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Moderating Role of Self-efficacy in the Relationship of Perceived Stress with Rumination and Stress Eating among Young Adults

by

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CERTIFICATE OF APPROVAL

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(Zaira Zaheer)

Abstract

The rapidly evolving demands of modern society profoundly expose young adults to substantial stressors that directly harm their mental and physical health. Academic needs along with social norms and financial challenges, together with transitional periods, lead young adults to experience elevated stress levels. Current study aims to examine the moderating effect of self-efficacy in mitigating impact of perceived stress on rumination and stress-related eating behaviors among young adults. Cross-sectional research design was used in present study. Through convenient sampling technique, a sample of 300 students of age 18-25 years, were included to participate in the study. Data was gathered using standardized scales: General Self-Efficacy Scale (GSE), Perceived Stress Scale (PSS-10), Rumination Scale (RS), and Salzburg Stress Eating Scale (SSES). Statistical analyses was performed using SPSS to examine the links among the study variables. Data analysis revealed that rumination has a significant and moderately positive link with perceived stress while stress eating was found significantly and negatively linked with perceived stress. Self-efficacy moderated the link between perceived stress and rumination. However, in link between perceived stress and stress eating, moderating role of self-efficacy was found to be insignificant. For gender differences, females showed significantly increased levels of perceived stress, rumination and self-efficacy. Furthermore, had higher level of stress eating as compared to males, but results were insignificant. The results of the study contributed to a deeper understanding of self-efficacy as a protective factor against stress. The results of present study offer valuable implications for treatments aimed at enhancing psychological resilience and increasing psychological well-being among young adults.

Keywords: Self Efficacy, Perceived Stress, Young Adults,Physical Health Eating Behaviors.

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Abbreviations

GSE	General Self-Efficacy Scale
PSS-10	Perceived Stress Scale
RS	Rumination Scale
SSES	Salzburg Stress Eating Scale
WHO	World Health Organization

Chapter 1

Introduction

1.1 Background of the Study

In 21st century, there is increasing prevalence of psychological health issues among youth all around the globe due to increasing life pressure as world is becoming more competitive and still developing (Gonmei and Devendiran, 2017). Young adulthood is a critical stage marked by increased stress, considerably impacting life satisfaction and self- efficacy due to its transitional nature (Kamal et al., 2020). This developmental stage of 18-25 years is identified as period of exploring new experiences and instability which can lead to psychological stress (Arnett, 2000). Stress is part of daily life experiences but major life changes can lead to severe levels of stress having adverse psychological and even physiological outcomes (Lee et al., 2016).

Pakistan is at fifth place among most populated countries with 220 million people with median age 22.4 (Wu, 2024). Mental health literacy and professional care are limited as compared to young adults needs, as there are 5500 psychiatric inpatient services in Pakistan. Most of psychiatrists work outside Pakistan leading to less professional workforce in Pakistan, less mental health awareness and literacy, collectivistic gender norms and prioritizing religious or spiritual interventions for psychological illness, all these factors contributed to higher mental health problems in Pakistani young adults (Kamal et al., 2020). Most of psychiatrists work

outside Pakistan, more mental health awareness and literacy, collectivistic gender norms and prioritizing religious or spiritual interventions for psychological illness all contributed to higher mental health problems in Pakistani young adults (Kamal et al., 2020). Nearly, 80% of young adults particularly students experience psychological stress world-wide (Walpola et al., 2020). As a result, people in this transitional period frequently experience psychological reactions such as anxiety, hopelessness, anger, depression, or a sense of being overwhelmed by life's obligations (Arnett, 2000). Effective coping from this stress determines emotional, physiological and psychological wellbeing. When individuals fail to manage stress effectively, they adopt destructive behaviors such as rumination and stress eating, particularly after experiencing emotional distress. Among Pakistani young adults particularly students, the prevalence of perceived stress has been constantly high as compared to other age groups leading to maladaptive behavior and cognitive function like stress eating and rumination (Anjum et al., 2022; Altaf et al., 2025).

