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RESEARCH PAPER

# The Predictive Effect of Alexithymia towards the Metacognition and Emotional Distress in University Students

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**ABSTRACT**

The main objective of the study is to explore the relationship of alexithymia with metacognition and emotional distress in university students. Student's inability to recognize and express their feelings, restricted imagination and an outwardly focused way of thinking make are core components of alexithymia that make vulnerable to experience emotional distress and leads toward the overthinking. Although alexithymia is common among university students, but there is no specific diagnostic criterion for it. Borderline symptoms of alexithymia often misinterpreted. Students suffering from alexithymia are prone to experience other mental health issues. Cross sectional correlational research design was used, Data comprised on 152 male, 152 female university students with age range of 18-24 years, selected from different public and private universities of Sialkot city. A self- developed demographic sheet with Toronto Alexithymia Scale, Metacognition and Perceived Emotional Distress was administered on participants. Descriptive and inferential statistics was used to analyse the data, study results indicated the alexithymia as a strong predictor of metacognition and emotional distress in university students. Moreover the mean differences in alexithymia across first- eight semesters was found. The impact of alexithymia and the role of metacognition on emotional distress may be better understood with the support of longitudinal studies. Future research must be conducted using a clinical sample in order to draw conclusions about the clinical implications.

**Keywords:** Alternate Dispute Resolution (ADR), Communal Assembly, Customary Practices, Jirga System, Traditional Justice Mechanism, Victim-Offender Mediation

## Introduction

University student life differs from high school and college student life. University journey is exciting as it is like starting a new life. Students start on a new adventure of autonomy and discovery of oneself, gaining fresh, interesting experiences, growth, and freedom which in turn reshape the student's overall perspective on the dynamics of life. The environment's freedom and less constrained space taught students the ability to bring control and maintenance. There is penalty of options available for students to demonstrate their abilities in front of others. University students enhance their learning, produce novel ideas, and acquire their full potential (Oades et al., 2011). On the other hand, there are students who have negative experiences in the university and due to these negative experiences, students face inability to recognize and express feelings, give attention to the outside events instead of internal feelings, and difficulty in maintaining close relationship. These difficulties let the students to feel alone and cut off from others. Students lessen their social circle and isolated students may experience psychological problems. Such numbers of problems emerge during the university years, and if they are not properly addressed, they can have negative effect on the life of a student. The attention devoted to the university

population's problems has been considerably insufficient, which has raised student's psychological issues (Tremblay et al., 1969).

Student's inability to recognize and express their feelings, restricted imagination and an outwardly focused way of thinking make vulnerable them to experience alexithymia. Although alexithymia is common among university students, but there is no specific diagnostic criterion for it. Because of this, it can be difficult to find it among university students. Borderline symptoms of alexithymia often misinterpreted. Students suffering from alexithymia are prone to experience other mental health issues. Overthinking and student's lack of ability to express their emotions lead them to experience emotional distress. Although counseling services are offered in universities, nothing has been done to assess how the student's incapacity to express their emotions and overthinking contribute towards emotional distress. Consequently, the current study focused to determine the student's inability to express their feelings and overthinking, which may require counseling (Van Der Velde, 2013).

The word alexithymia was first used in Greek in 1972 by Dr. Peter E. Sifneos which indicates insufficient words for feelings (Sifneos, 1972). Alexithymia is known as personality construct which is characterized by a lack of emotional awareness. The symptoms of alexithymia included issues with recognizing emotions, differentiating them from physical arousal sensations, having problems communicating emotions to others, thinking with an external focus, and having limited imaginative capacity (Gaggero et al., 2020). In the same domain, alexithymia is defined as an impairment that involves troubles with recognizing, discriminating, expressing emotions as well as leads toward psychological issues (Cameron et al., 2014).

