

Research Paper

## A Comparative Examination of the Intolerance of Uncertainty among Students Who are at Risk of Suicide and those Who are not at Risk of Suicide

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### ABSTRACT

The aim of the current research is to investigate the prevalence of suicidal thoughts and behaviors in relation to the level of intolerance of uncertainty in male and female students. The study was divided into two stages. In the first stage, the Suicide Behavior Questionnaire-Revised (SBQ-R), was administered to 1,000 students at college to assess their levels of suicidal ideation and behaviors. These students were pursuing their education in many different fields. Of these 1,000 students, 130 students with scores of  $\geq 7$  on the SBQ-R were selected as participants for the second stage after consideration of the inclusion/exclusion criteria. An equal number of participants, i.e., 129 students, with minimum levels of suicidal ideation were selected as the non-suicidal participants. Two instruments were utilized in the current research; one instrument measured rumination/reflection while the other measured suicide behavior. The participants were recruited from different colleges/universities located in the state of Bihar. As far as gender was concerned, there were 259 participants; 126 of which were female and the remaining 133 were male. The ages of the participants varied between 20 and 30 years. In the present study, a purposeful sampling strategy was employed. Results indicated that the individuals with high suicide risk reported significantly higher levels of intolerance of uncertainty compared to those in the non-suicide risk group. Additionally, gender differences were noted within the groups. Male participants reported greater levels of intolerance of uncertainty than did female participants in both groups. The dimension-wise findings yielded similar results within groups and gender.

**Keywords:** *Intolerance of Uncertainty, Suicide Risk Groups, and Non-suicidal Groups of Students*

### **Risk Factors and Correlates of Suicide**

There is relatively little understood about how we develop toward suicide (Nock et al., 2009). Cha et al (2018) developed the potential etiology of suicide and grouped those potential etiologic factors into affective, cognitive, and social processes as forms of risk factors, which lead to or result from changes in an individuals thoughts and behaviors regarding suicide at times (Cha, Franz, Guzmán, Glenn, Kleiman, & Nock, 2018).

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**Affective processes** refer to the emotional valenced psychological processes that relate to negatively affecting the individual such as helplessness, poor self-esteem, worthlessness, neuroticism, and all forms of negative self-referential thinking (Cha et al., 2018). When an individual experiences these factors for extended periods of time, they may continue to weaken their own psychological capital and ultimately produce a negative mood. A number of prior studies have clearly demonstrated the relationship between depression and an elevated risk of suicide (Reddy, 2010).

**Cognitive Processes:** Affect and Cognition are related in that negative affect can evoke dysfunctional cognition and vice versa. Impulsivity is the most commonly assessed trait in relation to suicidality; however, the evidence demonstrates that impulsivity is only associated with suicide plans, not suicidal thoughts and attempts, when controlling for other variables (Cha et al., 2018). Rumination is currently being studied as a correlate of suicide behavior (Tang, Xiong, Shi, Chen, Liu, Zhang, & Yao, 2021).

**Social Processes:** Loneliness is a well-established proximal predictor of suicide; however, loneliness is often mediating by psychopathologies (Cha et al., 2018). According to Joiners Interpersonal Theory (Joiner 2005), thwarted belongingness has been shown to interact with acquired capability to predict suicide attempts among females, in addition to that sense of any type of burdensomeness has been found to be predictive of suicide among males. Female adolescents suicide attempts are predicted by females feelings of betrayal and male adolescents suicide attempts are predicted by males feelings of burdensomeness, when combined with acquired competence (Czyz et al., 2015).

### **Intolerance of Uncertainty:**

Uncertainty is an inherent aspect of our daily lives, due to the stochastic nature of the world and the continuous changes happening in our surroundings (Bennett., Sutcliffe., Tan., Smillie., & Bode 2021). An individual's lack of knowledge or confidence regarding whether a certain event will take place is considered as the state of uncertainty (Keren & Gerritsen, 1999).

Uncertainty arises when an individual is exposed to conflicting or unclear information, resulting in discomfort and apprehension (Del Valle et al. 2020). Uncertainty is expected at all times of life and is normally experienced at varying degrees. An individual can have uncertainty about their job, relationships and long-term goals and still maintain a strong sense of self-efficacy and control. However, for many people, this can be extremely debilitating and may contribute to significant psychological distress.

