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# The Predictors of Self-Esteem in University Students: Intolerance of Uncertainty and Alexithymia

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## ABSTRACT

Self-esteem is characterized by self-evaluation and affects the social, emotional, and academic aspects of life. In this respect, high self-esteem is important for human mental health. This research aimed to determine university students' intolerance of uncertainty and alexithymia levels to predict their self-esteem. The research group comprised 365 undergraduate students. The data were collected using the "Rosenberg Self-Esteem Scale (RSE)," "Toronto Alexithymia Scale (TAS)," and "Intolerance of Uncertainty Scale (IUS)." The analysis results of this study, in which the predictive correlational design was employed, revealed that self-esteem decreased as the level of alexithymia and intolerance of uncertainty increased. Besides, alexithymia and intolerance of uncertainty were significant predictors of self-esteem. It is hypothesized that interventions to increase self-esteem will reduce levels of alexithymia and intolerance of uncertainty. The integration of findings regarding alexithymia and intolerance of uncertainty, which are more common in clinical samples, into education will improve academic achievement and welfare.

Keywords:

Self-esteem, alexithymia, intolerance of uncertainty

## 1. Introduction

Self-esteem is acknowledged as one of the most critical human needs. People encounter positive and negative life experiences. Self-esteem, a personality trait shaped by experiences, is the value one attributes to oneself and has a fluctuating course. While positive life experiences contribute to self-efficacy, negative experiences lead to disappointment, loss of faith, and low self-esteem (Westfall, 2020). Improved self-esteem can be a very satisfying outcome for an individual (Sheldon et al., 2001). Especially the self-esteem of those experiencing social rejection is likely to be damaged. Individuals with high self-esteem are less affected by negative life events and have improved coping skills. In this sense, high self-esteem can be considered a buffer against stress (Zeigler-Hill, 2013). Stressful life events affect mood and trigger negative emotions such as hopelessness and loss of motivation (Obeid et al., 2020). Self-esteem is a perfect coping resource for such situations (Arndt & Goldenberg, 2002).

Alexithymia is another personality trait that paralyzes a person in stressful situations and influences coping mechanisms negatively (Parker et al., 2008). It stems from an inability to consciously experience, define, and express emotions (Fogley et al., 2014). Schaffer (1993) defined alexithymia as the limited ability to think and use emotions to cope with stressful situations. By its nature, it features an external-oriented thinking style and multidimensional limitations. It is characterized by significant decreases in people's capacity to imagine, describe, empathize, verbalize, and analyze emotions (Bermond et al., 2015). Alexithymia is defined as a "lack of feelings" (Scarpazza & di Pellegrino, 2018; Yelsma, 1995) and is also associated with poor self-esteem (De Berardis et al., 2009; Sasai et al., 2011).

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It is challenging for those with alexithymia to recognize or make sense of personal resources. When asked to describe their feelings, they often express uncertainty or ambiguity and mention physical complaints. For those, it is difficult and takes time to recognize facial expressions of emotion (e.g., fear, sadness, and anger) (Spencer & Boughner, 2020). Individuals with high alexithymia have difficulties in social relationships. They are not very competent in private relationships and have poor social skills (Karukivi & Saarijärvi, 2014). Many studies have proven that maintaining relationships is challenging (Humphreys et al., 2009; Vanheule et al., 2007).

How people deal with uncertainty has been a common research topic for years (Hesse et al., 2012). Ambiguous expressions can be seen as a threat to those people (Carleton et al., 2012). Some insist on knowing the next step, and the feeling of uncertainty triggers stress and challenges tolerance limits. Carleton (2016) defined intolerance of uncertainty as "an incapacity to endure an aversive response triggered by the perceived lack of information and sustained by the associated perception of uncertainty." According to Koerner and Dugas (2008), intolerance of uncertainty is a personality trait, and those with this trait have negative thoughts and emotions in the face of uncertainty. In other words, they have the disposition to be pessimistic. They focus on their anxiety rather than finding solutions to eliminate uncertainty (Dugas et al., 2014), which increases the prevalence of anxiety disorders in these people (Grenier et al., 2005; Jacoby, 2020). Since some events cannot be controlled and we cannot always know what may happen, accepting of some uncertainty is helpful for mental health. Otherwise, the tolerance limit may negatively affect healthy decision-making in personal, social, and cognitive aspects. Erguvan (2015) found a significant correlation between intolerance of uncertainty and psychological well-being.

