

## Relation between Basic Psychological Need Frustration and Non-suicidal Self-Injury among Adolescents: Testing Mediation Role of self-Compassion.

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### Abstract

**Background:** Adolescence is a crucial stage of development during which people are more susceptible to emotional distress and unhealthy coping mechanisms, including non-suicidal self-injury (NSSI). A significant risk factor for NSSI activities has been found to be the frustration of fundamental psychological demands such as relatedness, competence, and autonomy. Consequently, it is essential to identify risk and protective variables that may raise an adolescent's risk of NSSI. **Aim:** To investigate the mediating role of self –compassion in relation between psychological need frustration and adolescent non-suicidal self- injury. **Design:** A descriptive correlational design was employed. **Subjects:** A purposive sample of 480 secondary school students participated in the current study .**Study Setting:** Awlad -Saker Secondary School for boys and girls in Awlad Saker City, Al-Sharkia Governorate, Egypt. **Tools:** A socio-demographic data sheet, basic Psychological need frustration scale, non-suicidal self-injury scale and self-compassion scale, . **Results:** The majority of the adolescents had moderate score of self-compassion, less than half had low score of psychological needs frustration and most of the students had low score of non-suicidal self-injury .As well, psychological needs frustration was significantly positively associated with non-suicidal self-injury ,on other hand negatively correlated to self-compassion. Also, NSSI was significantly negatively correlated to self-compassion. **Conclusion :** Self-compassion mediated the relationship between basic psychological need frustration and adolescent NSSI. **Recommendations:** An approach for creating and implementing regular self-compassion and the NSSI intervention, compassion-focused therapy to assist adolescents in developing compassionate awareness, understanding, non-judgment, and kindness toward the self.

**Keywords:** Basic psychological need frustration, Non suicidal self-injury, Self-compassion, Adolescents, Mediation.

### Introduction

The time between childhood and adulthood is known as adolescence, People go through major changes in their physical and cognitive development throughout this time. (Mastorci et al., 2024). This phase is marked by a number of difficulties, including intellectual, psychological, social, and physical ones, as well as the development of an individual's moral compass. At this point in their lives, teenagers start to develop an identity apart from their parents and look to their peers for guidance, morals, and a feeling of community. (Kaimara et al., 2022).

So, to gain acceptance, value, and inclusion in social groups, adolescents become increasingly focused on and extremely sensitive

to the feelings and images they extract from their peers (Herd & Kim-Spoon, 2021). Such worries may make them more susceptible to issues with self-consciousness, self-identity, self-presentation, rejection anxiety, and victimization. As a result, this increased vulnerability may lead to different types of anxiety and psychopathological problems (Masters, 2024).

For continued psychological development, integration, and well-being, basic psychological needs are fundamental psychological nutrients (Leow et al., 2023). Peer stressors include bullying, rejection, harassment, victimization, and disputes with friends, which are linked to depressive symptoms, embarrassment, and non-suicidal self-injury (NSSI). To deal with the dissatisfaction of

unfulfilled demands, people may turn to compensatory actions when their basic psychological needs are not met. (Tröger et al., 2021).

NSSI is one possible compensatory behavior that could emerge in reaction to needs that are not met. Inflicting direct and intentional pain on one's own body tissue without any suicidal intent and for socially unacceptable reasons is known as non-suicidal self-inflicted suicide (NSSI). Cutting, burning, scraping, punching, or biting oneself are some examples of this behavior (Yazici, 2021).

NSSI in the early-adolescent years is a behavioral indicator of newly diagnosed mental problems, and repeated NSSI raises the probability of suicidal thoughts, suicidal attempts and other mental disorders (Gu, et al., 2023). For the purpose of directing successful preventative and intervention initiatives, it is crucial to comprehend the mechanisms that underlie the link between NSSI and basic psychological requirements. (Guo et al., 2022).

According to self-determination theory, relatedness, competence, and autonomy are the three basic psychological demands. People feel like they have a choice and are genuinely willing when their desire for autonomy is met; when it is not met, they feel like they are being dominated by either internal or external forces. (Ryan et al., 2021). When the competence requirement is met, one feels more effective in their endeavors; when it is not met, they feel inadequate and ineffective. Furthermore, fulfilling the relatedness need fosters a feeling of community and close connection with people, while unfulfilled relatedness needs impede the growth of genuine relationships. (Saricali & Guler, 2022).