The intolerance of uncertainty is the fear of ordinary unpredictable situations (Carleton, 2012) and viewing any form of uncertainty as a potential cause of frustration and stress (Yook, Kim, Suh, & Lee 2010). While situational uncertainty refers to the degree of uncertainty present within an individual's current situation, the concept of intolerance of uncertainty has been defined more generally as cognitive, emotional, and behavioral responses to uncertainty that impede information processing and contribute to the misinterpretation of increased threat and poor adaptive coping strategies (Freeston, rhéaume, letarte, dugas, & ladouceur, 1994).

Buhr & Dugas (2009), defined intolerance of uncertainty as a dispositional tendency rooted in a set of negative beliefs surrounding uncertainty and its consequences. Additionally, they

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stated that intolerance of uncertainty is comprised of the tendency for an individual to respond negatively (emotionally, cognitively and behaviorally) to ambiguous conditions and events.

Individuals that exhibit high levels of intolerance of uncertainty perceive the ambiguity of a situation as threatening, unpleasant and undesirable, irrespective of the probability of a negative outcome occurring. This overestimation and belief that one cannot effectively cope with the unknown, contributes to the development of maladaptive cognitive, emotional and behavioral responses (Dugas et al. 1998, 2001).

More recently, Carleton (2016) defined intolerance of uncertainty as a disposition to be unable to endure the uncomfortable reaction evoked by a perceived deficiency of conspicuous, relevant, or satisfactory information and a concomitant perception of uncertainty.

McEvoy and Mahoney (2011) identified evidence for a two-factor model in clinical populations, and operationalized the dimensions similarly, prospective anxiety (the fear of uncertainty based upon future occurrences) and inhibitive anxiety (i.e., uncertainty preventing the act). Prospective anxiety represents the cognitive component of anxiety related to the need for predictability, the need to understand what will happen in the future and the need to engage in activities designed to decrease uncertainty. On the other hand, inhibitory anxiety represents the behavioral component, avoiding and being paralyzed when confronted with uncertainty (Carleton, Norton, & Asmundson, 2007).

In addition, several studies suggest that depression, social anxiety disorder, panic disorder, generalized anxiety disorder and obsessive-compulsive disorder are associated with inhibitory intolerance of uncertainty (Boelen & Lenferink, 2018).

An individual with a high intolerance of uncertainty may develop an anxiety disorder. Suicide ideation and behaviors were higher than expected among veterans who had significantly more intolerance of uncertainty (Zerach and Levi-Belz, 2019).

Approach-oriented reactions were linked to prospective intolerance of uncertainty (e.g. goal directed behavior to reduce ambiguity) (Birrell et al. 2011). Individuals with high levels of prospective intolerance of uncertainty are driven to participate in actions intended to reduce ambiguity as a means to achieve predictability. Therefore, through these efforts, there is less ambiguity concerning the future and the individual can prepare (Birrell, Meares, Wilkinson, & Freeston, 2011).

Conversely, inhibitory intolerance of uncertainty has been associated with avoidance-oriented behaviors, such as withdrawing from the outcome by physically leaving the uncertain circumstance (Stapinski, Abbott, & Rapee, 2010). For example, individuals with high levels of inhibitory intolerance of uncertainty typically report feeling incapable of acting appropriately when faced with ambiguity and therefore experience physical paralysis. Physical paralysis is often associated with dysfunctional cognitive coping mechanisms including ruminating about possible threats and/or delaying decisions (Dugas & Robichaud, 2007).

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Social anxiety has also been associated with both prospective and inhibitory intolerance of uncertainty (Stevens, Rogers, Campbell, Bjorgvinsson, & Kertz, 2018). Interpersonal difficulties may ultimately contribute to thwarted belongingness and perceived burdensomeness, eventually contributing to suicidal behavior in later stages (Martin, Smith, McGrew, & Capron, 2021).

### ***Rational of the study:***

Despite being studied as much as many psychological phenomena, suicide remains a poorly understood phenomenon. The complexity of suicide motivations is also well-documented; No single theoretical construct will fully explain an individuals' suicidal ideation and behaviors. In addition to those with physical or mental illness, suicide is seen throughout all populations.

The cognitive processes involved in suicidal ideation/behavior have been somewhat less studied. Therefore, the potential interactions between the variables of tolerance for uncertainty, and how they may contribute to individual's suicidal ideation and behavior were examined by this researcher.