Alexithymia is a condition which was revealed by Kano & Fukudo (2013) defined that alexithymia is associated with cognitive characteristics, such as trouble recognizing feelings, trouble expressing feelings to others, externally oriented inference, and a restricted capacity for imagination. The occurrence of alexithymia was underlined by another important study by Serani (2023) who defined alexithymia as emotional blindness which emphasize the neuropsychological condition characterized by considerable difficulties with self-recognition, self-expression, and self-description. According to Taylor (2018), people with alexithymia have emotional dysregulation, which is the incapacity to self-soothe and regulate emotions leading to an inadequate emotional awareness. In the same line, alexithymia is highlighted as emotional dysregulation and emotional agnosia which results in deficient mental representations of emotion, affecting both the capacity to understand and emotion's conceptual meaning as well as the experience of emotion (Lane et al., 2015).

Another significant research conducted by Wotschack and Delius (2013) reported that alexithymia inhibits emotion regulation in which people with increased level of alexithymia show a decreased emotional vocabulary that may be caused by emotional issues and display difficulty with emotion control. In the same domain, Connor (2019) recognized alexithymia as a crucial element of emotional reflection and offered evidence that an affective reflection process occurs after emotional events, including alexithymia serving as an obstacle to the reflective process. A significant research highlighted that alexithymia poses a risk for a number of psychological issues. Alexithymia also refers to problems related to naming, explaining, and reflecting on individual's emotional experience. According to it, alexithymia is due to a generalized deficiency in emotion processing along with a decrease knowledge of one's own internal feelings (Brewer et al., 2016).

The two forms of alexithymia outlined by Sifneos (1973) are primary and secondary alexithymia. Primary alexithymia is a characteristic of an individual's profile that does not change much over time or in response to changing circumstances, much like a personality characteristic. Primary one caused by a possible acquired neuroanatomical or physiological defect prevented the ability to associate thoughts, imaginations, and languages that includes

feelings. Secondary alexithymia develops in response to severe psychological disturbance. The secondary one is connected to psychological abuse experienced in childhood, severe and prolonged traumatic experience, or excessive dependence on defense mechanism like repression (Sifneos, 1973). Some people can better manage their thoughts than others. Managing one's own cognition is known as metacognition that is the ability to consider which cognitive abilities to employ to complete a task successfully. A research defined that metacognition makes the causal assumption that self-regulation of cognitive processes involves cognition monitoring (Rhodes, 2019).

According to Fleming and Lau (2014) metacognition is the capacity to acknowledge individuals own effective cognitive managing of memory or perceptual tasks. Thinking about thinking or being aware of what one knows and do not know are further manifestations of metacognition. A significant research highlighted that individual utilizes a collection of processes known as metacognition to keep track of their own cognition and effectively manage their own behavior (Mahdavi, 2014).

A study defined that metacognitive ideas can also lead to changes in thought, feeling, and behavior. Metacognition is frequently referred to as knowledge of knowledge. People plan, self-regulate, and self-evaluate through metacognition and consider crucial for self-regulation (Sato, 2022). Metacognition is also described as decision-making processes that are self-directed and controlled. Metacognition is resulted as the capacity to represent, monitor, and manage ongoing cognitive processes which enables humans to carry out various activities. Metacognition is adaptive and some forms may have a social origin. According to a study metacognition is the process of accessing one's knowledge, perceptual awareness, or self-awareness (Metcalfe & Son, 2012).

Overthinking and individual’s lack of ability to express their emotions lead them to experience emotional distress. A state of emotional suffering is called emotional distress. It has many different symptoms, with anxiety and depression being two of its main characteristics. When stress levels exceed the limit of acceptable and there is no longer a sense of balance, emotional distress results. Emotional distress can cause numbness of thought, inaction, and the perception that life has no purpose (Rus et al., 2019).

Another important study by Meeker et al. (2016) focused on the concept of emotional distress, which is characterized as a range of unpleasant psychological experiences that interfere with coping skills and are cognitive, behavioral, emotional, social, and spiritual in nature. A study by Dean & Street (2014) defined emotional distress as an unpleasant emotional, psychological, social, or spiritual experience that limits coping. It ranges on a spectrum from issues that are incapacitating like depression to common, everyday feelings of vulnerability, sadness, and fears.

