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Intolerance of Uncertainty and Ruminations as Predictors of Academic Burnout among Adolescents

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Abstract

The current study was aimed to explore the relationship between intolerance for uncertainty, ruminations, and academic burnout among adolescents. Correlational research design was employed. The sample of 300 adolescents with age range 15-19 years (150 girls and 150 boys) participants from the city of Lahore (N=300) were recruited for the current study. Purposive sampling was used for the purpose of data collection. Indigenous scales were used for this study, including Intolerance of Uncertainty Scale (IUS), Ruminative Inertia Scale (RIS), and Academic Burnout Scale (ABO). Findings of correlation analysis concluded that intolerance of uncertainty, and rumination have a significant positive correlation with academic burnout among adolescents. Results of multiple linear regression showed that age, major subject, study hours, apprehension, lack of decisiveness, and self-rumination of adolescents were significant positive predictors of academic burnout while marks percentage was a significantly negative predictor of academic burnout among adolescents. This study will assist in future development of effective techniques and intervention programs that can be employed to help adolescent cope with uncertainty and manage academic stressors leading to burnout.

Keywords: Intolerance of uncertainty, Ruminations, Academic burnout, Adolescents

Introduction



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Adolescents are youngsters in the transitional stage of development, growing from childhood into adulthood typically in the range of 15 to 19 years old. It is a critical developmental period marked by considerable cognitive, emotional, and social changes as they grow toward greater independence. This stage is distinguished by the development of personal identity, autonomy, and meaningful interactions outside of the familial unit. Adolescents encounter a variety of obstacles, including scholastic stress, greater academic duties, social expectations, and the need to navigate an increasingly complicated and unpredictable environment (Humensky, 2010).

This is also the time where most adolescents are trying to do well in school, meanwhile managing their personal and social lives. Given the particular time of development for late adolescents, understanding the contributing elements to academic fatigue is all the more important. One of the biggest sources of stress among youth is academic pressures like stress to excel in academics, meet family and cultural standards, and ensure a bright future can result in anxiety. These pressures are compounded by the rapid pace of technological change, the competitive nature of modern schools, and the increasing importance of standardized testing. Consequently, many teens struggle to combine academic duties and other elements of their lives, which can lead to poor psychological results such as academic burnout (Acquah, 2018).

High cases of academic burnout have a long-lasting impact on adolescents and their mental well-being like demotivates students but in some cases disrupted engagement and cognition leading to poor academic performance. This research helps to establish areas of uncertainty intolerance and rumination which drive academic burnout, assisting the development of stress-oriented mental health treatments (Usan & Salavera, 2020).

Intolerance of uncertainty (IU) is a psychological trait where it becomes difficult for the affected person to deal with uncertain, ambiguous, and unknown future events. IU can be brought about but lack of decisiveness, lack of stability, and anxiety (Carleton, 2016). Uncertainty intolerance contains four main factors i.e., lack of decisiveness, instability, fear and non-acceptance. Within an academic context, those who have a high tolerance for uncertainty are well-poised to handle the certainty built into “learning” itself, which includes unexpected modifications to syllabi, changes in expectations by instructors or difficult exam questions. On the other hand, students who have an intolerance to uncertainty may become super-overwhelmed with these uncertain scenarios and be in a much higher-stress environment. (Osmanağaoğlu, 2018).

Most adolescents may experience challenges with the added stress and avoidance of social relationships, pressure to do well academically, and future decisions.

Adolescents who struggle with the uncertainty in these areas often find themselves overcoming anxiety and self-doubt due to constant pressure of unpredictability. It, therefore, influences their wellbeing and academic performance. Research suggested that intolerance of uncertainty acts as a risk factor for rumination. It is because some people may use rumination as a way to cope with which would mirror their discomfort about uncertainty (Wahlund, 2020).