In the literature, Trzesniewski et al. (2006) revealed that low self-esteem could be associated with poor mental and physical health as well as delinquent behaviors in later years. Orth et al. (2012) found that self-esteem had an impact on depression, interpersonal relationships, and job satisfaction. Similarly, uncertainty and alexithymia are significant predictors of psychopathology and cause psychological problems (Merlo et al., 2021). Ersöğütçü and Kargin (2022) found a significant negative correlation between self-esteem and alexithymia in their study on substance abusers. Kim et al. (2018) indicated that people with low self-esteem might have a higher risk of developing psychological disorders. Arsandaux et al. (2020) suggested that high self-esteem is positively correlated with good behaviors. Alexithymia is associated with childhood disorders and genetic factors (Spencer & Boughner, 2020), depression, anxiety (Hintikka et al., 2001), suicidality, and aggression (Hemming et al., 2019). Some studies argue that intolerance of uncertainty plays a critical role in neuroticism (Boswell et al., 2013; Gentes & Ruscio, 2011). Tekel and Korkman (2020) revealed that intolerance of uncertainty predicted alexithymia. In light of the above findings, both concepts adversely affect mental health.

### *Current Study*

This research aimed to examine the predictive role of self-esteem on alexithymia and intolerance of uncertainty. University students, who are the sample group of the study, are trying to be trained for their profession on the one hand, and on the other hand, they are experiencing the process of achieving something on their own by moving away from their families. Since university years require a new environment, new friendships, and a new educational process, the adaptation process can be challenging. Negativities experienced in the process of adaptation to social life can also negatively affect academic success. As a matter of fact, there are studies showing that self-esteem affects academic achievement (Arshad et al., 2015; Joshi & Srivastava, 2009). Since self-esteem is vulnerable to external factors, it would be beneficial to investigate the associated variables. In Turkey, research on alexithymia, intolerance of uncertainty, and pathological comorbidities (e.g., depression and anxiety disorders) is limited. Since they are mostly discussed clinically, investigating them in non-clinical samples would contribute to the relevant literature. In this respect, it was thought that the concepts of alexithymia, which refers to the ability to identify one's own and others' emotions, and "intolerance of uncertainty", which refers to the ability to tolerate uncertain situations, would affect self-esteem. The university period is a process in which very important and critical decisions are made in a person's life to affect social relations, academic success, and well-being. For this purpose, it was planned to conduct the study on this sample group. There are very limited studies investigating the predictors of self-esteem in university students in Turkey (Demirkazık, 2021; Hamarta, 2009). Besides, this research will contribute to

guiding and conducting preventive intervention programs to eliminate unfavorable outcomes and increase self-esteem. With this aim, three research questions (RQ) were tested in this research:

RQ1. There is a significant relationship between self-esteem and alexithymia.

RQ2. There is a significant relationship between self-esteem and intolerance of uncertainty.

RQ3. Alexithymia and intolerance of uncertainty are significant predictors of self-esteem.

## 2. Methodology

### 2.1. Research Model

A predictive correlational design was employed to determine the predictive power of intolerance of uncertainty and alexithymia on university students' self-esteem. In predictive correlational design studies, the correlations between two or more variables are examined, and one is predicted based on the other. The variable with the known value is called the predictor variable, while the predicted variable is called the criterion variable (Büyüköztürk, 2016; Fraenkel et al., 2012).