A cross-sectional research in Pakistan revealed that among participants involving young adults 91.9 % reported having moderate perceived stress during COVID-19, results were even higher among females (Park, 2024). This emphasizes the need for further post-COVID research on perceived stress cognitive and behavioral impacts, which young adults could have under non pandemic context. A cross-sectional research in Pakistan revealed that among participants involving young adults 91.9 % reported having moderate perceived stress during COVID-19, results were even higher among females. This emphasizes the (Arnett, 2000) need for further research on perceived stress cognitive and behavioral impacts. Identifying psychological protective aspects like self-efficacy, resilience that defend against these outcomes is one of the most important concerns to increase physiological and psychological wellbeing.

1.1.1 Precieved Stress

Perceived stress is defined as the extent to which people view situations in their lives as stressful, overwhelming, or not controllable (Willis and Burnett, 2016).

In contrast to objective stress, which is formulated based on external occurrences only, perceived stress is subjective and a reflection of an individual's psychological interpretation of those occurrences.

Perceived stress involves person's emotional and cognitive response to daily stressors (Altaf et al., 2025). It is the perception that plays a critical role in affecting psychological and physiological health outcomes (Koçak, 2024). On the basis of Transactional Model of Stress and Coping (Costello, 2025) stress is a consequence of the evaluation of a situation as threatening and one's perceived capability to handle it. This aligns with perceived stress, emphasizing the appraisal process rather than the objective character of stressors.

Those who perceive stressors as controllable tend to have less psychological distress, whereas those with lower coping confidence find stress more severe and are more susceptible to its ill effects (Lee et al., 2016). Thus, even when people face same type of stressors, they may perceive and behave differently based on their cognitive assessment, coping mechanisms, and bodily reactions (Willis and Burnett, 2016).

Coping techniques people use to deal with stress also varies like differences in perception of stressors. Some people use adaptive coping strategies like mindfulness, spending time and relaxing in nature, exercise, building self-efficacy through positive self-talk (El-Zayat et al., 2025). While some people use maladaptive coping strategies like binge social media usage, high caffeine intake and over eating (El-Zayat et al., 2025; Vivek N. C., 2025).

Moderate rate of stress perception is found to be essential and beneficial for success as it prepares the individual to deal with stressors while prolonged and excessive perceived stress has detrimental impacts like physical illness, anxiety and depression (Varghese et al., 2015). Selye (1976) used the term "Eustress" to explain this impact. Among young adults, perceived stress lowers the academic performance, decision making, psychological wellbeing and mental health literacy (Eltaiba and

Samara, 2022). Other psychological outcomes of perceived stress include higher depression, anxiety, lower self-esteem, negative thinking and increased negative emotions (Liu, 2024).

Instead of positive coping, young adults having high Perceived stress are more likely to misinterpret or ignore psychological health issues, avoid professional aid seeking and constantly depend on maladaptive coping techniques (Khan and Shamama-Tus-Sabah, 2020). Negative behaviors like avoidance, problematic eating, substance abuse and aggression increase as a result of increased perceived stress (Ling and Zahry, 2021).

Chronic perceived stress negatively impacts social relationships as higher perceived stress is linked with higher social withdrawal and more interpersonal conflicts (Gonmei and Devendiran, 2017).

Stress changes the biological functioning of the body also. As, when an individual faces a threatening situation body goes into fight or flight mode. For effective response, bodily functions that help to deal with stressor are increased while all other functions like digestion, growth are suppressed which serve no immediate purpose (Liu, 2024). Chronic and prolonged activation of this sympathetic nervous system has adverse effects on physiological health. Excessive release of stress hormones like cortisol and adrenaline increases the risk of cardiovascular problems, hypertension and reduced immune system (Hill et al., 2022).

Therefore, among cognitive and behavioral outcomes of perceived stress, it has also been found as an established predictor of maladaptive processes such as rumination and emotional eating (Dickhäuser, 2024). In Pakistan which has a diverse culture, young adults not only face academic stressors but also other types of stressful situations coexist like poor socioeconomic conditions, high family expectations and limited access to professional psychological assistance which intensify perceived stress levels (Altaf et al., 2025). Same person facing multiple stressors at the same time also increases the likelihood of perceiving stress as more threatening

and its negative mental health outcomes (Gonmei and Devendiran, 2017).