Rumination is defined as the process of repeatedly focusing passively on one's discomfort, as well as the possible reasons and outcomes of that discomfort (Nolen, 1991). There are two major categories of rumination; self-rumination and social rumination. It is a psychological activity which makes an individual feel stressed and anxious. Adolescents are more likely to ruminate during their formation years due to all the changes and challenges that take place including development of self, social relations, and scholastic demands (Burwell & Shirk, 2007).

Rumination is another important element influencing the behavior of adolescent's mental health



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and academic achievement. When faced with educational problems, teenagers who indulge in rumination may struggle to focus on their studies, resulting in worse academic performance. Ruminating may set off a vicious cycle in which negative thoughts contribute to poor academic performance, which then fuels further ruminating. Rumination can drain an adolescent's psychic and mental energy; hence it becomes challenging for them to concentrate on multiple tasks thus decreasing their academic performance. Adolescents still remain pondering their performance in academics; this surplus interest and the process of rumination heightened the levels of pressure thus ushering them in feelings of emotional exhaustion and disconnection from academic work hence catalyzing academic burnout among them (Jose & Brown, 2008).

Academic burnout is described as a persistent condition of physical and emotional exhaustion due to scholastic expectations (Zhang et al., 2020). Four underlying factors of academic burnout include exhaustion, withdrawal, reduce self-efficacy, and negative compensation. It is a developing problem in educational settings since it has significant consequences for student's mental health, academic performance, and general well-being. It involves a prolonged stress response that causes emotional tiredness, pressure toward academic work, and a weakened feeling of personal success (Maslach, 2001).

Adolescents who suffer from academic burnout have frequently complain of chronic tiredness, loss of interest in academic activities, and a lack of motivation or drive to study. Research studies establish that academic burnout is connected with a list of adverse effects, including lower grades, higher truancy, and the possibility of suffering from mental problems like anxiety or depression. Other effects of academic burnout include reduced motivation, lower performance, and even dropout. Studies found that adolescent academic burnout exacerbates not only their school performance but general well-being (Gao, 2023).

Four of the key factors are frequently found to often be the drivers of academic burnout among adolescence: exhaustion, withdrawal, reduced self-efficacy, and negative compensation. Usually, exhaustion is the result of an over prolonged attack of academic demands that are more than the student's capacity for emotional and physical exhaustion. Over-exposure to constant studying, constant assignment submission, and pressure of performance eventually creates too much energy, which exhausts the student's capacity to relate to his or her work. The result, however, is that most of the adolescents start to withdraw socially and emotionally from peers, teachers, and even from academic activities. Withdrawal sets in to produce feelings of isolation that sometimes increase burnout. Such maladaptive behaviors serve to impede academic performance; however, they also maintain the cycle of stress, failure, and burnout, amplifying the burnout experience (Vinter, 2021).

Number of studies have been conducted to show that adolescents who experience difficulties as opposite to those who are uncertainty intolerant, have higher chances of acquiring academic burnout since they had higher levels of anxiety and stress. The students with a high level of intolerance of uncertainty are generally absorbed in thoughts pertaining to their performance in academics and their future opportunity, according to one study. Such excessive concern and rumination heighten their levels of stress, bringing along feelings of emotional exhaustion and disengagement with academic tasks. Such a process of rumination resulting from intolerance to uncertainty impede academic pressure management and thus enhances the chance of academic burnout. Such findings are used for offering interventions aimed at specific features of uncertainty intolerance and those of rumination to curb the factor causing academic burnout



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among adolescents (Huang, 2019).

As for the adolescents who have the problems described with this particular dimension of the uncertainty tolerance, they would experience heightened anxiety and self-questioning about the constant threat of the uncertainty. This heightened sense of apprehension can impact their overall well-being and academic performance (Sajjad & Jabeen, 2024). Resolution through the causative issues associated with uncertainty intolerance as well as the vicious cycle of rumination can actually make students employ good coping skills that enhanced academic performance and general welfare. In this context, therefore, the intervention is cemented as impactful towards the mitigation of the effects of uncertainty intolerance and rumination on the academic burnout among adolescents (Abarkar, 2023).

