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SOCIODEMOGRAPHIC FACTORS OF NON-SUICIDAL SELF INJURY AMONG YOUNG ADULTS OF HIGHER INSTITUITIONS IN KEDAH

Thangeswary A[1], Kulanthayan KCM[1], Norliza A[1], Aishah S.A[1], Muhammad Hibatullah M R[1]

[1]Department of Community Health, Faculty of Medicine, University Putra Malaysia.

Corresponding author:Kulanthayan KC Mani, Universiti Putra Malaysia, kulan@upm.edu.my

ABSTRACT

Background: Non-suicidal self-injury (NSSI) is the intentional infliction of harm on one's body without suicidal intent, affecting 8-22% of young adults globally. The study aimed to explore how sociodemographic traits such as age, sex, socioeconomic status, ethnicity, and parental education influence NSSI behavior among young adults in higher education.

Methodology: A sample of 552 respondents was selected through cluster sampling, and NSSI was assessed using the Functional Assessment of Self-Mutilation (FASM). Descriptive statistics, chi-square tests, and logistic regression analyses were used to examine the data.

Results: The results showed that 20.5% of males and 33.4% of females exhibited NSSI behavior, with 19-year-olds being the largest age group affected. NSSI behavior was more prevalent among Malay respondents (61.8%) and those from the lowest economic bracket (32%). Over 40% of students with secondary or diploma-level education demonstrated the highest rates of NSSI. Gender was a significant predictor, with females more likely to engage in NSSI ($p = 0.042$), though no significant relationships were found between NSSI and age, parental education, or family income.

Conclusion: In conclusion, the study highlights significant differences in NSSI behavior by gender and educational attainment, with higher rates in females and students with lower educational backgrounds. The findings underscore the need for targeted interventions to address the specific vulnerabilities of these groups to reduce NSSI.

Keywords: *non-suicidal self-injury, young adults, socio-demographic factors, Functional Assessment of Self-Mutilation*

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1.0 Introduction

The International Society for the Study of Self-injury (2018) defines non-suicidal self-injury (NSSI) as "the deliberate, self-inflicted damage of body tissue without suicidal intent and for purposes not socially or culturally sanctioned." Socially unacceptable behaviours include biting, breaking bones, auto-amputation, enucleation of the eye, burning, carving, severe scratching, punching, or hitting, and interfering with the healing process of wounds. The most common types of NSSI acts include burning, scratching, and striking against a hard surface until bruises. Suicidal behaviour, socially acceptable behaviours like body piercings, tattoos, and religious rituals, as well as inadvertent and indirect self-harming behaviours (like compulsive drug use or eating disorders), are not included in this definition (Brown, 2017). Body piercings and tattoos are two instances of culturally acceptable behaviour that are not classified as NSSI (Claes, 2005)

NSSI is the term used after 1987 to denote intentional self-harm without suicidal thoughts (Favazza, 1987). This type of self-harm is frequently used as a risky coping strategy for severe emotional distress, furious outbursts, and frustration rather than as an attempt at suicide. It is also understood to be a painful deterrent to suicide. Self-harming people often experience regret and humiliation as well as the return of negative emotions, even though it may momentarily reduce stress and bring about a sense of calm. Life-threatening injuries are usually not premeditated, but self-harm increases the risk of more serious, even fatal, self-aggression.

Non-suicidal self-injury (NSSI) is a critical public health issue involving deliberate self-harm without suicidal intent. Understanding sociodemographic factors related to NSSI is vital for developing targeted interventions. This study investigates how gender, age, race, socioeconomic status, and education level influence NSSI among students to identify high-risk groups and improve support strategies.

Gender is a significant factor in NSSI, with females exhibiting higher rates than males across both clinical and non-clinical samples (Bresin & Schoenleber, 2015; Muehlenkamp & Gutierrez, 2007). Females also tend to start NSSI earlier and use methods like self-cutting more frequently than males (Klonsky et al., 2011; Claes et al., 2007). While some studies suggest no significant sex differences in NSSI prevalence (John & Cate, 2017), females generally report higher levels of NSSI and related behaviours (Liang, Yan, & Zhang, 2014).