Previous research has also found comparable disparities in experience of perceived stress between men and women (Mehmood, 2024; Li, 2025). Females tend to experience higher perceived stress and other related health issues as compared to males (Varghese et al., 2015). Focusing on the subjectivity, coping with stress is also different across individuals and situations. People who have better resilience, self-efficacy, coping strategies and social support network are more likely to efficiently manage stress while some are more vulnerable to stress due to lack of psychological resources and skills needed to cope with stress (Shavitt et al., 2016).

1.1.2 Rumination

While stress is a frequently occurring experience, but how people perceive and cope with stress differs greatly, based on cognitive styles, and coping techniques (Moeini et al., 2008). One of the most common maladaptive process through which people cope with stress is rumination (Liu, 2024).

Rumination is defined as the tendency to persistently and passively worry about the signs of one's emotions, personal concerns, distress events in life and its potential causes and implications, and to do nothing in an attempt to solve these signs (Donohue, 2024). It contrasts with constructive, goal-related problem-solving but is a detrimental cognitive reaction defined by excessive overthinking, getting trapped in emotional pain, and extensive psychological discontent (Lee et al., 2016). Rumination has been constantly related with the development and maintenance of a wide range of psychological issues, especially depression and anxiety.

Rumination as a maladaptive response to perceived stress that induces excessive negative and catastrophic thinking resulting in autonomic arousal, emotional suffering and even prolongs the experience of perceived stress (Liu, 2024). People with higher levels of rumination are more likely to have repetitive and unproductive thoughts during the day, as well as higher emotional and cognitive arousal

before nighttime (Kudlek, 2024).

Students who ruminate, they loss focus on their academic tasks due to automatic negative thoughts, delay assignments, forget details and have difficulty in bringing creative ideas, ultimately leading to poor grades (Khan and Shamama-Tus-Sabah, 2020). People who ruminate excessively focus on their distress, which makes them feel worse. This bad mood hampers creative problem-solving since the person is preoccupied with unpleasant feelings (Henderson, 2019). People who take part in self-focused rumination experience higher negative mood, procrastination, reduced creativity, lack of motivation and attention (Willis and Burnett, 2016; Dan et al., 2024). Furthermore, research has indicated that psychosomatic symptoms, such as stomach and intestinal complaints, headaches and chronic diseases, like obesity, high blood pressure, diabetes, and cardiovascular sickness, are also physiological stress responses influenced by rumination (Zhang, 2025). On the other side, inhibiting rumination may be a coping tactic, however research has shown that repressing these thoughts increases intrusive thoughts (Lee, 2012).

People having positive thinking and take stressors as opportunity to prove their abilities, are more like to efficiently utilize their positive coping resources, lower perceived stress and have increased self-efficacy (Lee et al., 2016). Thus, Rumination has been associated with both perceived stress and low self-efficacy (Amaral, 2024). Young adults, particularly college students, are especially susceptible to rumination as a result of transitional stress, identity formation, academic stress, and challenges of emerging adulthood (Arnett, 2000).

Furthermore, men often struggle to think about and articulate their feelings (Kim, 2024b; Sukhodolsky, 2001). Females and males' attitudes towards emotion-focused coping may influence how much each gender ruminates, as well as whether males and females in atypical positions or with unorthodox gender role beliefs ruminate more or less than higher traditional individuals. That is, a feminine gender role orientation may predispose people to focus more on internal phenomena, increasing the threat of developing or increasing stress (Ifdil, 2024).

There is compelling evidence in the literature that self-efficacy, perceived stress, and rumination all play a role in stress eating among young adults; however, there are limited research examining the interplay between these factors and their effect on overall stress eating among young adults (Sharma, 2017).

1.1.3 Stress Eating

Rumination and perceived stress have a significant influence on eating habits via a variety of psychological and physiological mechanisms. Individuals who are dealing with stress eating tend to develop a habit of turning to fatty or sugary foods when they experience emotional pressure instead of eating because they are physically hungry (Mardiyah, 2024). Stress eating, also known as emotional eating, is the process of consuming high-fat, sugary, or calorie-dense foods in response to emotional stress instead of physical hunger (Dalton, 2024). People start to overeat due to negative emotions like anxiety, stress and depression to distract or relax themselves (Vivek N. C., 2025).