Individual’s inability to recognize and express their feelings, restricted imagination and an outwardly focused way of thinking lead them toward thought of chains. These thoughts of chain are known as metacognition. A study was conducted among 200 high school students from two Iranian cities by Babaei et al. (2015) to identify the correlation between alexithymia and the metacognition. The results of the study indicated that metacognition and alexithymia had the strongest correlation, suggesting that metacognition is a significant predictor of alexithymia. Another cross-sectional study was conducted with the sample of 1817 students aged among 14-17. The sample consisted of 54% female and 46% male participants. The results showed that alexithymia and metacognition is significantly correlated. Statistical analysis showed moderate association between alexithymia and metacognition (Yavuz et al., 2019).

A descriptive and correlational study accompanied at 1164 students concluded that the only way alexithymia could have an impact by dysfunctional beliefs and the chain-mediated interaction between dysfunctional beliefs and metacognitions (Dai et al., 2018). In

a comparable direction, university students participated in another study. It included 120 participants in overall, and ranged in age from 18 to 55. There were 68 females and 52 males present. The results suggest that low levels of metacognitive ability and cognitive alexithymia traits are negatively correlated with poor emotion recognition (Spicer, 2018).

Students experience emotional distress in situations that are demanding and challenging which involved metacognitive skills. Students at universities often feel depressed, which impairs their ability to engage in metacognition**.** A study conducted by Spada & Mohiyeddini (2008) using a sample of 1403 students. According to the study, aspects of metacognition such as negative attitudes about spontaneously flowing thoughts and risk, and beliefs about the necessity of regulating thoughts predict emotional distress. In the same line, another study was conducted using a sample of 420 students. According to the results, negative emotions and metacognition are positively and strongly associated (Spada & Nikcevic, 2008).

In align with the study, 457 students were selected for the study. The results indicated that indicates that metacognitive beliefs have significant role in the emergence and maintenance of emotional distress (Fisher et al., 2018).

A study towards the relationship between emotional distress and alexithymia was carried out by Shahgholian et al. (2007) among 210 university students included 105 females and 105 males. According to the results of the study, emotional restraint and emotional distress were substantially connected with alexithymia.

In the same line, another study carried out by Nasiri et al. (2009) among 593 students. A sample comprises 308 girls and 285 boys. According to the results of the study it was revealed that alexithymia positively correlated with emotional distress. According to a significant research conducted among university students.

To further identify the relationship between alexithymia and emotional distress. Another study was conducted by Fang et al. (2020) with 455 university students completed a set of questionnaires. The findings revealed that alexithymia was associated with increased emotional distress. In the same line, another study was conducted by Preece et al. (2020) with 300 university students. The findings of the study revealed that difficulties identifying feelings have significantly correlated with emotional distress factors.

At King Khalid University in Saudi Arabia, 333 students participated in a cross-sectional study to find out how common alexithymia is and how it relates to socio demographics and depression. The results showed that the prevalence of depression and alexithymia was 47.4% males and 88.9% females, that the risk was doubled for females, students with higher income status had a lower probability of having alexithymia, while those with chronic health issues had a doubled risk, additionally, there existed a substantial relationship between alexithymia and depression (Aleisa et al., 2022).

A study carried out by Akram & Arshad (2022) investigated the connection between alexithymia and depression in university students and the mediation effect of anxiety. Data from 74 students in which 33 women and 41 men between the age ranged 18-25 was collected. The results showed a statistically significant gender difference, with men experiencing higher levels of depression and anxiety than women.

Students play a vital and active role in creating a better society, which in turn creates the best nation as the youth of today are students, and students represent the nation as a whole. Students go through a formative period, which is recognized as a critical life stage. Student's psychological problems ultimately distract them from their studies which effect their grades and performance. Student's inability to express their emotions and overthinking led them toward emotional and mental distress. University population is a

critical population and often misdiagnosed. Student's issues are not properly addressed. Among these issues, alexithymia is one the most common problem among university students which make vulnerable to other psychological distress.