### 2.2. Research Sample

The research group consisted of university students from seven geographical regions of Turkey. Of the participants, 84.7% (n=309) were female, and 15.3% (n=56) were male; 27.1% (n=99) were 1st grade, 26.6% (n=97) 2nd grade, 25.2% (n=92) 3rd grade, and 21.1% (n=77) 4th-grade university students.

**Table 1.** Demographic Characteristics of Participants

	n	%
Gender		
Female	309	84.7
Male	56	15.3
Grade Level		
Freshman	99	27.1
Sophomore	97	26.6
Junior	92	25.2
Senior	77	21.1

### 2.3. Data Collection Tools and Procedures

*Rosenberg Self-Esteem Scale (RSE)*: The instrument was developed by Rosenberg (1965) to determine self-esteem. It was adapted to Turkish by Çuhadaroğlu (1986). The original version of the scale has 63 items and 12 sub-dimensions. The 10-item self-esteem sub-dimension of the scale was adapted into Turkish. In the adaptation study, the test-retest reliability coefficient was found to be .75, and the Cronbach alpha internal consistency coefficient was found to be .71. On the 10-item scale, the 3rd, 5th, 8th, 9th, and 10th items were reverse scored. High scores on the scale indicate high self-esteem.

*Intolerance of Uncertainty Scale (IUS)*: This scale was developed by (Carleton et al., 2007) to measure emotional and behavioral response levels to uncertain situations. Sarıçam et al. (2014) adapted the instrument for Turkish on university students. It has two subscales: "prospective anxiety" (including items 1, 2, 3, 4, 5, 6, 7) and "inhibitory anxiety" (including items 8, 9, 10, 11, 12). There is no reverse item on the scale. The lowest score on the five-point Likert-type scale is 12, and the highest score is 60. In the Turkish version, the goodness of fit values were within acceptable ranges [ $\chi^2= 147.20$ ,  $sd= 48$ ,  $RMSEA=.073$ ,  $CFI=.95$ ,  $IFI=.95$ ,  $GFI=.94$ ,  $SRMR=.046$ ], and the internal consistency coefficient was .88 for the total score, .84 for the prospective anxiety sub-scale, and .77 for the inhibitory anxiety sub-scale. In the test-retest process, the correlation value was found as .74, and the item-total correlation values were between .42 and .68.

*Toronto Alexithymia Scale (TAS)*: The scale was developed by Bagby et al. (1994) to measure alexithymia, which is defined as the ability to identify and distinguish emotions. It was adapted into Turkish by Güleç et al. (2009). The tool has three sub-factors: "difficulty identifying feelings" (including items 1, 3, 6, 7, 9, 13, 14), "difficulty communicating feelings" (including items 2, 4, 11, 12, 17), and "externally-oriented thinking" (including the items of 5, 8, 10, 15, 16, 18, 19, 20). The 4th, 5th, 10th, 18th, and 19th items are reverse-coded. The high scores

indicate high alexithymia. The goodness of fit values of the Turkish version were within acceptable ranges [ $\chi^2/Sd = 3.38$ , GFI = 0.87, AGFI = 0.84, RMSEA = 0.079]. The Cronbach's Alpha internal consistency coefficient was .80 for the "difficulty identifying feelings." .80 for the "difficulty communicating feelings." .57 for the "externally-oriented thinking" sub-scale, and .78 for the total scale.

## 2.4. Data Analysis

Correlation and stepwise multiple regression analyses were performed to determine the level of alexithymia and intolerance of uncertainty in predicting the self-esteem of university students. Before starting the data analysis, the assumptions of normal distribution of variables, absence of autocorrelation, and independence of predicted variables from each other – that is, there should not be a high relationship between variables – and a linear (meaningful) relationship between predictor and predicted variables should be met in order to perform multiple regression analysis (Can, 2018). In order to verify the assumptions of multiple regression analysis, studies were conducted, respectively:

Stage 1: Firstly, the kurtosis and skewness values of the data were examined to ensure normality assumption, and it was found that the data exhibited a normal distribution in the normal +1 and -1 range as seen in Table 2 (Morgan, Leech, Gloeckner, & Barrett, 2012). It is seen that this assumption is met.