The problem of lack of acceptance forms an important additional subfactor of uncertainty intolerance for the adolescents. Sometimes, when adolescents are unable to accept their uncertainty, they face constraints either in handling the uncertainties of their social life or the uncertainties of academic pressures or aspirations regarding the future. This makes them highly anxious and worried, being concerned about everything in advance and not getting along well with not knowing everything about everything. Such lack of acceptance may make them hinder their adaptation and survival in a constantly changing environment, making it harder for them to navigate the complexity of adolescence (Fayazbakhsh & Mansouri, 2019).

Intolerance of uncertainty theory argues that heightened intolerance for uncertainty generates anxiety and is related to maladaptive coping. This theory says that those with a high tolerance (TEA) see ambiguity as threatening and dangerous, and thus become anxious, and chronically avoid all ambiguous contexts. Adolescents, and indeed all of us often are dealing with ambiguous set points re who we believe ourselves to be, our future, and how to connect socially. This intolerance for uncertainty often exacerbates feelings of anxiety and stress leading to academic fatigue, due to extended periods of unproductivity and rumination. According to IUT, treatments that increase tolerance for uncertainty like exposure to unsettling circumstances and cognitive restructuring can lessen anxiety and enhance general wellbeing (Dugas et al., 1998).

Albert Bandura's social cognitive theory places a strong emphasis on the roles that self-efficacy, reciprocal determinism, and observational learning play in psychological and behavioral processes. Regarding intolerance to uncertainty, the theory demonstrates that people learn their tolerance for uncertainty from observing how other people react to it and through their own successful or failing experiences in uncertain conditions. Bandura underlined self-efficacy-that is, the perceived ability of individuals to manage tasks-as critical to overcoming uncertainty. People with high self-efficacy respond to problematic or uncertain situations more and better than people with low self-efficacy. People with low self-efficacy are intolerant of ambiguity-they will be apprehensive and uncomfortable when things are vague or unpredictable. According to SCT, teenagers can be helped to develop resilience and adaptive coping mechanisms by increasing their sense of self-efficacy through verbal persuasion, social modeling, and mastery experiences (Bandura, 1986). Susan Nolen-Hoeksema's Response Styles Theory (RST) examines how people react to their depressed symptoms. The idea distinguishes between rumination and distraction as the two main types of responses. Rumination can exacerbate and prolong depressive affective states because it entails a passive and repetitive attention on one's distress, its origins, and its effects. Distraction, on the other hand, entails doing things to take the mind off of upsetting ideas. Rumination can intensify unpleasant feelings and impair the ability to solve



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problems effectively, making it a substantial risk factor for depression and anxiety in teenagers. RST places a strong emphasis on the value of teaching teenagers adaptive coping mechanisms that help them turn their attention from daydreaming to productive pursuits, therefore lowering their chance of developing anxiety and depression (Hoeksema, 1991).

Uncertainty intolerance and academic burnout are among the most challenging issues affecting the academic experience and well-being of adolescents. The literature reveals that these two factors are significantly correlated to each other, and intolerance of uncertainty accelerates the development of academic burnout among students (Qiang, 2024). One of the research studies, by reported that students with high intolerance to uncertainty presented with significantly increased symptoms of academic burnout including emotional exhaustion and decreased academic efficacy. Uncertainty intolerance among students was highly positively correlated with low self-efficacy (Uzun & Karatas,

2020). Their study indicates that there will be probable instances of students developing burnout conditions if they exposed themselves to higher levels of uncertainty intolerance, and this would make them prone to frequently catastrophizing possible academic difficulties and their tendency for great hardships in adapting to changes in the academic environments. This approach to burnout among students indicates the need for interventions with a focus on reducing cognitive distortions as well as emotional responses (Gellisch, 2024).

