

## Irrational Beliefs, Resilience and Mental Health of University Students

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This study aimed to investigate the relationship between irrational beliefs, resilience, and mental health in university students. Due to the Covid-19 pandemic, 400 online participants from various Pakistani universities were a part of this study, predominantly female (72.3%), aged 18-25 years (MA= 22.17; SD= 2.42). Data was collected using Irrational Belief Inventory (Al-Heeti et al., 2012), Brief Resilience Scale (Smith et al., 2008) and Depression, Anxiety Stress Scale (Smith et al., 2008). Our independent variables were irrational beliefs (IBs) and resilience, while the dependent variable was students' mental health. Pearson Product Moment Correlation Coefficient, Multiple Hierarchical Regression, and Independent Sample *t* test were used. The results indicated that irrational beliefs like worrying, rigidity, problem avoidance, and demand for approval were positively associated with mental health issues. However, emotional irresponsibility and resilience were negatively linked to mental health issues. All sub types of IBs were significant predictors of depression whereas, rigidity, problem avoidance and emotional irresponsibility were significant predictors of anxiety and stress. While demand for approval proved to be a significant predictor of stress. Resilience did not emerge as a significant predictor of mental health and there were no gender differences of IBs, Resilience and Mental Health Issues in university students. These findings hold implications for clinical psychologists, mental health workers, psychiatrists, and guidance counselors, suggesting that interventions like psychological therapies, behavioral techniques, college-based counseling, and family-university strategies could be incorporated into students' lives to reduce irrational beliefs and enhance mental well-being, thereby aiding their ability to cope with challenges.

*Keywords:* irrational beliefs; resilience; mental health; students

A person's mental health and mental well-being feels more challenged as they enter a new phase in their lives, i.e. university life. They face additional financial, educational, environmental, family/peer pressure, fear of competition as stressors making them realize how testing can the university life be. Constant and uncertain threat from COVID-19 and commotions of normal life have undoubtedly caused grave psychosocial upshot especially for the youth. During the pandemic mental health problems has increased substantially (Yang et al., 2020). It is important to protect individuals' mental health and psychosocial well-being during outbreak as maintaining physical health (Arshad et al., 2020; Kaleem, 2020; WHO, 2020). Globally, students about 12-18% are diagnosed with mental health problems (Saigo et al., 2018), where having negative life experience and negative automatic thoughts about self/world and future are the irrational beliefs proclaimed by depressive individuals (Duru & Balkis, 2021). In Karachi, Pakistan a study showed 70% prevalence rate of depression and anxiety amongs students. Whereas, one in three individuals, in their first two years of university life struggle with mental illness and 33% of students are taking psychotropic medications (Clark, 2020), women show higher rates of depression and anxiety than men (Munir & Arshad, 2018). Most importantly, to keep one's mental health intact and to cope with daily life stressors a person requires mental resilience (Islam et al., 2020; Kaleem, 2020).

Positive mental health enables an individual to display social well-being, resilience, gratitude, stress management, mindfulness and many more (Mukhtar, 2020), mental illness on the other side effects how one feels, perceives, behaves, and thinks (Chowdhury, 2019). Depression is reported to be the fourth leading mental health problem globally (WHO, 2020). Munir and Arshad, (2018) reported that in rural areas of Punjab, Pakistan about 66% and 25% of women and men, respectively, suffer from anxiety and depressive disorders. Depressive disorder's early onset appears before the

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age of 21 years and females are more prone than males (Sansone & Sansone, 2009).

In US alone, 63% college students reportedly have anxiety during college time resulting in an increased psychological distress (LeBlanc & Marques, 2019). Pakistani students also have reported that academic stress becomes unbearable for them sometimes; therefore, there is a dire need of psychological well-being programs with a major focus on mental health improvement in Pakistan (Khan et al., 2006; Arshad et al., 2020).

Epictetus in the first century A.D stated, “There is nothing good or bad but thinking makes it so” (as cited in Ellis & MacLaren, 1998). Healthy negative emotions HNE’s are associated with adaptive behaviors (rational beliefs) and unhealthy negative emotions UNE’s are associated with maladaptive behaviors that are irrational beliefs (Ellis, 1973; Turner, 2016).