Unlike emotional eating caused by negative emotions, eating which results from experience of positive emotions like joy and excitement has been linked with healthier weight outcomes and lower risk of disordered eating, as shown by past research using correlational analyses for linking BMI and stress eating (Ling and Zahry, 2021). Unlike, the happy eating which results from experience of positive emotions like joy and excitement and it doesn't lead to over-weight and increased nutritional deficiencies (Ling and Zahry, 2021). Recently, perceived stress among young adults especially among students has increased considerably which is a significant predictor of poor diet consumption during stressful situations (Nastaskin, 2015).

In current era, unhealthy eating habits which is a major symptom in emotional eating, are most common especially the frequent use of junk food which is more in energy, fat, sugar and salt amounts but low in nutritional value (Vivek N. C., 2025). Health Canada (2012) stated that 25% males and 23% females who were

young adults had fat and salt consumption above their need.

When people begin eating in reaction to rumination and unpleasant feelings, they feel momentary respite. Over time, this tendency becomes engrained, making it more difficult to interrupt the cycle of rumination and emotional eating (Omair, 2015). One possible explanation is that ruminating increases anxiety and inhibits emotional self-regulation, reducing an individual's capacity to control their eating habits. Individuals who engage in frequent ruminating may struggle to limit their food intake, resulting in lower levels of restrained eating (Luo, 2021).

There is also biological evidence about how stress increases emotional eating. Higher perceived stress increases the release of cortisol. While cortisol is linked with increased appetite particularly urge to eat fatty and sugary items (Varghese et al., 2015). According to Wickham (2016) obesity during adolescent and young adulthood as significant public health problem, with increasing evidence suggesting that stress linked factors like perceived stress, rumination and stress eating play as significant causes in shaping adverse dietary patterns leading to such health issues.

According to Walpola et al. (2020) obesity during adolescent and young adulthood due to imbalanced diet is one of the major focus of public health promotion attempts. It is an unhealthy coping mechanism that provides temporary relief but leads to long-term health problems like obesity, low self-esteem, and eating disorders. Stress eating has also been extensively examined with psychological stress (Torske, 2024). Stress eating is associated with various physiological changes like fast weight gain, cardiovascular issues, diabetes, mitochondrial and immune dysfunction (Carpio-Arias, 2022). Stress eating is one of the causes of binge eating disorder (Ling and Zahry, 2021).

Conversely, stress eating can also impact psychological health as it can lead to intensify negative emotions and increased perceived stress because of the nutritional deficiencies, sudden blood sugar fluctuations, increased blood pressure due to high sodium intake and lack of resources to deal with stress. This again boosts

stress eating and the cycle continues (Vivek N. C., 2025). Perceived stress and emotional eating have been widely linked in different cultural context but statistics in Pakistan culture remained under explored where traditional dietary habits and social factors may differ from findings from Western cultures.

1.1.4 Self-Efficacy

Self-efficacy is defined as one's belief that he or she can efficiently execute certain tasks or cope with future situations (Bandura, 1997). Self-efficacy is a main construct in Bandura's Social Cognitive Theory and influences human agency in how individuals think, feel, and act (Vankov, 2024). The ability to efficiently complete responsibilities even when facing difficulties defines self-efficacy in people. In short, self-efficacy not only predicts performance but also the capacity of an individual to learn and persistence to continue difficult tasks (Altaf et al., 2025).

It serves as the key factor for emotional control and resolving issues, especially when facing stressful scenarios (Clemente, 2024). Self-efficacy is task-specific and can be enhanced through four major sources: vicarious experiences, mastery experiences, verbal persuasion and physiological/emotional states (Vivek N. C., 2025). Higher self-efficacy may act as a cognitive buffer against stress, allowing people to control or deflect stressing beliefs or it may allow people to structure their settings for success (Barcın-Güzeldere and Devrim-Lanpir, 2022).

Notably, self-efficacy not only influences task performance directly but also moderates the interpretation of stress and adversity, oftentimes diminishing the psychological effect of negative events (Baser and Al-A., 2024). Those with higher self-efficacy tend to view tough tasks as challenges to be overcome, whereas those with low self-efficacy engage in avoidance behaviors, high levels of stress, and less chance of goal attainment (Ifdil, 2024). In Bandura's opinion also, higher scores on self-efficacy is linked with higher productivity and satisfaction in life while lower scores on self-efficacy is linked with helplessness, depression, stress and anxiety (Bandura, 1997).