Need frustration is not always problematic for adolescents, even when it is a significant risk factor for non-suicidal self-injury (NSSI). Studies reveal that among those who engage in NSSI, emotion regulation is the most commonly mentioned function. Thus, the relationship between need frustration and NSSI may be lessened by using adaptive emotion control techniques like self-compassion. Self-compassion is defined as the capacity to extend compassion to oneself in the face of failure, inadequacy, or sorrow (Christoforou et al.,

2021). The three main components of self-compassion are mindfulness versus over-identification, common humanity versus isolation, and self-kindness versus self-judgment. Each of these elements has a positive and negative side. (Dreisoerner et al., 2021).

Self-kindness is the ability to actively understand and accept oneself in the face of failures and setbacks, as opposed to harshly judging oneself (self-judgment); common humanity is the ability to treat one's own pain, suffering, and failures as part of the human experience rather than feeling alone because of one's imperfections (isolation); and mindfulness is the ability to be aware of and willing to accept the experience in the moment rather than focusing on unpleasant thoughts or feelings, a process known as "over-identification." (Yuhan, 2022).

The emotional regulation model of self-compassion suggests that by assisting teenagers in managing challenging circumstances, self-compassion can reduce depressive symptoms. There is evidence that when their autonomy or competence was thwarted, people with high levels of self-compassion expressed fewer negative emotions (Meilasari, & Utami, 2022). Additionally, studies have shown that people who engage in self-compassion are more likely to deal with failures and unrealistic goals by taking a more comprehensive and balanced approach to their circumstances rather than becoming overly fixated on unachievable goals and becoming overly identified with their setbacks. Feelings of strain (autonomy frustration), failure (competence frustration), and loneliness (relatedness frustration) are all examples of need frustration in their lives. (Vandenkerckhove et al., 2020).

As a result, self-compassion may help people become more aware of how common need frustration is and lessen its negative effects on depression. Emotion management techniques may mitigate the impact of emotional reactions (such as depression or anxiety) on intentional self-harm, according to the cognitive-emotional model of NSSI (Huang et al., 2024).

### Significance of the study

Non-suicidal self-injury has gained recognition as a significant health issue. It is particularly common among adolescents, with prevalence rates estimated to be between 10% and 40%. NSSI occurs more frequently in adolescents (12%-47%) and university students (17%-38.9%) than in adults (4%-23%) (Bourgoin, 2024; Moloney et al., 2024). The most frequent reason why adolescents seek NSSI is to fill in the emotional gaps that are difficult to mend due to emotional discomfort and psychological trauma from the past. NSSI may be a maladaptive coping mechanism for adolescents who experience emotional and behavioral challenges as a result of unfulfilled basic psychological needs (autonomy, competence, and relatedness), which are associated with detrimental psychological outcomes.

Prior research has demonstrated that those with higher levels of self-compassion are better able to handle negative emotions than people with lower levels of self-compassion (Munroe et al., 2022). Individuals who lack self-compassion may find it more difficult to control their emotions, which could increase the likelihood that they will resort to non-suicidal self-injury (NSSI) as a coping mechanism or way to express negative emotions.

Furthermore, self-compassion could act as a buffer against the negative effects of unmet psychological needs. So, this research was carried out to examine the role of self-compassion as a mediator in the relationship between basic psychological need frustration and non-suicidal self-injury among adolescents.

### Aim of the Study:

The study objectives are to:

1. Assess the level of basic psychological need frustration, non-suicidal self-injury and self-compassion among adolescents.

2. Examine the relation between psychological need frustration and non-suicidal self-injury among adolescents.

3. Investigate whether self-compassion mediates the association between psychological need Frustration and non-suicidal self-injury among adolescents

### Research Questions

Does self-compassion play a mediating effect in the relation between basic psychological need frustration and non-suicidal self-injury among adolescents?

### Subject and Methods

#### Research design

Descriptive design was utilized to carry out this study.