Alexithymia is essential to investigate because it is a predictor of other different mental issues and cause emotional distress so it has been demonstrated to have a wide range of impact and increase the chances of psychological problems in university students. The current research helped in investigating the inability to express and identify emotions which lead toward emotional distress. It added into the existing literature and to understand the moderating role of metacognition towards relationship between alexithymia and emotional distress in university students. Results of the study will be helpful to university authorities and university counselor in proposing intervention courses to identify alexithymia. Moreover, workshops could be conducted for the explanation and interventions of this phenomenon which ultimately enhance student's confidence and empower them to overcome the emotional distress that help them to study more effectively and efficiently which impact on their performance.

**Hypotheses**

1. There would be a positive correlation between alexithymia and metacognition in university students.

2. There would be a positive correlation between metacognition and emotional distress in university students.

3. There would be a positive correlation between alexithymia and emotional distress in university students.

4. There would be a positive prediction of emotional distress by alexithymia in university students.

5. There would be a significant mean gender difference in alexithymia in university students.

6. There would be a significant mean differences in alexithymia across first-second semester, third-forth semester, fifth-sixth semester and seventh-eighth semester.

**Material and Methods**

**Research Design**

A cross-sectional research design was implemented to carry out the study for the representative sample and convenient sampling was used for study.

**Sample**

The sample of study was comprised of 304 students included 152 girls and 152 boys between the age range of 18-24 years. The students of BS Honors were selected for the study from Government College Women University, University of Management and Technology, University of Sialkot and Murray Graduate College Sialkot. Students with chronic medical conditions and psychological problems were also excluded from the study.

**Measure Instruments**

**Demographic Sheet**

Demographic sheet was prepared in Urdu. It is an informational tool designed to examine the socio demographic particulars of the participants. The demographic sheet related to the respondent's age, gender, birth order, marital status, living area, socio-economic status, education, academic year, history of chronic medical and mental illness.

**Toronto Alexithymia Scale (Bagby et al., 1994)**

Toronto Alexithymia Scale is a self-report questionnaire with 20 items. It consists of three subscales, externally oriented style of thinking, difficulty explaining feelings, and difficulty identifying feelings. The items on the rating scale ranged from strongly disagree to strongly agree on a likert scale. The current study used translated version of the scale which was given by Zahid et al. (2021). It has 0.78 cronbach's alpha reliability.

**Metacognition Questionnaire (Wells et al., 2004)**

Metacognition Questionnaire is a 30-items scale use to assess individual differences in a number of metacognitive beliefs. The MCQ-30 comprises five subscales, cognitive self-consciousness, negative attitudes about the danger and uncontrollability of ideas, positive beliefs about worry, cognitive confidence, and the need to control thoughts. The present study used translated version of scale which was given by Chohan & Kousar (2015). The responses ranged from do not agree to agree very much on a likert scale. It has 0.78 cronbach's alpha reliability.

**Perceived Emotional Distress Inventory (Moscoso et al., 2012)**

Perceived Emotional Distress Scale is a self-report questionnaire comprises of 15-items to assess the degree and existence of emotional distress in along with overall mood disturbance. The scale divided into three subscales, anxiety and depression, hopelessness, and anger expression. The responses ranged on a likert scale from never to very much. The current study used the translated version of the scale by Zafar and Kousar (2013). It has 0.76 cronbach's alpha reliability.

**Ethical Considerations**

- Approval was taken from the Departmental Research Committee (DRPC), Ethical Institutional Review Board (EIRB), Board of Studies (BOS) and Board of Advance Studies and Research (BASR).
- Permission was taken from the author who developed the scale as well as the authors who adapted and translated Urdu version of the scale.
- Permission from the concerned authorities of different public and private universities and colleges of Sialkot was taken.
- Written consent was taken from the participants.
- The participants were aware of the research's goal.
- Right was given to the participants to leave or withdraw from the study.
- Data confidentiality was maintained.
- Accurate results representation was ensured.
- The counseling services were provided by the university counselor to those participants who experienced the psychological issues.