In young adults, self-efficacy as a psychological resource dictates how they approach academic pressures, emotional regulation, proactive coping strategies and healthy behaviors and lower psychological distress (Altaf et al., 2025). Moreover, health-specific self-efficacy has been found to have a positive link with food self-control and a negative relationship with stress-coping through impulsive eating (Manzella, 2025).

Self-efficacy in terms of healthy eating refers to the confidence in ones ability to control junk or unhealthy food consumption and managing emotions without stress eating (Vivek N. C., 2025). While those having low score on self-efficacy feel less control on their food temptations and use emotional eating as a coping strategy (Barcın-Güzeldere and Devrim-Lanpir, 2022). These findings indicate that enhancing self-efficacy can reduce the use of unhealthy coping, like emotional eating. Research on gender role orientation and self-efficacy thoughts may provide reflection on gender differences in rumination and depression.

Using various measures for each factor, the present research sought to explore the nature of the links between gender, self-efficacy, perceived stress, rumination, and stress eating, in order to find out how self-efficacy moderates these variables differently across gender. Current study links all these variables perceived stress, rumination and stress eating with the moderating effect of self-efficacy to get comprehensive insight of pathways underneath and how they impact young adults' mental wellbeing. Stress activates the hypothalamic-pituitary-adrenal (HPA) axis, leading to release of cortisol, that can stimulate appetite and craving for comfort foods.

Due to high stress during exams, students tend to eat more palatable but not necessarily healthier foods. Due to high stress during exams, students tend to eat more palatable but not necessarily healthier foods, which is a symptom of stress eating that food with no nutritional value is consumed. This implies a direct link

between perceived stress and eating behavior (Koçak, 2024). In addition, rumination serves as a cognitive process that aggravates stress eating.

Ruminators are prone to dwelling on negative emotions and thoughts, extending their stress reaction, and enhancing their desire to eat to alleviate stress. People who scored higher on ruminative tendencies were also prone to stress eating, using food as an affective buffer (Houminer Klepar, 2024)). Rumination is serving as a dependent variable influenced by perceived stress and stress eating in the vast majority of cases.

Self-efficacy intervenes in an important protective manner within this process, though. Increased self-efficacy has been associated with improved emotional regulation and more healthful eating (Volpe, 2024). By understanding the moderating effect of self-efficacy in this link, better interventions can be developed that can increase self-efficacy to increase healthy eating among junk food eaters or those having emotional eating (Vivek N. C., 2025).

Young adults and students are especially vulnerable to stress eating because they are in a transition period of their lives, where there is added responsibility and variable emotional stability (Muha, 2024). Coupled with cultural and social signals that reinforce food as a comfort source, stress eating can become an automatic reaction to stress in this group. It can result in physical health issues also the psychological effects, like guilt, low self-esteem, and maladaptive eating patterns (Annesi, 2024).

In short, there are various psychosocial, emotional and cognitive factors like constantly ruminating over body image concerns, stress, anxiety which drive increased emotional eating (Joseph et al., 2023) thus, current study highlights the need to consider psychological aspects into nutritional interventions. Understanding self-efficacy psychological construct that can buffer the adverse impact of stress on these outcomes is necessary for intervention planning. Future interventions can focus on improving person's perception of stress and increasing self-efficacy to

foster better health outcomes among young adults. Thus, the present study investigates how self-efficacy moderates the link between perceived stress, rumination, and stress eating among young adults.

1.2 Gap Analysis

The effect of perceived stress on psychological health outcomes is well established, and research has also examined self-efficacy as a buffer in stress management (Hill et al., 2022). Past researches have also shown perceived stress is positively linked to problematic eating including stress eating.

However, limited research has explored about the effect of self-efficacy as psychological resource in moderating the relationship between perceived stress and two distinct yet interrelated outcomes in young adults: stress eating and rumination. In addition, rather than being probe as a moderating factor between stress and poor coping, self-efficacy is often viewed as a global predictor of mental well-being (Brown, 2023; Altaf et al., 2025).