Rationale

Adolescents are increasingly struggling and are being concerned about emotional tiredness, disengagement, and declining academic performance and achievements, which can collectively contribute in academic burnout. To understand the contributing role of intolerance of uncertainty and rumination in this phenomenon is vital for identifying the risk factors and utilizing for prevention strategies (Liao & Wei, 2011).

The current study aims to bridge the existing literature gaps and offer a more comprehensive picture of the interactions between intolerance of uncertainty and its unique contribution to academic burnout, also the exacerbating effect of ruminations in contributing to theoretical frameworks in educational psychology and stress research, the study will examine the relationship between academic burnout, intolerance of uncertainty and rumination. It will shed light on the ways in which these psychological elements affect academic experience. Addressing the underlying causes of intolerance of uncertainty, rumination, and burnout can facilitate the creation of focused therapies. The results of this study can be used by educators, counselors, and parents to develop ways that assist teenagers in coping with uncertainty and minimizing rumination, so averting burnout. The study tackles the particular difficulties that teenagers experience by concentrating on them. The findings may result in more effective support networks and developmental-needs-specific interventions that enhance teenagers' academic and mental health. This study aims to bridge existing gaps in the literature by examining how intolerance of uncertainty uniquely contributes to academic burnout and how rumination exacerbates this effect. By investigating these cognitive vulnerabilities, the research will offer a more comprehensive understanding of their interplay in shaping adolescents' academic experiences.

Beyond its theoretical contributions to educational psychology and stress research, this study has practical implications. Identifying the underlying mechanisms of burnout can inform targeted



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interventions for educators, counselors, and parents. By addressing the root causes of uncertainty intolerance and rumination, the findings can guide the development of support strategies that help adolescents manage stress, enhance resilience, and reduce the risk of burnout. By focusing specifically on adolescents, this research can acknowledge their unique developmental challenges and the increasing academic pressures they face. The insights gained may contribute to more effective mental health support systems and academic interventions tailored to their needs, ultimately fostering both psychological well-being and academic success.

Objectives

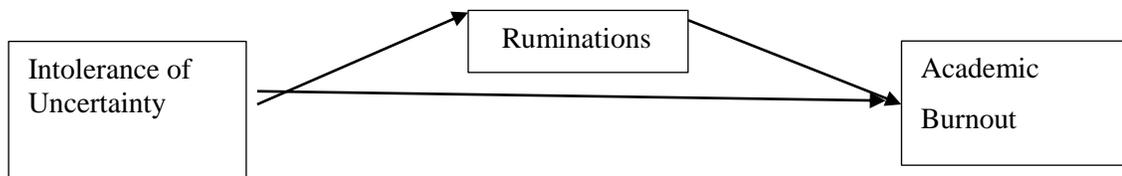
- To explore the relationship between intolerance of uncertainty and rumination among adolescents.
- To find out the relationship between rumination and academic burnout among adolescents.
- To identify the relationship between intolerance of uncertainty and academic burnout among adolescents.
- To explore the predicting role of demographic variables on academic burnout among adolescents.

Hypotheses

- It is hypothesized that there will be a significant positive relationship between intolerance of uncertainty, ruminations and academic burnout among adolescents.
- It is hypothesized that intolerance of uncertainty, ruminations will predict academic burnout among adolescents.
- It is hypothesized that demographic variables are (age, gender, school system, educational level, major subject, study hours, marks percentage are significant predictors of academic burnout among adolescents.
- It is hypothesized that there will be a significant difference in intolerance of uncertainty, ruminations and academic burnout between male and female.

Conceptual Framework

Figure 1: *Conceptual Framework of the Intolerance of Uncertainty, Rumination and Academic Burnout*



Method

Correlational study design was used in this study. The study was conducted in private high schools and colleges. Purposive sampling technique was used. A sample of 300 adolescent participants (150 girls and 150 boys) was selected for this study, where participant's age ranged from 15 to 19 years old and were enrolled in high school.