#### Study Setting

Awlad Saker Secondary School for boys and girls in Awlad Saker City, Al-Sharkia Governorate, Egypt, was the location of this study in the academic year 2023–2024. The school is made up of two buildings, one for boys and one for girls. Each building has four stories and forty classrooms: two courtyards, a large garden, and well-ventilated classrooms with appropriate space and furniture for pupils.

#### Study Subjects

A purposive sample of 480 adolescents was selected from the previously mentioned setting. The study sample size was calculated based on the followings: : Prevalence of non-suicidal self-injury among adolescent was 25.5% (wiseman ,2017) . Total number of students in selected school was 1320, at confidence level 95% , Design effect was 2. Sample size was calculated to be 480 student, The sample size calculated using by Epi info version 7.2.5.0

#### Using the following criteria for inclusion:

-Both male and female students  
-between the ages of 16 and 18

-students in the first, second, and third grades of secondary education.  
Exclusion conditions: Adolescent with physical or mental disabilities

**Data collection tools:****Tool I: Demographic data sheet:**

This questionnaire was created by the researchers to collect socio-demographic information from the participants' students, including age, sex, residence, academic year, and parents' educational background.

**Tool (II): Basic psychological need frustration**

Is a self-report questionnaire created by **Chen et al., (2015)** to assess basic psychological need frustration among adolescents. It consisted of 12 points divided into three subscales: autonomy frustration (four items), relatedness frustration (four items), and competence frustration (four items). Items were assessed on a 5-point Likert scale ranging from (1=strongly disagree) to (5=strongly agree), and responses to all items were averaged with higher scores indicating greater psychological need frustration. The scale's reliability, as measured by the Cronbach coefficient, is 0.865

**Tool (III): Non-suicidal self-injury scale**

Is a self-report measure designed by **Klonsky& Glenn (2009)** to evaluate the frequency, type, and number of methods of NSSI behaviors (e.g., cutting, burning, biting, head-banging). In the last 12 months, students were asked if they had engaged in any NSSI behaviors. Each item was scored on a 4-point Likert scale ranging from 1 (never) to 4 (six more times or more). The higher scores indicating higher degrees of ruminative symptoms of NSSI behaviors.

The scale's reliability, as measured by the Cronbach coefficient, is 0.767

**Tool IV: Self-compassion**

This scale was developed by **Neff., (2003)** to assess adolescents levels of self-compassion. It is composed of 26 items categorized into six dimensions: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. All the items are rated on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always). The three negative

components—self-judgment, isolation, and over-identification—are reverse-scored prior to the total self-compassion score, which is calculated by summing all item scores, such that higher scores represented increased total self-compassion. The scale's reliability, as measured by the Cronbach coefficient, is 0.892

**Pilot study**

A preliminary investigation was carried out by the researchers with 10% of the students before the main study started. The pilot study's objectives were to evaluate the study questionnaire's readability, simplicity, and clarity as well as to estimate how long it would take to complete. The questionnaire was specifically revised, mostly by rewording and using simpler language in the statements, in response to the results of the pilot study. Notably, the primary study did not include the pilot study's sample.

**Content validity reliability**

Five experts from the fields of psychiatric medicine, statistics, and psychiatric and mental health nursing collaborated to evaluate the content validity of the tools used in this study. These experts assessed the tools to ascertain their relevance, comprehensiveness, ease of use, and clarity. The investigators applied the translation-back procedure to ensure the instruments' original validity while translating them into Arabic. Version of the statistical program for social sciences (SPSS) 20.0

**Field work:**

Once the tools were finished and the required formal approvals were secured, the researchers started looking for people who fit the criteria. Before inviting students to participate, the researchers introduced themselves and briefly explained the purpose of the study. Each student was seen separately by the researchers, who obtained their verbal agreement to participate. Before the student was given the form to fill out, they were given the opportunity to read and explain the tool items. It took thirty to thirty-five minutes to complete all of the questions and scales. Three days a week for about two months was how long the data

collection process range from the end of February to the end of April, 2024

### **Consideration-Administration and Ethical**

Formal approval from the Research Ethics Committee of the Faculty of

Nursing, Zagazig University with the code( ID/Zu.Nur.REC#:0190) and the Director of

The Education Department, Awlad Saker were obtained before conducting the study.