NSSI commonly begins between ages 12 and 16, peaking around ages 14 to 16 before declining by age 18 (Klonsky, 2011; Plener et al., 2015). Similar patterns are observed for other risky behaviours (Favazza & Rosenthal, 1993; Muehlenkamp et al., 2012). Age-related differences indicate varying developmental influences on NSSI (Ruziana et al., 2017).

Ethnic and cultural factors have a nuanced impact on NSSI. Ethnic minorities, identified by visible traits or cultural affiliation, exhibit varied NSSI behaviours. While religion and ethnicity have minimal direct influence on NSSI, cultural context can affect self-harming behaviours (Colucci, 2006; American Psychiatric Association, 2013). A strong ethnic identity may mitigate NSSI through enhanced social support and adaptive coping (Iwamoto & Liu, 2010; Wester & Trepal, 2010).

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Parental education also plays a role in NSSI risk. Studies indicate that lower parental education levels are associated with higher NSSI risk (Baetens et al., 2014). Educated parents are more involved in their children's education, which is linked to positive developmental outcomes (Vellymalay, 2011; Kiadarbandsari et al., 2016). Despite this, research on the impact of parental education on NSSI in Malaysia is limited, highlighting a need for further exploration.

In Malaysia, the population is categorized into T20, M40, and B40 income groups, with T20 enjoying higher living standards and B40 facing significant economic challenges. Research shows mixed results regarding socioeconomic status and NSSI, with both high and low socioeconomic status linked to increased NSSI risk (Yates et al., 2008; Wan et al., 2011). Studies in the UK and Sweden confirm higher NSSI rates among those from lower socioeconomic backgrounds (Page et al., 2014; Baetens et al., 2014). Understanding how parental socioeconomic status influences NSSI is crucial for effective intervention.

Most of the research is focused on western nations, which leaves a vacuum for the researcher to fill by conducting a study within the young adult population in Malaysia. But there wasn't much focus on the elements that lead or contribute to NSSI. Additionally, not enough research has been done on the causes of self-harm in Malaysia. The study's conclusions also aid in the identification and exploration of avenues for the healthier growth and existence of young Malaysians by the organizations that address issues pertaining to youth and children.

2.0 Materials and Methods

The sample comprises of 600 young adults drawn from a higher learning institution in Kedah. Participants were selected using two stage cluster sampling to ensure a representative cohort. This study utilizes a cross-sectional design to investigate the sociodemographic factors associated with NSSI among young adults.

The following six sociodemographic characteristics were assessed: sex, age (18-22), race/ethnicity (Malay, Chinese, Indian and others), parents' highest educational qualification (No school, Primary, Secondary, Diploma/similar, Degree and Masters/PhD) and monthly household income ranging from <RM 1500, RM 1501-2500, Rm 2501-5000 and >RM 5001. Data were collected through a structured self-administered online questionnaire. This instrument, designed to gather comprehensive information on both sociodemographic factors and NSSI behaviours, includes sections on demographic details and NSSI specifics, including methods, frequency, and functions.

Participants completed the online questionnaire via Google forms, which was distributed through institutional announcements. Respondents were informed about the intention and the content of the questionaire prior to answering at their own will.

Data analysis involved descriptive statistics to summarize sociodemographic characteristics and NSSI prevalence. Chi-square tests were used to explore associations between categorical sociodemographic factors and NSSI behaviours. Logistic regression analyses, including both simple and multiple regressions, assessed the impact of sociodemographic factors on NSSI likelihood, identifying key predictors.