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Inclusion Criteria

- Participant enrolled in secondary schools and in colleges
- Participant aged 15 to 19 years.

Exclusion Criteria

- Participants with any kind of physical disability.

Measures

Intolerance of Uncertainty (Sajjad & Jabeen, 2021)

Intolerance of uncertainty was tested using the Intolerance of Uncertainty Scale (IUS), which analyzed people attitudes to uncertain situations and their inclination to see uncertainty as dangerous. This scale consisted of 36 number of items with four factors apprehension (9 items), lack of acceptance (7 items), lack of decisiveness (9 items), lack of stability (11 items) it was Likert type scale and response option included (0) never (1) sometimes, often (2) and (3) mostly. Cronbach alpha for this scale was .81.

Rumination Inertia Scale (Shahzad & Jabeen, 2021)

The Ruminative inertia Scale was used to assess rumination. This scale developed by Rumination is comprised of two factors i-e self- rumination and social rumination are positively associated with psychological control and its factors as well as academic burnout. This scale consisted of 17 number of items with two factors self-rumination (10 items), social rumination (7 items).it was Likert type scale and response option included (0) never (1) very few (2) sometimes (3) to some extent (4) very much. Cronbach alpha for this scale was 0.89.

Academic Burnout Scale (Maqbool & Jabeen, 2020)

This scale was used to assess academic burnout in adolescent student. scale consisted of 36 items that were measured on liker scale of 0-3 (0is being almost never and 3 being very much) ABO consisted of four factors exhaustion (9 items), withdrawal (9 items), reduced self-efficacy (8 items), and negative compensation (4 items). Cronbach alpha for this scale was .91.

Ethical Considerations

Permission was taken from department before conducting research. The study followed strong ethical requirements to preserve participants rights and well-being. First of all permission was taken from authors of scales used in current study. Informed consent was obtained prior from participants and confidentiality was ensured to them. Participants were aware of their right to withdraw at any time, and the steps taken to protect the confidentiality and privacy of their data. Data was securely saved and utilized only for research purpose.

Results

This includes an overview of the study's demographics through a descriptive analysis of two kinds of variables: continuous and categorical. Continuous variables were analyzed using frequency and percentage, while mean and standard deviation were employed for analyzing categorical variables. The table below shows the high internal consistency of intolerance of uncertainty scale, ruminative inertia scale and academic burnout scale used for the current study.



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Table 1: Cronbach Alpha of Intolerance of Uncertainty Scale, Ruminative Inertia Scale and Academic Burnout Scale (N = 300)

es

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Note. α = Cronbach's alpha, IUS = Intolerance of Uncertainty Scale, RIS = Ruminative Inertia Scale and ABO = Academic Burnout Scale.



Table 2: Pearson-correlations among Intolerance of Uncertainty, Rumination and Academic Burnout in Adolescents. (N=300)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1.IUS-F1	8.88	4.73	-	.63***	.51***	.59***	.53***	.36***	.31***	.46***	.26***	.23***
2.IUS-F2	13.29	6.58	-	-	.69***	.67***	.45***	.27***	.33***	.42***	.36***	.25***
3.IUS-F3	12.69	7.16	-	-	-	.68***	.44***	.17**	.33***	.4***	.37***	.31***
4.IUS-F4	8.51	4.9	-	-	-	-	.43***	.26***	.31***	.47***	.3***	.25***
5.RIS-F1	20.38	8.68	-	-	-	-	-	.49***	.30***	.4***	.28***	.23***
6.RIS-F2	19.81	6.5	-	-	-	-	-	-	.22***	.27***	.09	-.02
7.ABO-F1	12.05	5.77	-	-	-	-	-	-	-	.7***	.57***	.57***
8.ABO-F2	11.98	5.98	-	-	-	-	-	-	-	-	.59***	.55***
9.ABO-F3	10.46	4.61	-	-	-	-	-	-	-	-	-	.5***
10.ABO-F4	3.42	2.73	-	-	-	-	-	-	-	-	-	-