Before starting data collection, the researchers sought oral approvals from the students and attended meetings and talks with the head teacher staff to better understand the goals and objectives of the study and to enhance collaboration. The study was met with very positive responses from the administrative staff.

### **Statistical design**

All data were collected, tabulated and statistically analyzed using IBM SPSS Statistics for Windows (Version 25; IBM Corp., Armonk, NY, USA, 2017). Quantitative data were expressed as the mean  $\pm$  SD and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). SPSS Amos was applied to investigate the mediating role of self-compassion in the relationship between basic psychological need frustration and NSSI.

### **Results**

Table 1 shows demographic characteristics of the participants. It was observed that highest percent of participant students were 18 years or less (97.1%) with mean age (16.44 $\pm$  0.98), females (55.6%), rural residents (72.9%). Also, participant students in grade 1 accounted for 42.7% of all participants and grade3 34.4% and grade2 22.9%. Fathers (48.1%) and mothers (53%) of participant students had secondary education or technical diploma. 78% of their fathers were working .While, 74% of their mothers were not working. More than half of participant students (57%) did not have enough income.

Total scores of basic psychological need frustration and its domains as reported by participants is presented in table2. It was observed that about half of participant students (50.5%) had moderate score regarding autonomy frustration. While, 43.3% and 38.5% of participant students had low scores related to relatedness and competence frustration respectively. As regard to total score of need frustration, less than half of participant students (47.9%) had moderate score, compared to 31% and 21% had low and high scores respectively.

Table 3 displays total scores of self-compassion and its domains as reported by participants. It was observed less than half of participant students had moderate scores related to self-kindness (46.7%), self-judgment (46%), isolation (39%), over-identified (46.3%). While, more than half of participant students (52.1%) had high score regarding mindfulness. About total score of self-compassion, most of participant students (91.5%) had moderate score compared to 6.5% and 2.1% had high and low scores respectively.

Total mean scores of Non- suicidal self-injury and its domains as reported by participants is clarified in table 4. It was found that highest mean score was for banging the head (1.56), followed by scratching (1.54), the lowest mean score was for burning (1.18) and self-cutting (1.29). The total mean score of NSSI was 9.67 .

**Figure(1)** clarifies that **majority** of participant students (81.5%) had low score of NSSI compared to 17.3% and 1.2% had moderate and high scores respectively

Table 5 represents correlation matrix between study variables. It was observed that need frustration was significantly( $p<0.001$ ) positively correlated to NSSI and negatively correlated to self-compassion. Also, NSSI was significantly( $p<0.001$ ) negatively correlated to self-compassion.

Table 6 and figure 2 shows self-compassion mediated the relationship between basic psychological need frustration (BPNF) and NSSI. It was found that goodness of fit index (GFI) equals 1, comparative fit index (CFI) equals 1 and , root mean square error of approximation (RMSEA) equals 0.05, this indicated a good fit model in evaluating factors

affecting NSSI. Frustration had a highly significant ( $p<0.001$ ) positive effect on NSSI and negative effect on self-compassion. In addition, self-compassion had a highly significant ( $p<0.001$ ) negative effect on NSSI. Bootstrap method was utilized to determine the

significance of mediating relation. The confidence level indicated the significant indirect path of frustration to NSSI through self-compassion ( $\beta=0.052$ ,  $P<0.05$ ). This means that self-compassion was a partial mediator in decreasing NSSI.

**Table 1: Demographic characteristics of the participant students (n=480).**

Characteristics	No.	%
<b>Age</b>		
≤18	466	97.1
>18	14	2.9
Mean± SD	16.44± 0.98	
<b>Sex</b>		
Male	213	44.4
Female	267	55.6
<b>Residence</b>		
Urban	130	27.1
Rural	350	72.9
<b>Academic year</b>		
Grade1	205	42.7
Grade 2	110	22.9
Grade 3	165	34.4
<b>Father education</b>		
Primary and preparatory	45	9.4
Secondary or technical diploma	231	48.1
University	137	28.5
Post	67	14.0
<b>Mother education</b>		
Primary and preparatory	43	9.0
Secondary or technical diploma	255	53.0
University	133	27.7
Post	49	10.3
<b>Father job</b>		
working	375	78.0
Not working	105	22.0
<b>Mother job</b>		
working	125	26.0
Not working	355	74.0
<b>Income</b>		
Not enough	274	57.0
Enough	206	43.0