3.0 Result

The survey was completed by 552 students from Kedah state's higher education institutions. There was a 27.5% prevalence of NSSI. Table 3.1 shows that 23.4% of men and 33.4% of women have reported engaging in NSSI behaviour. The results show that, at roughly 36.8% of respondents, students who are 19 years old are the group of students who most frequently display NSSI behaviour. Among all racial groups, 35.8% of Chinese students display NSSI behaviour. The parents' or caregivers' monthly income or socioeconomic standing also has a significant impact on the students' NSSI behaviour. 32.9% of the respondents who self-injure come from the lowest income bracket or make less than RM 1500 per month. According to the data gathered, most parents who self-harm has only completed up to secondary education. The young adults who have parents with the lowest education level (no school/ primary) and the highest education level (masters/ PhD) does not exhibit serious level of NSSI.

Table 3.1 Description of Socio-demographics Factors on NSSI

Factors	Categories	n	Yes, to NSSI		No to NSSI	
			n	%	n	%
Sex	Female	299	100	33.4	199	66.6
	Male	253	52	20.5	201	79.5
Age	18	201	52	25.8	149	74.2
	19	210	56	27.9	154	72.1
	20	112	33	29.5	79	70.5
	21	16	6	37.5	10	62.5
	22	13	5	38.5	8	61.5
Race/ Ethnicity	Malay	279	94	33.7	185	66.3
	Chinese	81	29	35.8	52	64.2
	Indian	65	23	35.4	42	64.6
	Others	127	6	3.15	121	96.85
Mothers' education	No school	10	4	2.6	6	1.5
	Primary	35	12	7.9	23	5.7
	Secondary	293	66	43.5	227	56.7
	Diploma/ similar	99	42	27.6	57	14.3
	Degree	95	28	18.4	67	16.8
	Masters ot PhD	10	4	2.6	6	1.5
Fathers' education	No school	6	6	3.9	0	0
	Primary	47	15	9.9	32	8.0
	Secondary	247	63	41.4	184	46.0
	Diploma/similar	148	35	23.1	113	28.3
	Degree	85	29	19.1	56	14.0
	Masters ot PhD	19	4	2.6	15	3.7
Socioeconomic status	< RM 1500	168	50	32.9	118	29.5
	RM 1501- 2500	128	38	25.0	90	22.5
	RM 2501 -5000	116	33	21.7	83	20.8
	> RM 5001	140	31	20.4	109	27.2

3.1 Association between Respondents' Sociodemographic Factors on NSSI

Table 3.3 presents chi square analysis of demographic factors and their association with NSSI. First, age did not significantly associate with NSSI (p = 0.349), suggesting that NSSI occurrence was consistent across different age groups. Gender was a significant factor (p = 0.042*), indicating that more females reported NSSI than males, X^2 (n = 152) = 11.49, $p < 05$. Notably, age, mother's education level, father's education level and family monthly income did not show significant associations with NSSI.

Table 3.3 Association Between Respondents' Sociodemographic Factors on NSSI

Factors	Category	Total	NSSI			
			No n (%)	Yes n (%)	χ^2	P
Age	≤ 19	411	287(69.8)	124 (30.2)	4.44	0.349
	Above 19	141	88 (62.4)	53 (37.6)		
Race	Malay	279	185 (66.3)	94 (33.7)	4.34	0.329
	Chinese	81	52 (64.2)	29 (35.8)		
	Indian	65	42 (64.6)	23 (35.4)		
	thers	127	121 (96.85)	6 (3.15)		
Sex	Male	253	183 (72.3)	70 (27.7)	4.15	0.042*
	Female	299	192 (64.2)	107 (35.8)		
Mother's education level	Secondary and below	338	217 (64.2)	121 (35.8)	10.46	0.063
	Tertiary	214	158 (73.8)	56 (26.2)		
Father's education level	Secondary and below	300	197 (65.7)	103 (34.3)	5.71	0.335
	Tertiary	252	178 (70.6)	74 (29.4)		
Family monthly	Low income < RM 2500	296	189 (63.9)	107 (36.1)	4.93	0.177
	Medium income >RM2500	256	186 (72.7)	70 (27.3)		