Irrationality is cardinal to numerous psychiatric disorders like depression and anxiety that is why having rational and clear thinking causes less trouble (Ellis, 1973; Mahfar et al., 2018; Rehna et al., 2012; Podina et al., 2015; Rahman & Ahmed, 2006). Irrational beliefs make adolescents display self-defeating thoughts which may result in depression. Family structure, environment, interaction and especially school performance exhibit to be factors of developing irrational beliefs linked with depression (Küçük et al., 2016), whereas catastrophizing, abstraction, personalizing and overgeneralization showed positive relationship between depression and anxiety among adolescents (Rehna et al., 2012; Rahman & Ahmed, 2006). Irrational beliefs lead to low self-esteem in individuals and those who had lower self-esteem had increased level of stress (Yildiz et al., 2018).

Resilience refers to the process of adapting well in the face of adversity, or threats (American Psychological Association, 2014; Kazmi & Muazzam, 2020). Resilience is negatively correlated with negative indicators of mental ill-being, such as depression, anxiety, and negative emotions, and positively correlated with positive indicators of mental health, such as life satisfaction, subjective well-being, and positive emotions (Hu et al., 2015).

Resilience can be described as the healing process of a person in stressful circumstances (Hiew, 2004). Resilience is considered as a key factor that counters the negative emotions and consequences of mental health problems like depression, stress and anxiety (Rutter, 2006; Shin et al., 2019). Studies suggest that people who are more resilient are less likely to develop symptoms of depression, stress and anxiety than those who are less resilient. Moreover, there’s a positive relationship between psychological well-being and resilience among university students (Lee et al., 2018). Hardiness and support are considered to be protective factors of resilience when dealing with depressive mood and anxiety (Shin et al., 2019).

The primary objective of this research is to investigate the relationship between irrational beliefs, resilience, and the mental well-being of university students amidst the COVID-19 pandemic. Additionally, the study seeks to explore how irrational beliefs and resilience can serve as predictors of mental health issues, including depression, anxiety, and stress, within the student population. As a consequence of the novel experience of quarantine, not all students possess the capacity to effectively adapt to this new environment. Consequently, some individuals have developed irrational beliefs, such as excessive worrying, a strong need for approval from others, and persistent doubts (Islam et al., 2020). With an increasing awareness of mental health, depression has emerged as a prevalent psychological disorder that significantly impacts young people, particularly those in their academic lives along with factors like maladaptive belief systems (Kazmi & Muazzam, 2020). Statistics indicate that one in every four college and university students in Pakistan receives a diagnosis of depression (Kaleem, 2020). Prevalence rate increased 25% in depression and anxiety among individuals during the pandemic. Worrying, fear of infection, loneliness etc. were found among the stressors (WHO, 2022). Furthermore, language barriers in the educational context pose additional challenges for students. This research makes a significant contribution by identifying the irrational beliefs held by young individuals that contribute to mental health challenges. It also aids clinical

practitioners in recognizing the underlying issues that jeopardize the mental health of young people. The early identification of students at risk of depression, stress, anxiety, and other mental health problems enables the implementation of timely interventions and treatments during this critical period, ultimately reducing the prevalence, duration, intensity, and long-term consequences of these mental disorders (Barzilay et al., 2020; Ebert et al., 2018).

### **Method**

Correlational research design is used in this study. Participants were selected through purposive sampling from different universities of Pakistan, majorly from Lahore. Piloting was done before conducting the research to check the feasibility of the research. Sample was determined by using G-power. A sample size of 400 students was taken: Males 111 (27.8%); Females 289 (72.3%). Age range 18- 25 years ( $M= 22.17$ ;  $SD= 2.42$ ). Participants were pursuing their Bachelor's and Master's degree when the data was collected.

### **Assessment Measures**

#### ***Demographic Form***

Semi-structured demographic form was used to gather the participant's demographic information (i.e. sex, age, marital status, occupation, degree (semester), university).

#### ***Irrational Belief Inventory (IBI)***

The inventory consists of 50 statements that are obtained by combining items from Irrational Beliefs Test (IBT) and the Rational Behavior Inventory (RBI). These statements measure five irrational beliefs that are Problem Avoidance, Rigidity, Worrying, Need for Approval and Emotional Irresponsibility. Each item records responses on a 5-point Likert scale where 1 implies as "strongly disagree", 3 as "neutral" and 5 as "strongly agree". The overall Cronbach's alpha coefficient was .76 and between .71 and .76 for the subscales except the scale of Rigidity it was .54 (Al-Heeti et al., 2012).