**Table2: Total scores of Basic psychological need frustration and its domains as reported by the students (n=480).**

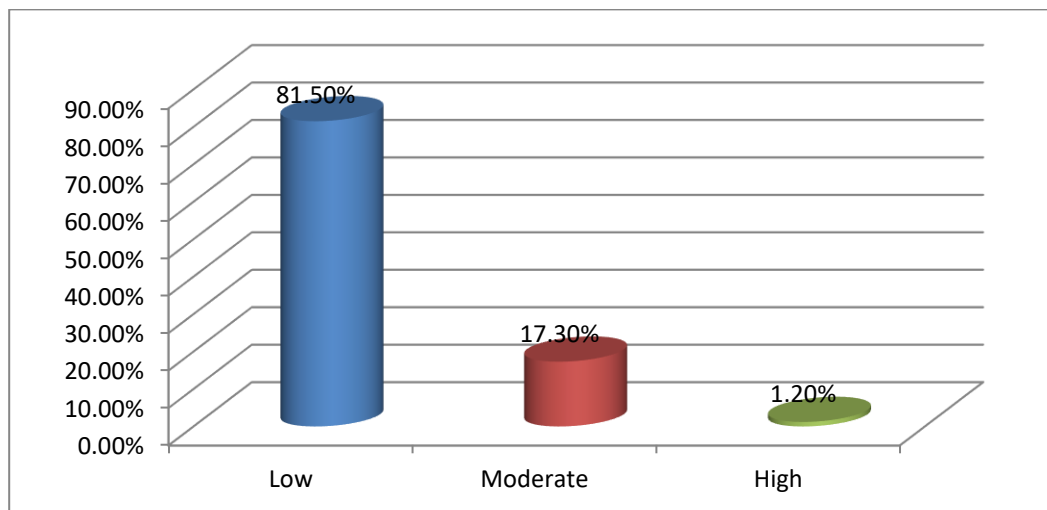
Scores	Low		Moderate		High		Mean± SD
	No.	%	No.	%	No.	%	
Autonomy	75	15.6	242	<b>50.4</b>	163	34.0	12.48±3.07
Relatedness	208	<b>43.3</b>	166	34.6	106	22.1	10.84±3.95
Competence	185	<b>38.5</b>	163	34.0	132	27.5	11.15±4.22
Total	149	31.0	230	<b>47.9</b>	101	21.0	34.49±9.27

**Table 3: Total scores of self-compassion and its domains as reported by the students (n=480).**

Scores	Low		Moderate		High		Mean± SD
	No.	%	No.	%	No.	%	
Self-kindness	88	18.3	224	<b>46.7</b>	168	35.0	15.82±3.76
Self-judgment	144	30.0	221	<b>46.0</b>	115	24.0	14.67±3.97
Common humanity	121	25.2	169	35.2	190	<b>39.6</b>	12.19±3.71
Isolation	159	33.1	187	<b>39.0</b>	134	27.9	11.30±3.26
Mindfulness	57	11.9	173	36.0	250	<b>52.1</b>	13.44±3.10
Over identified	67	14.0	222	<b>46.3</b>	191	39.8	12.73±3.00
Total	10	2.1	439	<b>91.5</b>	31	6.5	77.22±6.64

**Table 4: Total mean scores of non- suicidal self-injury and its domains as reported by the participants (n=480).**

NSSI domains	Mean± SD
self-cutting	1.29±0.78
burning	1.18±0.61
biting	1.43±0.91
punching	1.38±0.908
scratching	1.54±1.04
insert-ing sharp objects	1.30±0.79
banging the head	1.56±1.03
Total of non-self-suicidal injuries	9.67±3.97

**Figure1: Levels of non –suicidal self-injury among Participants.****Table 5: Correlation matrix between study variables.**

Parameters	Frustration		Self-compassion		non-self-suicidal injuries	
	r	p	r	p	r	p
Frustration			-0.676	0.001**	0.786	0.001**
Self-compassion					-0.614	0.001**
non-self-suicidal injuries						