Thus, since these factors are present in both the pathological and non-pathological populations; this research will benefit both. Since the trans-diagnostic utility of these results would allow health professionals to develop and implement treatments and other care-oriented policy and programmatic interventions to decrease the risk of suicidal ideation/behavior among the population, they will also be useful to professionals.

### ***Hypothesis***

- There will be a significant difference in the extent of intolerance of uncertainty among suicide risk group and non-suicidal group of students.

### ***Participants:***

The research was carried out in two phases. In the first phase, the SBQ-R Suicide Behavior Questionnaire-Revised was administered to 1,000 college students as a screening tool for suicide thoughts and behaviors. The students were enrolled in various professional and non-technical courses. Of those, 130 students who had scores at or greater than the cutoff value ( $> = 7$ ) were selected as participants based on the inclusion/exclusion criteria. An equal number of participants, i.e., 129 students with the lowest scores on suicidal ideation, were selected as the non-suicidal participants.

### ***Measures:***

The participant's responses were assessed using four assessment instruments in this study: one for rumination, one for reflection, one for meaning in life and one for suicide behavior. These instruments included the Suicidal Behaviors Questionnaire-Revised (SBQ-R), the Intolerance of Uncertainty Scale-12 (IUS-12), the Ruminative Response Scale (RRS), and the Meaning in Life Questionnaire (MLQ).

**The Suicide Behaviors Questionnaire – Revised (SBQ – R)**, was developed by Osman and his colleagues (2001), as a self report measure assessing suicide behavior and suicide thoughts. SBQ – R was developed based upon the initial work by Linehan and Nielsen (1981). An earlier version of the original 34 item tool was shortened into either a 14 item version or a 4 item version. The SBQR assesses past and future suicide behavior, including

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how frequently suicide thoughts occur, how suicide thoughts are communicated to others, and the attitudes and beliefs regarding suicide attempts. It is a 4 item Likert type scale with the following examples of statements such as, “have you ever thought about or attempted to kill yourself,” with a scoring range of 1 to 4, “how many times have you thought about killing yourself over the last year” with a scoring range of 1 to 5, “have you ever told anyone that you plan to commit suicide, or that you may do so” with a scoring range of 1 to 3, and “how likely do you believe you will be to attempt to kill yourself” with a scoring range of 0 to 6. The total score can range from 3 to 18 with a higher score indicating greater risk of suicide (Osman et al., 2001). The authors found that scores of 7 could predict suicide probability within the general adult population, with 0.93 sensitivity and 0.95 specificity (Osman et al., 2001).

**The Intolerance of Uncertainty Scale-12** (Carleton et al., 2007), referred to as the IUS-12, is a 12 item self-report questionnaire assessing a persons propensity to find uncertainty distressing and/or disturbing. The 12 items of the IUS-12 were derived from the original IUS (Buhr and Dugas, 2002; Freeston et al., 1994) and are strongly correlated with it. The IUS-12 uses a 5 point Likert scale, and the respondents answer how well they relate to each of the 12 items, with 1 equaling "not at all like me" and 5 equaling "very much like me". Carleton et al., (2007); Khawaja and Yu, (2010); and McEvoy and Mahoney, (2011) have reported the IUS-12 has a high level of internal consistency ( $\alpha = .93$ ), as well as convergent and discriminant validity.

### RESULTS

**Table 1: Mean and standard deviation of the scores on Intolerance of uncertainty of the two groups of students (Suicidal risk Group & Non - Suicidal Group) and t-value.**

	Groups	N	Mean	SD	t	Sig. (2-tailed)
Intolerance of uncertainty	Suicide risk group	130	39.65	9.31	6.51	.001
	Non- suicidal group	129	33.10	9.28	9	

Table 1 shows the mean and SD of the suicidal and non-suicidal participants on intolerance of uncertainty. Here the suicidal group reported a high mean on intolerance of uncertainty (M=39.65, SD= 9.316) than the mean 33.09 (SD= 9.285) of the non-suicidal group. The difference was found to be statistically significant with  $t = 6.519$ ,  $p < 0.001$ .