**Table 2.** *Descriptive Analysis Results*

	No	Mean	Standard Deviation	Skewness	Kurtosis
1. Self-esteem	365	30.7151	6.25299	-.617	-.125
2. Intolerance of Uncertainty	365	43.8192	8.76401	-.391	-.226
3. Alexithymia	365	53.5616	11.56989	.388	-.208
4. Prospective Anxiety	365	25.9096	5.01043	-.372	.022
5. Inhibitory Anxiety	365	17.9096	4.84088	-.365	-.719
6. Difficulty Identifying Feelings	365	18.7041	6.43865	.438	-.371
7. Difficulty Communicating Feelings	365	13.7671	4.15735	.280	-.172
8. Externally-Oriented Thinking	365	21.0904	3.84880	-.025	-.047

Stage 2: At this stage, the Durbin Watson-d value was examined to determine whether there was autocorrelation in the data, and it was found that this value was in the acceptable range of 2.110 (Field, 2005).

Stage 3: At this stage, variance magnification and tolerance values were examined to determine whether the predicted variables are independent of each other, that is, whether there is a high relationship between the variables. It was found that the variance magnification factor varies between 1.112 and 2.111, which is less than 10, and the tolerance values are acceptable between .474 and .899, which is greater than .2 (Field, 2005).

Stage 4: In the last stage, the correlational relationship between predictor and predicted variables was examined. As seen in Table 3, it was found that there were correlational relationships between predictor and predicted variables.

In the analysis of the data, stepwise multiple regression analysis was used to determine the power of university students' intolerance of uncertainty and alexithymia levels in predicting their self-esteem, and Pearson correlation analysis was used to determine the relationship between self-esteem, alexithymia, and intolerance of uncertainty in total and sub-dimensions.

## 2.5. Ethical

Ethical approval was received from the Gaziantep University Social Sciences Institute Ethics Committee (E-87841438-604.01.01-184414, 06/05/2022). The study was based on voluntary participation, and the data were collected online. Before answering the survey, all participants were informed about the study and asked to sign the informed consent form.

## 3. Findings

Pearson correlation analysis was performed to determine the relationships between university students' self-esteem, alexithymia sub-factors (i.e., difficulty identifying feelings, difficulty communicating feelings, and externally-oriented thinking), and intolerance of uncertainty sub-factors (i.e., prospective anxiety and inhibitory anxiety). The results are shown in Table 3.

**Table 3.** *The Correlations Between University Students' Self-Esteem, Alexithymia, and Intolerance of Uncertainty*

	1	2	3	4	5	6	7	8
1. Self-esteem Total	1							
2. Intolerance of Uncertainty Total	-.331**	1						
2. Prospective Anxiety	-.227**	,894**	1					
4. Inhibitory Anxiety	-.365**	,886**	,583**	1				
5. Alexithymia Total	-.546**	,285**	,177**	,332**	1			
6. Difficulty Identifying Feelings	-.547**	,343**	,221**	,392**	,898**	1		
7. Difficulty Communicating Feelings	-.498**	,219**	,136**	,255**	,838**	,683**	1	
8. Externally-Oriented Thinking	-.190**	0,046	0,015	0,067	,599**	,289**	,295**	1

\*\*p<.01

As can be seen in Table 3, there was a significant negative correlation between self-esteem and total alexithymia score ( $r = -.546, p < .01$ ), and “difficulty identifying feelings” ( $r = -.547, p < .01$ ), “difficulty communicating feelings” ( $r = -.498, p < .01$ ) and “externally-oriented thinking” ( $r = -.190, p < .01$ ). In other words, self-esteem decreased as the alexithymia total and sub-scale scores increased.

