors behavior occurs (reference: No)		Male students			Female students		
		Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Independent variables	gender role conflict	0.19***	0.090*	0.086+	0.15**	0.109*	0.043
	violent experiences		-0.079	-0.104+		0.203** *	0.214**
			0.158**	0.213** *		0.018	0.001
			0.105*	0.106*		0.135**	0.115*
			0.208** *	0.241** *		0.036	0.068
			0.324** *	0.242** *		0.105*	0.132*
Control variables	Age			-0.069			-0.033
	If the only child (reference: No)			-0.033			0.034
	Father's educational level (reference: primary and below middle school)			-0.010			-0.017
	College and above			0.019			-0.037
	Mother's educational level (reference: primary school and below) middle school			-0.065			-0.050
	College and above			-0.058			-0.105
	Family economic situation			0.068			-0.045
F		21.84***	32.58***	12.30***	10.37**	10.62***	5.20***
df		587	495	418	459	403	347
Adjusted R ²		0.03	0.28	0.26	0.02	0.13	0.14

RESULTS

- For male and female students, the gender role conflict had significant impacts on NSSI frequency, but which was adjusted by violent variables and control variables
- For male students, the physical, visual, cold and sexual violence had significant impacts on NSSI frequency; for female students, the language, visual and sexual violence had significant impacts on NSSI frequency, no matter if the control variables were included.

CONCLUSION

- there was no significant gender difference in NSSI behaviors among middle school students. The hypothesis of "boy crisis" or "girl risk" in NSSI behaviors among Chinese middle school students was not evidenced in this study.
- gender role conflict had a positive impact on NSSI behaviors among male and female middle school students to some extent, meaning that, the risk of NSSI behaviors was higher among middle school students with a stronger gender role conflict, but this impact was adjusted by the variables of violent experiences.

CONCLUSION

- Violent experiences were important variables for explaining the NSSI behavior among male and female middle school students, but the specific variables varied across genders.
- Male middle school students who experienced verbal, physical, cold, and sexual violence were more likely to commit NSSI behaviors, while female middle school students who experienced language and visual violence were more likely to commit NSSI behaviors.
- The male middle school students who experienced more physical, visual, cold and sexual violence were more frequently to commit NSSI behaviors; while the female middle school students who experienced more verbal, visual and sexual violence were more frequently to commit NSSI behaviors. Moreover, the power for violent experiences explaining the NSSI behaviors among male middle school students was greater than that of female middle school students.