#### ***Brief Resilience Scale (BRS)***

The Brief Resilience Scale assesses one's ability of bouncing back and recovering from stress. The scale consists of 6-items of which half of them are negatively focused (item, 2, 4 and 6) and half positively focused (item 1, 3 and 5). Each item records responses on a 5-point Likert scale where 1 implies as "strongly disagree", 3 as "neutral" and 5 as "strongly agree". Internal consistency of the scale with Cronbach's alpha ranged from .80-.91 (Smith et al., 2008).

#### ***Depression Anxiety Stress Scale (DASS-21)***

The Depression Anxiety Stress Scale has 21 items that are divided into three sets of self-report scales to measure one's emotional state of depression, anxiety and stress. Each of the three scales contains 7 items, divided into subscales with similar content. Each item records responses on a 4-point Likert scale where 0 implies as "did not apply to me at all" and 3 as "applied to me very much". Internal consistencies of the scale with Cronbach's alpha values are .81, .89 and .78 for the subscales of depression, anxiety and stress (Henry & Crawford, 2005).

### **Procedure**

First of all, permission was taken from the original authors of the tools used in the study. Scales were used in their original forms. Subjects who fulfilled the inclusion criteria were included in the research study and were selected through purposive sampling technique. The participants were informed about the purpose, aim, objectives and future use of the study. Their consent was taken and

confidentiality was maintained. The participants were requested to complete the questionnaires (containing the three scales of the study) and were informed about their right to withdraw from the research whenever they want. The participants were free to bring up their queries about the research and had been guided accordingly. Participants took 10-15 minutes to fill the forms. Ethical considerations were followed for conducting the research. Primarily, permission from authors was taken for using the scales in the research. Then, consent was taken from each participant. The participant's respect, confidentiality and privacy had been maintained and were not compromised. The participants were treated fairly and had not been forced to be a part of the research. During the conduction of the research, the participants did not bare any stressful/triggering situation or statement, the participant's psychological physical and emotional wellbeing was maintained.

## Results

**Table 1**

*Psychometric Properties of Major Study Variables (N=400)*

Variables	<i>University Students</i>					
	<i>K</i>	<i>M</i>	<i>SD</i>	<i>α</i>	<i>Skewness</i>	<i>Kurtosis</i>
1. Worrying	12	39.88	5.93	.69	.28	.054
2. Rigidity	14	48.19	8.28	.82	-.49	1.489
3. Problem Avoidance	10	30.13	5.61	.71	-.00	.404
4. Demand for Approval	7	20.66	4.88	.72	-.08	.015
5. Emotional Irresponsibility	7	18.21	4.77	.78	.38	.392
6. Resilience	6	18.60	3.11	.76	-.21	1.988
7. Stress	7	22.22	4.31	.65	.15	1.206
8. Anxiety	7	23.08	4.03	.65	-.17	1.771
9. Depression	7	23.28	4.21	.64	-.11	1.320

*Note.* K = Total no of items,  $\alpha$  = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation.

Reliability analysis was done to check the reliability of the scales used in this study. The calculated Cronbach alpha reliability of all the subtypes of irrational belief scale, Resilience, and all the three subtypes of depression anxiety stress scale was acceptable. The data is approximately normally distributed as all the skewness and kurtosis values lies between the acceptable ranges of +2 to -2.

**Table 2**

*Inter correlations among Irrational Belief, Resilience and Mental Health of University Students (N = 400)*

Measures	1	2	3	4	5	6	7	8	9
1. Worrying									
2. Rigidity	.46***								
3. Problem Avoidance	.46***	.51***							
4. Demand for Approval	.47***	.40***	.53***						
5. Emotional Irresponsibility	-.17**	-.59***	-.36***	-.12***					
6. Resilience	.19***	.28***	.27***	.24***	-.15***				
7. Stress	.45***	.69***	.73***	.67***	-.54***	-.28***			
8. Anxiety	.38***	.71***	.66***	.33***	-.66***	-.30***	.68***		
9. Depression	.54***	.75***	.66***	.55***	-.60***	-.31***	.73***	.72***	
<i>M</i>	3.32	3.44	3.01	2.95	2.60	3.10	3.17	3.29	3.32
<i>SD</i>	.49	.59	.56	.69	.68	.51	.61	.57	.60