**Results and Discussion**

**Table 1**
**Socio-demographic characteristics of participants (N=304)**

| Variable | F | % |
|---|---|---|
| Age | | |
| 18-20 | 153 | 50.3 |
| 20-22 | 151 | 49.7 |
| Gender | | |
| Female | 152 | 50.0 |
| Male | 152 | 50.0 |
| Birth Order | | |
| First | 100 | 32.9 |
| Middle | 119 | 39.1 |
| Last | 85 | 28.0 |
| Marital Status | | |
| Married | 7 | 2.7 |
| Unmarried | 296 | 97.4 |
| Divorced | 1 | 0.3 |
| Socioeconomic Status | | |
| High Class | 39 | 12.8 |
| Lower Class | 71 | 6.9 |
| Middle Class | 244 | 80.3 |
| Residence | | |
| City | 153 | 50.3 |
| Village | 102 | 33.6 |
| Town | 49 | 16.1 |
| Semester | | |
| $1^{st}$-$2^{nd}$ | 76 | 25.0 |
| $3^{rd}$-$4^{th}$ | 76 | 25.0 |
| $5^{th}$-$6^{th}$ | 77 | 25.3 |
| $7^{th}$-$8^{th}$ | 75 | 24.7 |
| Physical Disease | | |
| No | 302 | 99.3 |
| Yes | 1 | 0.3 |

NOTE.F= Frequency, %= Percentage

**Table 2**
**Pearson Product Moment Coefficient of Correlation of Alexithymia, Metacognition and Emotional Distress**

| | Variables | n | M | SD | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| 1 | Alexithymia | 304 | 76.67 | 8.90 | - | - | - |
| 2 | Metacognition | | 78.89 | 11.70 | .165** | - | - |
| 3 | Emotional Distress | | 22.36 | 6.85 | .203** | .444** | - |

Note. M= Mean, SD= Standard Deviation, Alexithymia, Metacognition, Perceived Emotional Distress **p<0.01,

The above table revealed that alexithymia has significant positive correlation with metacognition (r= .165, *p*<.01) and has significant positive correlation with emotional distress (r= .203, *p*<.01). Further findings revealed that metacognition has significant positive correlation with emotional distress (r= .444, *p*<.01).

**Table 3**
**Regression coefficient of Alexithymia and Metacognition on Emotional Distress**

| *Variables* | *B* | *SE* | *t* | *P* | *CI (95%)* | |
|---|---|---|---|---|---|---|
| | | | | | LL | UL |
| Constant | -4.97 | 3.57 | -1.39 | .166 | -12 | 2.06 |
| Alexithymia | 0.10 | 0.04 | 2.56 | .011 | .02 | 0.18 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Metacognition | 0.24 | 0.03 | 8.14 | .000 | 0.18 | 0.30 |

Note. N= 304, B= Unstandardized Coefficient, CI= Confidence Interval

The above table shows the impact of alexithymia and metacognition on emotional distress. The $R^2$ value of 0.21 revealed that alexithymia explained 21% variance in the emotional distress with F (1, 303) =41.02, *p*<.001). The finding revealed that alexithymia positively predicted emotional distress (β= .133, *p*< .001).

**Table 4**
**Mean, Standard Deviation and One-Way Analysis of Variance between Alexithymia and Semester.**

| | **Alexithymia** | | | | |
|---|---|---|---|---|---|
| | **M** | **SD** | **F(2, 302)** | **$\eta^2$** | **Levene Statistics** |
| 1st-2nd | 78.19 | 7.30 | 5.60 | 0.05 | 13.71 |
| 3rd-4th | 79.18 | 6.96 | | | |
| 5th-6th | 74.55 | 11.14 | | | |
| 7th-8th | 74.76 | 8.75 | | | |

NOTE. M=Mean, SD= Standard Deviation, $\eta^2$=Effect Size

The above table shows that there is a mean difference in alexithymia across first-second semester, third-forth semester, fifth-sixth semester and seventh-eighth semester with F (2, 302) =5.60, *p*<.001).