Note. *M*= mean, *SD*= Standard Deviation, IUS = intolerance of uncertainty, IUS-F1= apprehension, IUS- F2 = lack of acceptance, IUS- F3= lack of decisiveness, IUS-F4 = lack of stability, RIS = ruminative inertia, RIS- F1 = self-rumination, RIS- F2 = social rumination, ABO = academic burnout, ABO- F1 = exhaustion, ABO- F2 = withdrawal, ABO- F3 = reduce self-efficacy, and ABO- F4 = negative compensation, **p* <0.05, ***p* <0.01, ****p* <0.001.



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Pearson product-moment correlation shows that apprehension, lack of acceptance, lack of decisiveness, and lack of stability have a very highly significant positive relationship with self-rumination, social rumination, exhaustion, withdrawal, reduction in self-efficacy, and negative compensation. Furthermore, the table also suggested that self-rumination have a high significant positive relationship with exhaustion, withdrawal, reduction in self-efficacy, and negative compensation. While, social rumination has a high significant positive correlation with exhaustion and withdrawal. Briefly summing up, correlation analysis found that Intolerance of Uncertainty, and Rumination have a very high significant positive correlation with Academic Burnout among Adolescents.

Table 3: Multiple Linear Regression Analysis of Predictors of Academic Burnout in Adolescents (N= 300)

Variables	B	SE	β	95% of CI		R	R ²	ΔR^2
				LL	UL			
Step 1								
Constant								
Age	4.9	1.01	.33***	2.92	6.87	.39	.15	.13
Step 2								
Gender	.76	.22	.11	-.61	.13			
Education Level	-.07	.57	-.01	-.99	.12			
School System	-.134	.28	-.11	-.83	.15			
Major Subject	-.65	.69	-.09**	-.35	3.95			
School Change	-.39	.16	-.01	-.65	.86			
Study Hours	-.06	.72	-.03*	-.2	.98			
Marks Percentage	-.16	.69	-.016**	-.93	.28			
Step 3								
Family System	-.33	.31	-.04	-.88	.22		.06	.1
Father's Education	-.09	.25	-.01	-.36	.55			
Mother's Education	-.37	.32	-.02	-.98	.23			
Father's Occupation	-.53	.9	-.08	-.21	.26			
Mother's Occupation	-.65	.88	-.03	-.31	.01			
Number of Siblings	-.07	.98	-.02	-.13	.67			
Birth Order	-.03	.48	-.03	-.08	.73			
Step 4								
IUS- F1	-.09	.8	-.02**	-.4	.44	.09	.05	.1
IUS- F2	-.06	.3	-.06	-.29	.2			
IUS- F3	-.07	.4	-.08*	-.17	.7			



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IUS- F4	.1		1	17	0			
RIS- F1	.2	5	8**	1	2	1	7	2
RIS- F2	1	7	4	23				

Note. *B*= Unstandardized Beta, *SEB*= Coefficient Standard Error, R^2 = Coefficient of Determination, ΔR^2 = Adjusted R Square, *LL*= Lower Limit, *UL*= Upper Limit, *M*=mean, *SD*= Standard Deviation, *IUS* = intolerance of uncertainty, *IUS-F1* = apprehension, *IUS-F2* = lack of acceptance, *IUS-F3*= lack of decisiveness, *IUS-F4* = lack of stability, *RIS* = ruminative inertia, *RIS-F1* = self-rumination, *RIS-F2* = social rumination, *ABO* = academic burnout, *ABO-F1* = exhaustion, *ABO-F2* = withdrawal, *ABO-F3* = reduce self-efficacy, and *ABO-F4* = negative compensation, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The table depicted predictors of academic burnout among adolescents. Findings suggested that age, major subject, study hours, apprehension, lack of decisiveness, and self-rumination of adolescents were significant positive predictors of academic burnout while marks percentage was a significantly negative predictor of academic burnout among adolescents.