There was a significant negative relationship between university students' self-esteem and intolerance of uncertainty total score ( $r = -.331, p < .01$ ), prospective anxiety ( $r = -.227, p < .01$ ), and inhibitory anxiety ( $r = -.365, p < .01$ ). In other words, self-esteem decreased as the intolerance of uncertainty total and sub-scale scores increased.

Stepwise regression analysis was performed to determine the predictive power of “prospective anxiety” and “inhibitory anxiety” (sub-dimensions of intolerance of uncertainty) and “difficulty identifying feelings,” “difficulty communicating feelings,” and “externally-oriented thinking” (sub-dimensions of alexithymia) on self-esteem. The results are presented in Table 4.

**Table 4.** *Stepwise Regression Analysis Results*

Model	Predictor	$\beta$	SH <sub>B</sub>	Beta	$\Delta R^2$
1	(Constant)	40.644	0.844		
	Difficulty Identifying Feelings	-0.531	0.043	-0.547	.299*
2	(Constant)	42.577	0.962		
	Difficulty Identifying Feelings	-0.376	0.057	-0.387	.328*
	Difficulty Communicating Feelings	-0.350	0.089	-0.233	
3	(Constant)	46.082	1.559		
	Difficulty Identifying Feelings	-0.304	0.059	-0.313	
	Difficulty Communicating Feelings	-0.358	0.087	-0.238	.356*
	Prospective Anxiety	-0.037	0.065	-0.029	
	Inhibitory Anxiety	-0.212	0.071	-0.164	

\*p<.05

The given stepwise regression analysis was completed in three stages. In the first stage, “difficulty identifying feelings” explained approximately 30% of the self-esteem. As the “difficulty identifying feelings” increased, self-esteem decreased. In the second stage, “difficulty communicating feelings” was included in the analysis and explained approximately 3% of the variance, which totally explained 33% of the variance. As the “difficulty communicating feelings” increased, self-esteem decreased. In the third stage, “prospective anxiety” and “inhibitory anxiety”, which explained approximately 3% of the variance, were included in the analysis, which increased to approximately 36%. As prospective and inhibitory anxiety increased, self-esteem decreased. In addition, it was found that the “externally-oriented thinking” sub-dimension was not a significant predictor.

#### 4. Discussion and Conclusion

This research investigated the relationships between alexithymia and intolerance of uncertainty as predictors of university students' self-esteem. The analysis results revealed significant negative correlations between self-esteem and alexithymia sub-dimensions (i.e., difficulty identifying feelings, difficulty communicating feelings, and externally-oriented thinking). Besides, there were significant negative correlations between self-esteem

and intolerance of uncertainty sub-dimensions (i.e., prospective anxiety and inhibitory anxiety). The regression analysis proved that alexithymia and intolerance of uncertainty were important predictors of self-esteem.

The first finding was that self-esteem decreased as the level of alexithymia increased, which overlaps with several findings in the literature. For example, Ünal (2004) revealed an association between alexithymia and low self-esteem in university students. Similarly, Ersögütçü and Kargin (2022) found a significant negative correlation between self-esteem and alexithymia in substance abusers. In their study on nursing students, Karasu and Arpacı (2022) revealed that as self-esteem increased, alexithymia levels declined (Dentale et al., 2010; Yelsma, 1995). Sasai et al. (2011) found a significant negative correlation between self-esteem and alexithymia in their study of a non-clinical sample. They indicated that alexithymia was a common psychological phenomenon strongly associated with self-esteem. Since alexithymia is characterized by an inability to identify one's own or others' feelings, a high level minimizes personal capability and self-confidence. A person must first be aware of their feelings and needs. A person unaware of their feelings cannot identify their thoughts, negatively affecting their behaviors. Uncontrollable feelings and thoughts are closely associated with self-esteem, making healthy decisions, and using personal capabilities. Individuals who cannot identify their feelings may not lead a peaceful life.