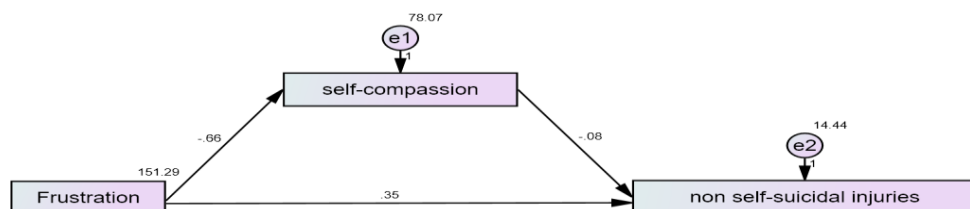
r: correlation coefficient, \*\*: statistically highly significant ( $p < 0.01$ ).

**Table 6: The mediating effect of Self-compassion on the relationship between basic psychological need frustration (BPNF) and NSSI.**

Path	Path type	$\beta$	t	P value
Frustration and Self-compassion	Direct	-0.659	-20.072	0.001**
Frustration and NSSI	Direct	0.347	27.798	0.001**
Self-compassion and NSSI	Direct	-0.079	-4.029	0.001**
The bootstrap method for investigating indirect path				
Frustration and NSSI	Indirect	0.052	18.076	0.026*
95% Confidence interval of bootstrap method of indirect path was 0 .006 to 0.092				

\*: Statistically significant ( $p < 0.05$ ), \*\*: Statistically highly significant ( $p < 0.01$ ).

Indices of good model fit: goodness of fit index (GFI)= 1, comparative fit index (CFI)= 1, root mean square error of approximation (RMSEA)=0.05

**Figure 2: The mediating effect of self-compassion on the relationship between basic psychological need frustration (BPNF) and NSSI.**

## Discussion

According to self-determination theory (SDT), basic psychological needs are vital psychological nutrients required for ongoing psychological development, integration, and health. As a coping strategy, people may resort to compensating behaviors when their basic psychological needs are not met (Ryan & Deci, 2017).

The current study explored the interrelations between basic psychological need frustration, self-compassion, and non-suicidal self-injury (NSSI) among adolescent. The results offer a compelling view of the psychological

challenges faced by this demographic, with significant implications for mental health support and nursing practice in educational contexts.

The findings reveal that about half of the students experienced moderate levels of autonomy frustration, while substantial percentages reported low levels of relatedness and competence frustration, totally more than two-thirds of the students had psychological need frustration ranging from moderate to high level. This outcome could be due to the competitive and demanding nature of the high school environment. In a setting like this, students are more likely to concentrate on



extrinsic objectives like pursuing better grades, outside incentives, or social recognition. Focusing on extrinsic goals is likely to result in adolescent experiencing less satisfaction of basic psychological needs, according to the self-determination theory. Excessive focus on extrinsic goals, in particular, can result in outside pressure, decreased need satisfaction, and a decline in general well-being. (Ryan & Deci 2019). In a similar vein, Zhang & Jiang (2023), concluded in a Chinese study among adolescent that the students perceive moderate to high levels of psychological need frustration.

Regarding NSSI, head banging and scratching emerged as the most frequently reported behaviors, while self-cutting and burning were less common. The majority of students were classified as having low levels of NSSI, while less than one fifth of the participant's students reporting moderate and high levels. This suggests that NSSI is not pervasive across the sample, its presence in a meaningful subset of the population highlights the urgency for targeted interventions. Consistent with earlier studies, NSSI frequently appears in situations of psychological need frustration and may be a maladaptive coping strategy used to control intense emotional states. (Li et al., 2024). Similarly, less than one-fifth of the adolescent reported engaging in NSSI behaviors, according to Jiang et al. (2021). Besides, the finding of Idris & Mahfar, (2024) noted that the majority of the students was at low level of NSSI. On contrary, Hidayati et al, (2022), stated that about two thirds of participants students have done NSSI.