Note. *M* = Mean; *SD* = Standard Deviation

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Table 2 displays a significant positive relationship between the subscales of irrational beliefs i.e. worrying, rigidity, problem avoidance, and demand for approval with the subscales of mental health issues i.e. stress, anxiety and depression. This implies that the higher the student's irrational beliefs the more likely they become to experience stress, anxiety and depression. Moreover, a significant negative relationship was found between emotional irresponsibility and stress, anxiety, depression. The findings also suggest that resilience had a significant negative relationship with stress, anxiety and depression. This indicates that resilient students are less likely to suffer from stress, anxiety or depression.

**Table 3**

*Multiple Hierarchical Linear Regression Analyses Predicting Mental Health Issues in University Students (N=400)*

Predictors	Stress		Anxiety		Depression	
	$\Delta R^2$	<i>B</i>	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
<b>Block 1</b>	.79***		.70***		.75***	
W		-.04		.01		.15***
R		.23***		.32***		.31***
PA		.34***		.40***		.21***
DA		.39***		-.06		.19***
EI		-.24***		-.32***		-.28***
<b>Block 2</b>	.00		.00		.00	
Resilience		-.00		.05		.03
Total $R^2$	.79****		.70***		.75***	

Note. *N* = 200; *W* = Worrying; *R* = Rigidity; *PA* = Problem Avoidance; *DA* = Demand for Approval; *EI* = Emotional Irresponsibility and Resilience

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

The results of table 3 show that as far as the individual contribution of each predictor are concerned for stress; rigidity, problem avoidance, demand for approval and emotional irresponsibility were significant predictor of stress among university students. However,

individual contribution of each predictor is concerned for anxiety; rigidity, problem avoidance and emotional irresponsibility were significant predictor of anxiety among university students. Moreover, individual contribution of each predictor is concerned for depression: worrying, rigidity, problem avoidance, demand for approval and emotional irresponsibility were significant predictor of depression among university students.

**Table 4**

*Gender Differences among Irrational Beliefs, Resilience and Mental Health of University Students (N=400)*

Variables	Male		Female		<i>t(df)</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Worrying	3.23	.42	3.25	.51	-2.32(239.02)	.02*	0.26
Rigidity	3.45	.63	3.43	.57	.35(398)	.72	—
Problem Avoidance	3.02	.52	3.01	.57	.15(398)	.87	—
Demand for Approval	3.04	.63	2.91	.71	1.63(398)	.10	—
Emotional Irresponsibility	2.60	.65	2.59	.69	.12(398)	.90	—
Resilience	3.16	.55	3.07	.50	1.46(398)	.14	—
Stress	3.20	.61	3.16	.61	.66(398)	.50	—
Anxiety	3.34	.60	3.27	.60	.97(398)	.33	—
Depression	3.31	.61	3.33	.59	-.33(398)	.73	—

Note. male = 111; female = 289; *M* = mean; *SD* = standard deviation; *df* = degree of freedom

\**p* < .05

Table 4 of the study revealed that males and females differed significantly in only one of the sub scales of irrational beliefs i.e. worrying. The mean scores of females were significantly higher on the subscale of worrying as compared to males, suggesting that women worry more than men. However, no significant gender differences were found among university students on other subscales of irrational beliefs, mental health issues and resilience.

### Discussion

Results of study showed that there is a significant positive relationship between worrying, rigidity, problem avoidance and demand for approval with mental health issues i.e. depression, anxiety and stress. However, emotional irresponsibility showed a significant negative relationship with mental health issues including anxiety, depression and stress. Buschman et al. (2018) in their study suggested that irrational beliefs have a direct effect on depression whereas depressive automatic thoughts moderately mediated the effect of irrational beliefs on depression. Therefore, individuals who identify more irrational beliefs had more automatic thoughts that led to depressive affects and the inability to cope seemed to be specific to mental health issues. University students show symptoms of both anxiety and depression and this could be due to the increase in educational pressure, environment, and also an excessive use of social platforms (Chan & Sun, 2020; Khaledian et al., 2013). The research showed a positive relation between irrational beliefs and mental health issues and that irrational belief plays an important role in identifying mental health problems levels of students (Küçük et al., 2016).