**Table 2: Mean and standard deviation of the scores on intolerance of uncertainty of the two groups of students (male and female) and t-value.**

Variable	Groups	Gender	N	Mean	SD	t	Sig. (2-tailed)
Intolerance of uncertainty	Suicide risk group	Male	49	43.51	7.75	3.659	.001
		Female	81	37.53	9.52		
	Non-Suicidal group	Male	84	35.19	8.89	2.647	.009
		Female	45	31.90	9.31		

Table 2 shows the gender wise mean and SD of the suicidal and non- suicidal group on intolerance of uncertainty. On both groups, males reported higher score than females. For the suicidal group, males got mean 43.41(SD 7.765) and where females had mean 37.53 (SD 9.517). This difference was found significant with  $t = 3.649$ ,  $p < 0.01$ . For the non- suicidal group, the males participants obtained a score (M= 35.19, SD8.888) and the female participants obtained a mean (M= 31.88, SD= 9.322). Results suggested significant differences in among genders with  $t = 2.637$ ,  $p < 0.01$ .

## **DISCUSSION**

**Hypothesis: There would be difference in the extent of intolerance of uncertainty among suicide risk group and non-suicidal group of students.**

The hypothesis assumed an association between the degree of intolerance of uncertainty (IU), and students' suicide risk and those who did not experience a suicide risk. Thus, this hypothesis was also assessed by comparing means and standard deviations of IU scores for each of the two groups of students independently (suicide risk vs. non-suicidal group).

The results of the comparison of IU scores between suicide risk and non-suicidal groups of students were shown in Table 1 and indicated that, similar to the previous studies, the suicide risk students had higher levels of IU ( $M = 39.75$ ,  $SD = 9.316$ ) than the students who did not have a suicide risk ( $M = 33.9$ ,  $SD = 9.285$ ). The difference in IU between the two groups of students was large enough to be considered statistically significant ( $t = 6.519$ ). That is, it may be stated that high levels of IU are associated with a high level of suicide risk in youth.

Furthermore, the gender-wise analysis revealed differences in the degree of IU between male and female students within both the suicide risk and non-suicidal groups (see Table 2). Male participants in both the suicide risk and non-suicidal groups reported significantly higher IU than their respective female counterparts ( $p < .05$ ). Specifically, male suicide risk participants had a mean IU score of 43.41 while female suicide risk participants had a mean IU score of 37.53. This gender-wise difference in IU was statistically significant ( $t = 3.649$ ). Moreover, non-suicidal male participants reported a higher mean IU score (35.19) compared to their non-suicidal female counterparts (mean IU score = 31.88). Both gender-wise comparisons in IU were statistically significant ( $t = 2.637$ ).

The substantial literature on IU supported its role as a cognitive vulnerability factor for worry and a maintaining factor for various psychological disorders (Ladouceur et al., 2000; Koerner and Dugas, 2008). High levels of IU lead individuals to perceive uncertain situations as potentially dangerous, unpleasant, and undesirable, independent of the likelihood of a negative outcome occurring (Dugas et al., 1998). IU-related negative cognitions about uncertainty generally result in an inability to effectively respond to these types of situations and consequently, promote the use of worry as a maladaptive coping mechanism in order to avoid feared outcomes (Behar et al., 2009; Dugas et al., 1998).

The current study's findings showed that the prospective anxiety and inhibitory anxiety rates in the suicide risk group were substantially higher than in the non-suicidal group. Therefore, it is reasonable to assume that, individuals experiencing a suicide risk are likely to focus on avoiding uncertainty and will report a greater number of pathological symptoms of emotional/behavioral disorders than non-suicidal individuals.

Additionally, intolerance of uncertainty has been demonstrated to be a trans-diagnostic symptomatology- symptoms were exhibited across diagnoses, although different elements of IU were related to varying symptoms of internalizing disorders, the current study's findings provide additional insight into how to understand suicidality from another perspective. Therefore, the hypothesis, which assumed that there would be a difference in IU between the suicide risk group and non-suicidal group of students was confirmed.

## **CONCLUSION**

The current research study attempted to evaluate how many university students (male and female) report suicide ideas/behaviors as a result of their intolerance of uncertainty. Overall, our results indicated no statistically significant difference in terms of gender on whether or not an individual is at risk for suicide (suicide risk vs. non-suicidal). However, when we compared the two genders in terms of dimensions, we did find some differences between suicide ideations and behaviors across genders. We determined that females had more ideations regarding suicide than did males. Additionally, females communicated threats of suicide more frequently than did males. When comparing scores on intolerance of uncertainty, the suicide-risk group reported a significantly greater intolerance of uncertainty than did the non-suicidal group. Gender-wise, within both the suicide-risk and non-suicidal groups, males reported a higher tolerance of uncertainty than did females.

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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