The analysis of self-compassion dimensions provided additional insight. More than two fifths of participants reported moderate levels of self-kindness, self-judgment, over-identification, and isolation, while more than half demonstrated high levels of mindfulness. Importantly, the total self-compassion score indicated that most students fell within a moderate range, with only a small fraction showing either low or high scores. This is due to the fact that those students possess a positive psychological function that safeguards their mental health by preventing them from blaming themselves or avoiding problems. They also

possessed strong emotional control, as evidenced by their ability to accept their pain and to view the problems they face positively (Liu et al., 2024).

In addition, those who have a moderate level of self-compassion typically have a solid awareness of who they are and embrace who they are in the face of difficulties. When they are dealing with problems like failure, unhappiness, and defects, they could also be self-critical and self-blaming (Yarnell et al, 2015).

In the same line to the current study results, , Zahra et al., (2024) revealed in their study that about approximately two -thirds of adolescents have moderate self-compassion, while small proportion of participants have low self-compassion. In addition, Razza et al., (2025) discovered in their study that the participant's adolescents had moderate to high level of self-compassion.

Crucially, the correlational analysis revealed that Psychological needs frustration was significantly and positively associated with NSSI, indicating that students whose psychological needs were more frequently thwarted were more likely to engage in NSSI. This might be clarified by using the Self-Determination Theory (SDT), which holds that maladaptive coping mechanisms can result from the unmet basic psychological demands of autonomy, competence, and relatedness.

People, particularly students, who suffer from chronic need frustration may use NSSI as a destructive approach to control excessive emotional anguish, establish control, or look for approval from others. In the absence of alternative adaptive processes, this action acts as a compensation mechanism to temporarily reduce psychological pain or to express distress.

In accordance with the findings of the current study, Gu et al, (2024) stated in their study among adolescent that there was statistically significant positive correlation between frustration of basic psychological needs and NSSI. Furthermore ,others research findings emphasized the role of frustration of psychological needs in occurrence of NNSI behaviors (Emery et al., 2017) ( Huang et al, 2022) & (Nieto-Casado et al, 2024) .

Importantly, the existing study findings revealed that basic needs frustration was significantly and positively associated with non-suicidal self-injury mediated by self-compassion. The effect of basic needs frustration on non-suicidal self-injury was alleviated by high self-compassion that strengthened the indirect association with non-suicidal self-injury. The results revealed that self-compassion mediated the relationship between them. These relationships underscore the role of self-compassion as a protective buffer against self-injurious behavior. One possible explanation for this could be that the most frequently reported function by those who participate in NSSI was emotion regulation. NSSI and need frustration may therefore be mitigated by employing adaptive emotion control techniques like self-compassion (Taylor et al, 2018).

This aligns with previous findings indicating that self-compassion act as a buffer against NSSI behavior (Gu et al, 2023) & (Syme, 2024). As well, Wiseman, (2017), found that adolescents who reported past occurrences of self-injury had lower self-compassion scores than those who reported no past occurrence of self-injury. This outcome was in line with a previous study that discovered that people with NSSI were less sympathetic and more critical of themselves (Xavier et al., 2016).

### Conclusion:

The results revealed that self-compassion mediated the relationship between basic psychological need frustration and adolescent NSSI. Self-compassion moderated the indirect effect. The results align with self-determination theory and indicate that promoting self-compassion in adolescents and fulfilling their basic psychological needs could be beneficial in programs aimed at reducing the risk of NSSI.

### Recommendations

- Designing interventions focused on enhancing need satisfaction and reducing need frustration (referred to as need crafting interventions) that could strengthen protective factors and minimize the development of risk factors in adolescents.

- An approach for Creating and implementing regular self-compassion and the NSSI intervention, compassion-focused therapy to assist adolescents in developing compassionate awareness, understanding, non-judgment, and kindness toward the self.

- Educational Curriculum development is also necessary in order to teach adolescents about NSSI and self-compassion.

- Promoting social environments in which adolescents experience need satisfaction through reframing aspects of the environment to increase opportunities for adolescent need fulfillment.

- It was evident that both basic psychological need frustration and self-compassion may play a role in how students engage in NSSI behaviors. The current study provides guidance for both prevention and intervention strategies. Through identifying risk factors for NSSI to adolescents, high schools could implement prevention strategies to minimize the risk of NSSI and enhance basic psychological need fulfillment and self-compassion for students.

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**Conflict of interest:** The authors declare that there is no conflict of interest

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