Secondly, the results showed that resilience has significant negative relationship with mental health issues including stress, depression and anxiety. University students who had high resilience were less likely to feel depressed, stressed or anxious in their life. Studies have shown that resilience

is one of the mechanisms that protects individuals from having psychological distress and helps them in adapting negative environmental problems. An increase in one's resilience helps as a mediator towards depressive symptoms. Moreover, people who have low resilience experience more depressive symptoms. In other words, the higher one's resilience is, the less their mental health is effected (Collazzoni et al., 2020; Lee et al., 2018; Rutter, 2006). Females, however, showed higher resilience in comparison to male adolescents (Ziaian et al., 2012). Resilience, on the other hand, can play a role as a mediator, connecting mental illness and emotional neglect (Lee et al., 2018).

Stress results showed that rigidity, problem avoidance, demand for approval and emotional irresponsibility were significant predictors of stress among university students. Yildiz et al. (2018) in their study revealed that an increase in irrational beliefs leads to higher levels of perceived stress and self-esteem acting as a mediator. Moreover, higher levels of irrational beliefs can lead to stress, depression and anxiety (Chan & Sun, 2020). Results showed that rigidity, problem avoidance and emotional irresponsibility were significant predictors of anxiety among university students as compared to other subtypes. Khaledian et al., (2013) in their study suggest that behavior like anxiety is a consequence of irrational beliefs and not an activating event. However, irrational beliefs make an individual make up negative scenarios in their mind at first and such future worries or scenarios make the individual anxious (Foran, 2019). Depression results showed that other than emotional irresponsibility; worrying, rigidity, problem avoidance and demand for approval were significant predictors of depression among university students. Podina et al. (2015) in their article suggested that irrational beliefs have a link with depression. The time of adolescences is an important component of identifying depression where an adolescent's physical, emotional, psychological and academic development is affected by depression (Küçük et al., 2016; Podina et al., 2015). Nonetheless, beliefs made after a tragic incident led to anxiety, stress and depression and this may include substance abuse, loss of a loved one, financial loss and even natural disasters like COVID-19 (Arshad et al., 2020; Khan et al., 2006; Khan et al., 2012). Resilience, on the contrary, was not seen as a significant predictor of mental health issues in this study. Ahmed et al. (2014) in their study suggested that age is one of the most common predictors of depression.

Lastly, results showed significant gender difference in only one subscale of irrational beliefs i.e. worrying, which proposed women have a greater tendency of being worried than men. In other studies, it is seen that girls and women have higher physiological anxiety and habit of worrying more than boys and men (Hosseini & Khazali, 2013). Gender is seen as a significant predictor of depression. Ahmed et al. (2014) states women are more likely to experience depression as compared to men, and on the contrary, Abdel Rahman, (2006) states that men are found to be significant predictors of depression.

### **Limitation and Suggestions**

The research was only conducted in Pakistan and participants were recruited through online questionnaire only due to COVID-19 pandemic which caused discrepancy between the researcher and the participant. In future studies, the research can expand on an international level as a cross cultural study to compare Pakistani culture with the Western culture. Sample size was relatively small for university student participants. In future, sample size should be expanded and the study variables can be further explored by using qualitative or mixed method approach. Research tools were foreign for the population, due to the cultural difference there might be some variation in the results. For future, indigenous or Urdu translated tools can be used. Empirical literature related to the study variables, especially resilience was limited. Indigenous studies were inaccessible that for future should be improved to expand the Pakistani literature.

## Implication

The present study will contribute in expanding the limited literature available related to study variables, especially in relation to Pakistani culture and university students. This study will help in providing an insight to the clinical psychologists, health or guidance counselors and other health care professionals and to develop therapeutic strategies accordingly.

## Conclusion

Research concluded that the more university students undergo worrying, rigidity, problem avoidance and demand for approval, the higher their levels of mental health issues occur i.e. depression, anxiety and stress. Nonetheless, students who were emotionally irresponsible were less likely to experience depression, anxiety and stress in their life. University student who were resilient were less likely to feel anxious, stressed, depressed and suffer from mental health problems. The study showed that females had higher levels of worrying in comparison to men.

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