Table 4: Mean Differences of Intolerance of Uncertainty, Rumination and Academic Burnout between Male and Female Adolescents (N =300)

Variables	Male (n=150)		Female (n=150)		<i>t</i> (df)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
JS – F1	22	22	15.53	63	1.48	10***	75
JS- F2	1.73	1.73	4.86	71	1.24	10***	33
JS- F3	1.79	1.79	3.59	56	1.19	13*	18
JS-F4	29	47	74	03	1.47	10***	51
JS- Total	3.03	7.69	3.73	1.67	1.82	10***	56
IS- F1	7.48	67	3.02	52	1.32	10***	64
IS- F2	7.59	07	2.03	98	1.29	10***	73
IS- Total	5.34	3.31	5.05	1.63	1.98	10***	81
BO- F1	1.69	20	2.41	29	1.08	8	12
BO- F2	1.29	04	2.68	85	1.03	14*	23
BO- F3	1.55	63	1.37	59	1.4	14	04
BO- F4	55	79	28	68	1.7	9	09
BO- Total	4.78	1.27	7.35	3.04	1.16	15	13

Note. *M*= mean, *SD*= Standard Deviation, *IUS* = intolerance of uncertainty, *IUS-F1* = apprehension, *IUS-F2* = lack of acceptance, *IUS-F3*= lack of decisiveness, *IUS-F4* = lack of stability, *RIS* = ruminative inertia, *RIS-F1* = self-rumination, *RIS-F2* = social rumination, *ABO* = academic burnout, *ABO-F1* = exhaustion, *ABO-F2* = withdrawal,



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ABO- F3 = reduce self-efficacy, and ABO- F4 = negative compensation, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The table shows gender differences of male and female adolescents with the help of independent sample t-test. It was found that there is a significant gender differences find between male and female adolescents on intolerance of uncertainty, withdrawal, self-rumination and social rumination of adolescents. Female adolescents are perceived to experiencing high levels of apprehension, lack of acceptance, lack of decisiveness, lack of stability and withdrawal as compare to male adolescents. Furthermore, female adolescents are perceived to experiencing high levels of self and social rumination as compare to male adolescents.

Discussion

The present study was conducted to find out the relationship between intolerance of uncertainty, rumination and academic burnout among adolescents. The primary hypothesis of correlation analysis was analyzed which explore significant relationship between intolerance of uncertainty, rumination and academic burnout among adolescents. Findings of correlation analysis found that intolerance of uncertainty and rumination have a very high significant positive correlation with academic burnout among adolescents.

In reviewing the literature, one study determined positive correlation between intolerance to uncertainty and rumination among study participants (Jong, 2009). Another study depicted that increase in students' intolerance of uncertainty and rumination resulted in increasing academic burnout (Qiang, 2024). Within Pakistani culture, where academic success is highly valued, adolescents often face immense pressure to excel. The uncertainty about future outcomes, coupled with societal expectations, can lead to excessive rumination. This constant overthinking and fear of failure are significant contributors to academic burnout, as students struggle to meet the high demands placed on them (Muzafar, 2015).

The primary hypothesis of multiple linear regression analysis was also examined in second section that explore all significant predictors of academic burnout among adolescents. Findings of regression analysis suggested that age of adolescents, major subject, study hours, apprehension, lack of decisiveness, and self-rumination of adolescents were significant positive predictors of academic burnout while marks percentage was a significantly negative predictor of academic burnout among adolescents. Various studies reported variety of factors that contribute to academic burnout among adolescents. One Greek study highlighted that age of adolescents was positive predictor of educational stress (Moustaka, 2023). The researcher noticed the top ten academic stressors in his study, in which major subject courses was one of them (Ismail, 2022). One study determined that more hours spent on studying lead to cause emotional exhaustion and burnout among students (Olson, 2023). According to another research, students who experience chronic indecision, which may lead to burnout (Guay, 2006).