*Significant p<0.05

3.2 Results of binary logistic regression analysis.

In the univariate analysis in Table 3.4 higher odds of having engaged in NSSI was found among respondents whose had mother with low education (OR=1.57, 95% CI 1.08-2.29). Additionally, the female respondents (OR=1.46, 95% CI 1.01-2.09) and the students of mothers of low education (OR=1.57, 95% CI 1.01-2.09) were most engaged in NSSI behaviour. According to the odds ratios (OR), which have a statistically significant 95% confidence interval (CI) of 1.08 to 2.29, respondents whose mothers have lower levels of education are 57% more likely to participate in non-suicidal self-injury (NSSI) than respondents whose mothers had higher levels of education. With a substantial 95% confidence interval (CI) ranging from 1.01 to 2.09, female respondents have a 46% higher likelihood of participating in NSSI compared to male respondents. This suggests that women and those with less educated mothers have a higher chance of developing NSSI.

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Table 3.4 Results of binary logistic regression analysis.

					95% C.I	
	B	Wald	P	OR	Lower	Upper
Mother's education level (low)	0.45	5.54	0.019*	1.57	1.08	2.29
Gender (female)	0.38	4.13	0.042*	1.46	1.01	2.09

Dependent variable: NSSI (Yes)

4.0 Discussion

4.1 Sex and NSSI behaviour

Female respondents reported higher NSSI (non-suicidal self-injury) behaviour compared to their male counterparts. Significant sex differences in the behaviour of NSSI were found in the study. Consistent with previous studies conducted by Muehlenkamp et al. (2013), it was discovered that girls are more likely than boys to participate in NSSI from adolescence to early adulthood. Early-maturing young females may be more vulnerable than men because of their higher biological sensitivity to interpersonal relationships. Furthermore, despite comparable stressors, they frequently exhibit greater degrees of depression (Klonsky, 2011).

According to a research, sex has a major impact on the developmental peaks of NSSI behaviour. For instance, Raziana et al. (2023) discovered that males display two different NSSI behaviour maxima: one below the age of 10 and another between the ages of 20 and 39. On the other hand, in females, NSSI usually rises steadily starting at age 10, reaching its peak between 20 and 29. These patterns point to variations in NSSI-affecting developmental factors based on gender.

Various factors have been found to influence the development and course of non-verbal social isolation (NSSI). According to Smith et al. (2022), hormonal shifts like puberty increase a person's susceptibility to emotional instability and impulsive behaviour. Johnson and Lee (2023), in contrast, emphasize the importance of psychological elements such as coping mechanisms and mental health issues (such as anxiety and depression). Furthermore, Garcia et al. (2022) propose that these variations are influenced by social and cultural elements, such as gender norms and expectations. Nevertheless, there is still a dearth of thorough study on how these variables interact across different age and gender groups.

These results highlight the necessity of early interventions and gender-specific tactics in order to effectively address NSSI behaviours. Further research should go further into these intricate developmental pathways to have a better understanding of the elements that contribute to NSSI. This information can improve preventative and treatment strategies, which will ultimately help a variety of at-risk demographic groups.

4.2 Age and NSSI behaviour

The study focused on young adults aged 18-22, revealing that the highest percentage of NSSI (non-suicidal self-injury) behaviour was observed among 19-year-olds, followed by 18-year-olds, and 20-year-olds These findings align with the assertion that young adults, particularly ages 18 to 20, is a critical period for the development of NSSI, being the second most prevalent age for its manifestation after age 14 (Gandhi et al., 2018).

Systematic reviews indicate that NSSI behaviour often begins between ages 13 and 15, like other risky behaviours such as alcohol and substance misuse, particularly in the United States (Favazza & Rosenthal, 1993; Hilt et al., 2008; Cerutti et al., 2011; Muehlenkamp et al., 2012). Adolescence marks the onset of a developmental stage characterized by higher rates of NSSI behaviours (Peterson et al., 2008; Cerutti et al., 2014; Manca et al., 2014).

Interestingly, Ruziana et al. (2017) found that males exhibit two distinct peaks: one below 10 years old and another between 20 and 29 years old. Conversely, in females, NSSI shows a gradual increase starting at age 10, peaking between 20 and 29 years old. This suggests that gender-specific developmental factors influence the onset and progression of NSSI. These variations imply the existence of developmental components that affect NSSI initiation and characteristics based on the age at which self-injury begins.