## Conclusion

The current study hypothesized that there is a positive correlation between alexithymia and metacognition. The results of the current study revealed that there a significant positive correlation between alexithymia and metacognition which is supported by the previous study which revealed that the highest correlation was found between alexithymia and the metacognition. The findings demonstrated that metacognition had an important role in predicting alexithymia (Babaei et al., 2015). In the same context, another research conducted by Yavuz (2019) supported the current results which showed a moderate association between alexithymia and metacognition which is similar to the present results.

The current study investigated a significant positive correlation between alexithymia and emotional distress. The current hypothesis supported by the previous research indicated that there is a significant correlation between alexithymia and emotional distress (Lyvers et al., 2017). In the same line, another study's finding support the current results which revealed that difficulties identifying feelings have significantly correlated with emotional distress (Preece et al., 2020).

Another assumption of the current study revealed that there is a correlation between metacognition and emotional distress. The current results revealed that there is a significant positive correlation between metacognition and emotional distress. The current hypothesis supported by the past study which indicated that emotional distress and metacognition are positively and strongly associated (Spada & Nikcevic, 2008).

It is hypothesized that alexithymia predicted emotional distress. The results of the current study indicated that alexithymia positively predicted emotional distress. The past study revealed that alexithymia linked to higher levels of emotional distress and diminished emotional concern for others and a sign of a deeper emotion regulation disability (Hartwig et al., 2020). It is hypothesized that there is significant moderating role of socioeconomic status on alexithymia in university students. The results of the current study revealed that

there is a significant role of socioeconomic status on alexithymia. In accordance, a past study conducted by (Aleisa et al., 2022) which indicated that students with high socioeconomic status revealed a lower likelihood of alexithymia.

It was hypothesized that there is a mean differences in alexithymia across first-second semester, third-forth semester, fifth-sixth semester and seventh-eighth semester. The results show that there is a mean difference in alexithymia across first-second semester, third-forth semester, fifth-sixth semester and seventh-eighth semester as students in last year of university experience less alexithymia as compared to first year. The past study conducted by (Alzahrani et al., 2020) supports the current hypothesis, indicated the relationship between alexithymia and study year. The results revealed that there was lower risk of alexithymia in last semester students.

The notable finding of the current study is non-significant role of metacognition on alexithymia and emotional distress in university students. It was hypothesized that metacognition play a moderating role in alexithymia and emotional distress. In contrary to the hypothesis, the current analysis did not show significant role of metacognition on alexithymia and emotional distress. A study conducted by Lee (2021) revealed that students in university have friends which play a role as their social support. Student's genuine interaction helps them to overcome emotional distress and showed that students at universities are able to encounter, overcome, and recover from emotional distress with the help of other's social support. It is assumed that students in university have busy schedules. Students have multiple projects and assignments due to which they don't have time to engage themselves in thoughts of chain which ultimately cause emotional distress. Although, different researches revealed that metacognition play a role in alexithymia and emotional distress but the friend's company and limited time frame, metacognition do not play significant role in alexithymia and emotional distress.

## Implications

- The university counselors will find it useful in developing plans for interventions to improve the student's performance.
- Targeting metacognitive beliefs and alexithymia may be beneficial areas for psychological intervention.
- The findings of this study, which examines the connection between alexithymia, metacognition, and emotional distress, may serve as a guide for future research by other researchers in the field.

## Recommendations

The current study has following limitations and recommendations:

- The current study relied on self-reporting, which raises the possibility of reporting bias. The validity of the self-report questionnaires used in the present study may be questioned.
- The current study only included university students in its sample because it might not accurately reflect the characteristics of all students.
- The study's cross-sectional design limits how the results can be interpreted because a causal relationship cannot be inferred from the correlational methodology. Structured interviews or performance-based instruments should be used in addition to conventional self-reported measures. To determine whether emotional distress causes alexithymia or whether alexithymia causes emotional distress, longitudinal studies are required. The impact of alexithymia and the role of metacognition on emotional distress may be better understood with the support of longitudinal studies.

- The same research should be done with other professionals to determine the role of metacognition relates to emotional distress and alexithymia.
- Future research must be conducted using a clinical sample in order to draw conclusions about the clinical implications of the current study

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