One research depicted that the predictive effect of intrusive rumination intensified, contributing to increase in academic burnout among students (He, 2023). Fear of uncertainty strongly predicts students' academic burnout (Qiang, 2024). One of recent study determined that higher academic grades, predicted lower student burnout (Paloş, 2019). In the context of Pakistani culture, academic burnout among adolescents can be influenced by societal pressures and traditional values that emphasize educational achievement. Adolescents are often expected to excel academically, leading to high levels



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of apprehension and self-rumination. Furthermore, the emphasis on major subjects like science or medicine, combined with long study hours, can intensify stress. In Pakistani families, indecisiveness and fear of failure are common, as students strive to meet the expectations of their parents and society (Asghar, 2019).

The findings of the t-test indicated that female adolescents are perceived to experiencing high levels of apprehension, lack of acceptance, lack of decisiveness, lack of stability, withdrawal, self and social rumination as compare to male adolescents. One research showed that female adolescents tend to engage in higher levels of maladaptive emotion regulation strategy including rumination associated with depressive symptoms (Do, 2023). Another study reported that females tend to be more withdrawal and intolerance to uncertainty as compare to male counterparts (Lee, 2023; Nekic & Mamic, 2019). In Pakistani culture, societal expectations often place more pressure on female adolescents to conform to traditional roles, which can lead to heightened feelings of apprehension and self-doubt. The emphasis on maintaining societal norms can also create a sense of isolation and withdrawal. Additionally, gender-specific restrictions on decision-making and social freedoms may contribute to a lack of decisiveness and acceptance among young females compared to their male counterparts (Bhatti & Ali, 2020).

Limitations and Suggestions

- The data was only collected from one city, it can be gathered to elevate generalizability of the findings of this study.
- Future studies can focus to find out some cultural factors contributing to the development of academic burnout among adolescents in Pakistan.
- Future development of effective techniques and intervention programs that can be employed to help adolescent cope with uncertainty and manage academic stressors leading to burnout.

Implications

This study highlights the interplay between intolerance of uncertainty, rumination and academic burnout. Keeping in view the results of this study, new intervention programs of resilience could be shaped so that the student learns to reflect upon unpredictability and coping with anxiety and stress. This study will help bringing the role of intolerance of uncertainty for adolescents and would lead to effectively highlight the risk and protective factors for academic burnout for adolescents in their studies.

Current study would contribute in school counselling as preventive measures for providing effective techniques and intervention strategies for school students in order to overcome the pressure and adding mental health education to their curriculum. With this, schools are therefore able to promote balanced academics alongside mental health through taking proactive measures to ensure the alleviation of academic burnout. Collaborations with mental health professionals would also be necessary in meeting these objectives for the benefit of adolescents.

Teachers and parents are the crucial contributors in managing academic burnout. Programs for training teachers would be useful in equipping educators with skills, regarding the nurturing a positive atmosphere in the classroom, reduction of stress-related academic pressure among students, and hence the enhancing overall engagement of students. Similarly, healthy study habits, resilience building, and recognition of academic stressors among adolescents put them in a better position to become supportive parents. Collaborative actions between family and educational institutes favors the well-being of the



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adolescents and encourages success in the long run. The results from current study would be utilized for spreading awareness through workshops to teachers, parents and students for recognizing the patterns of academic burnout and its possible leading factors.

Conclusion

The current study analyzed the connections between adolescent academic burnout, rumination, and intolerance of uncertainty. According to the research, adolescents who have trouble with uncertainty and think negatively repeatedly are more likely to experience academic burnout, which is characterized by emotional tiredness and a decreased sense of achievement. In order to lessen academic burnout, findings emphasize the necessity of early interventions that target cognitive tendencies like rumination and the psychological stress brought on by uncertainty. Future studies should examine coping mechanisms and resilience-building approaches that could lessen these impacts and improve adolescent mental health and academic achievement.

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