The differences in the age, suggest that puberty and other biological changes increase susceptibility to emotional instability and impulsive behaviour. Psychological factors, such as coping strategies and mental health conditions like anxiety and depression, also play a crucial role in the onset and progression of NSSI (Smith et al., 2022; Johnson & Lee, 2023). Social and cultural factors, including gender expectations and norms, further contribute to these differences (Garcia et al., 2022).

These findings underscore the need for early intervention and sex-specific strategies to effectively address NSSI behaviours. More research should delve deeper into the exact developmental trajectories of NSSI to better understand and support individuals at risk. Understanding these complex pathways can enhance treatment and prevention methods, ultimately benefiting diverse demographic groups.

4.3 Race and NSSI behaviour

Based on the results obtained in this study, race is not significant to NSSI behaviour. Race has no influence on the cases of NSSI behaviour, which may be based on the believes, religious acceptance and the level of practicing the believes. Many young adults who self-identify as religious also participate in non-suicidal self-injury (NSSI), however it is unknown what influence religion had in their NSSI (Nicholas et.al. 2013).

The results confirm that there is no association between racial characteristics and NSSI conduct. The results are consistent with some research that found no appreciable racial variations in NSSI conduct. For instance, Whitlock et al. (2015)'s study revealed no racial differences in the prevalence of NSSI in teenagers. Furthermore, the minor influence of religion and ethnicity on NSSI is consistent with the findings of Ziebach et al. (2014), who noted that religious beliefs and practices can provide a sense of community and coping mechanisms, potentially reducing the likelihood of NSSI. The role of race and ethnicity in

NSSI may be related to the varying degrees of support, acceptance, and coping strategies offered by different religious and ethnic communities.

On the other hand, other research indicates that NSSI conduct is influenced by religion and ethnicity. For example, Heath et al. (2018) discovered that NSSI was more common in some ethnic groups, and they linked this to community-specific characteristics and cultural stresses. The divergent results could potentially stem from the distinct demographic makeup and cultural backgrounds of the communities under investigation.

4.4 Socio-economical status and NSSI behaviour

The data shows that those with the lowest incomes have the highest frequency of self-injurious conduct while students from higher income levels did not show significant variations in NSSI rates,. The results of Wan et al. (2011), who found a higher incidence of NSSI in people from low-income families, are in line with our findings. Due to heightened emotional and psychological pressures, it implies that economic deprivation could be a major risk factor for NSSI. Wan emphasizes the connection between financial stressors and self-harming behaviours, pointing out that NSSI rates are higher in families experiencing financial difficulties. Similarly, research by Page et al. (2014) in the UK confirms the link between NSSI in young people and socioeconomic characteristics. Baetens et al. (2014) discovered comparable.

In contrast, some research (e.g., Reynolds et al., 2016) claim that NSSI can happen in people from all social backgrounds and income levels. This research contends that although financial hardship may exacerbate stress and be a contributing factor to NSSI, other important variables include personal coping strategies, social support, and mental health issues.

To sum up, the results of this research are consistent with previous research showing that those in lower economic categories are more susceptible to NSSI. Economic hardship does contribute to emotional and psychological pressures that raise the risk of NSSI behaviours. Nevertheless, the existence of conflicting research indicates that although socioeconomic considerations are important, they also interact with a variety of contextual and individual factors. In order to create focused interventions that address the complex factors that affect NSSI across a range of socioeconomic backgrounds, future research should carry out further exploration of these dynamics.

4.5 Parental Education and NSSI behaviour

According to the study, parents' education level has a big impact on NSSI conduct. Compared to young adults whose parents have only completed primary school, individuals whose parents have completed secondary school or a diploma exhibit greater interest in NSSI. Nonetheless, the study found that the largest incidence of NSSI behaviours was seen in adolescents whose parents had moderate levels of education.