The second finding suggested that self-esteem decreased as the level of intolerance for uncertainty increased. The given two concepts have yet to be addressed in the literature, so there is no consistent finding. However, Lowe and Harris (2019) found that intolerance of uncertainty and low self-esteem together predicted social anxiety. Intolerance of uncertainty leads to anxiety due to the possibility of an adverse event (Carleton et al., 2007). It can be suggested that anxiety toward the unknown is an inherent disposition. In this sense, anxiety may harm mental health. Ferreira et al. (2020) revealed that intolerance of uncertainty during the COVID-19 pandemic was closely related to mental health and significantly correlated with depression, anxiety, and stress. Dar et al. (2017) also associated intolerance of uncertainty with depression and anxiety. Fergus and Rowatt (2014) and (Kim & Barry, 2021) emphasized that intolerance of uncertainty was correlated with neurotic personality traits. Zeigler-Hill (2013) concluded that self-esteem protects against stressful life events. Thus, it is anticipated that people with high self-esteem have a broad perspective and less anxiety in uncertain situations.

The final finding of the present study was that alexithymia and intolerance of uncertainty were important predictors of self-esteem. When the literature is examined, although there are correlational studies between alexithymia and self-esteem, there is no study looking at the predictive effect of alexithymia on self-esteem. Similarly, a study investigating the predictive effect of intolerance of uncertainty on self-esteem was not found. Increased self-esteem contributes to developing better coping skills and less anxiety. People are faced with unexpected situations throughout their lives. Therefore, coping and management skills are of vital importance. Self-esteem is a critical skill in all areas of life (e.g., at home and work), and high self-esteem is associated with good achievement (Orth & Robins, 2014). Therefore, individuals with high self-esteem manage their feelings and thoughts healthily. Thus, defining and communicating emotions and coping skills can support a person's capability and help them lead a process-oriented life rather than one of success or failure. The concept of alexithymia, the ability to define emotions, and the intolerance of uncertainty are critical life skills that should be better understood. Feelings are essential communication components, and our tolerance of uncertainty undoubtedly affects our mental well-being. In this respect, educational studies on both concepts can contribute to mental health as well as improve academic success. There is evidence that self-esteem is associated with academic achievement (Alves-Martins et al., 2002; Arshad et al., 2015; Joshi & Srivastava, 2009). Similarly, there are significant correlations between academic achievement and alexithymia (Parker et al., 2005; Romano et al., 2019) and intolerance of uncertainty (Uzun & Karatas, 2020). In light of these findings, it can be said that increasing self-esteem may indirectly affect the academic success of university students. Individuals who are academically successful are expected to increase their life satisfaction and well-being levels.

It is thought that increasing studies on improving self-esteem is important for mental health. In this study, it was found that alexithymia and intolerance to uncertainty predicted self-esteem. In light of this result, it is thought that intervention studies that can be done to increase self-esteem will reduce the difficulty of individuals to define emotions and at the same time contribute to increasing the tolerance limit in the face of uncertain situations. In interpersonal relationships, academic life, or negative life events, belief in one's own

capability is an important component. At this point, it can be said that the evaluations made by the person about himself or herself, that is, his or her perception of himself or herself, play a key role. In this respect, an increase in self-esteem can lead to healthier interpersonal relationships, healthier stress management, and, as a result, better mental health and happier individuals.

## 5. Limitations and Recommendations

The study has some limitations. The results of this study are limited to university students. The findings were based on self-reported data. In light of those findings, interventions and programs to improve self-esteem will be very effective in promoting psychological well-being and academic success among university students. It is also recommended to conduct experimental studies and develop group psychoeducation programs to see the effects of increased self-esteem. This study on university students can be carried out on students from different class levels.

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