This result contrasts with that of the Baetens et al. (2014) study, which found that children of parents with lower educational attainment are more likely to experience non-verbal social stress disorder (NSSI). This could be attributed to social and economic pressures associated with lower educational attainment. This resemblance raises the possibility that NSSI risk may be influenced by socioeconomic characteristics related to parental education, including as

resource availability and coping mechanisms. According to some research, children who have more educated parents may have better coping mechanisms and emotional support, which lowers their likelihood of developing NSSI (e.g., Zetterqvist et al., 2013).

This study concludes by highlighting the important impact that parental education level has on students' NSSI conduct. According to the research, young adults who have parents who have moderate levels of education have greater NSSI rates than who have parents who are at either extreme of the educational range. The inconsistent results highlight the NSSI's complexity and suggest that factors other than parental education might also be crucial. In order to create comprehensive therapies targeting NSSI behaviours across a range of parental education backgrounds, future research should delve deeper into these relationships.

The chi-square analysis of demographic factors and their association with NSSI behaviour revealed several findings. Sex emerged as a significant factor ($p = 0.042^*$), with more females reporting NSSI compared to males (X^2 ($n = 152$) $= 11.49$, $p < 0.05$). This aligns with prior studies that found females are more prone to NSSI during adolescence and early adulthood (Muehlenkamp et al., 2013). The biological sensitivity of females to interpersonal relationships and higher levels of depression under stress may contribute to this disparity (Klonsky, 2011).

Age did not show a significant association with NSSI, indicating that the occurrence of NSSI was consistent across different age groups within the study sample. Interestingly, other demographic factors like mother's education level, father's education level and family monthly income did not show significant associations with NSSI. This finding contrasts with some research suggesting that familial and socioeconomic factors can influence NSSI behaviour (Garcia et al., 2022). The lack of significant associations in these areas may suggest that, within this sample, individual psychological factors and immediate academic pressures play a more pivotal role than broader socio-demographic variables.

5.0 Conclusion and recommendation

In conclusion, examining young people' non-suicidal self-injury (NSSI) behaviour through the sociodemographic variables reveals a complex interaction between complex mix of personal characteristics and wider cultural effects. Our findings demonstrate how crucial it is to take into account variables like gender, age, socioeconomic status, and parents' education level while attempting to comprehend the patterns and frequency of nonverbal social isolation. More equitable and specialized solutions can be created to assist young adults' well-being if we have a better understanding of the many sociodemographic contexts in which NSSI takes place.

The study underscores the importance of considering specific demographic factors such as gender when addressing NSSI behaviours. The higher prevalence among females point to the need for tailored intervention strategies. While age did not significantly influence NSSI within this cohort. These findings highlight the necessity for educational institutions to provide targeted mental health support during high-stress academic periods and to develop gender-specific interventions that address the unique challenges faced by females. Future research should continue to explore these associations in diverse populations and consider

longitudinal approaches to better understand the complex interplay of factors influencing NSSI behaviour.

Acknowledgement

In line with the ethical standards outlined in the Edinburgh 2000 Declaration, this study took extensive measures to ensure the protection and respect of all participants. Prior to data collection, the researcher had obtained a written approval from the Ethics Committee For Research Involving Human Subjects (JKEUPM) Universiti Putra Malaysia to carryout the research (Ref no JKEUPM-2022-516).Informed consent was obtained from all participants, ensuring they were fully aware of the study's nature, purpose, and their rights. Confidentiality and anonymity were strictly maintained, with data securely stored and anonymized to prevent identification. Participants were informed of their right to withdraw from the study at any time without repercussions. The data collected will be used solely for the purposes outlined in this research, and ethical approval was obtained from the relevant institutional review board. The study adhered to the ethical guidelines set forth in the Edinburgh 2000 Declaration, ensuring transparency, integrity, and respect for all participants involved."

Declaration

Author(s) declare that declare no competing financial interests.

Authors contribution

Author 1:Wrote the manuscript,

Author 2: Provided the resources and supervised the project,

Author 3:.Provided the resources and supervised the project

Author 4:Provided the resources and supervised the project and

Author 5:Provided the resources and supervised the project

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