The current literature pool contains a number of gaps. The quantitative and qualitative data in the literature is inadequate. Another gap is a lack of interlinking of these variables among research studies (Anjum et al., 2022). Most of the existing literature either examines these constructs in isolation or only considered clinical groups. There remains a significant gap in examining these variables jointly (Moeini et al., 2008). The synergetic impact of these variables on young adults mental health is an area which past researches had not holistically covered. Most past evidence on relationship of perceived stress, rumination and stress eating is from Western cultures leaving a gap of data from eastern cultures. Culture has strong impact on prevalence and gender differences in this relationship (Amaral, 2024). So, it is essential to study these variables in Pakistan for culturally appropriate evidence and interventions.

Young adults in Pakistan often experience multiple chronic stressors, including family expectations, academic pressure, financial struggle, and limited mental

health resources (Ali, 2024). Moreover, socio cultural contexts frequently associate stigmas with the expression of emotions and experiencing psychological distress. This increases the likelihood of internal suffering coupled with negative coping strategies such as rumination or emotional eating. Despite known resource differences, there is emerging research on perceived stress and psychological health in Pakistan but very few particularly addressed rumination and stress eating (Altaf et al., 2025).

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Furthermore, most of the existing literature is skewed towards perceived academic stress specifically while other forms of stress like health or finances related stress remained under explored. Also, past evidence suggests that perceived stress doesn't directly impacts academic performance but through different mediating outcomes like stress eating and rumination (Liu, 2024; Willis and Burnett, 2016). Therefore it is critical to examine the behavioral and cognitive pathways of perceived stress which impact overall wellbeing. So, current study enables to view stress in broader and multifaceted approach and its link with rumination and emotional eating.

Most of the past literature related to stress eating was from the time of COVID-19 during quarantine (Barcın-Güzeldere and Devrim-Lanpir, 2022; De Pasquale et al., 2021). However, post pandemic statistical data has overlooked which is a major gap in literature because circumstances and stressors now differ from those present during quarantine. So, current research can prove timely and essential in gathering evidence related to stress eating behavior.

Overall, it appears that understanding the complex relationships between research variables can significantly contribute to theoretical insight and practical applications in psychology and therapy, and the findings may help to develop effective treatment approaches, interventions, and academic programs aimed at betterment of students' well-being and stress eating behaviors.

1.3 Problem Statement

The developmental stage of young adulthood ranges between 18-25 years of age, characterized as a stage of increased psychological changes and social demands leading to significant perceived stress especially among students (Buerke, 2025). In a developing country like Pakistan, young adults are most vulnerable to stress due to high academic competition, lack of mental health resources, financial uncertainty and family expectations (Anjum et al., 2022; Altaf et al., 2025).

When these stressors are evaluated as uncontrollable and threatening due to lack of resources available to manage it, prevalence of perceive stress increases (Dickhäuser, 2024; Hill et al., 2022). Thus, perceived stress is a subjective state rather than a objective construct based on how an individual interprets it either threatening or controllable (Carpio-Arias, 2022). Perceived stress can be one of the major causes of maladaptive emotional , psychological and behavioral outcomes (Ling and Zahry, 2021).

In this context, two adverse outcomes of perceived stress have gained increasing attention of researchers which are rumination and stress eating. Rumination refers to as a cognitive impairment involving repetitive negative thoughts about stressful situations which leads to increased negative emotions (Lee et al., 2016). While stress eating as a consequence of emotional distress instead of physical hunger causing unhealthy food consumption, obesity and sense of guilt (Dalton, 2024).

Past researches also indicated that students who experience higher perceived stress had higher levels of rumination and emotional eating (De Pasquale et al., 2021; Joseph et al., 2023). Based on individual perceptions, people deal with stress subjectively.

As, Transactional Model of Stress and Coping explains that it depends on availability of internal psychological resources which can help to manage stress (Costello, 2025). One of these psychological resources is self-efficacy that means having a confidence in one's capacity to manage and control unfavorable situations (Bandura, 1997). Self-efficacy impacts if people perceive stressors as threatening or controllable, type of coping strategies they use and emotional responses to stressful situations(Bandura, 1997).

People with higher self-efficacy are more likely to participate in positive appraisal of resources and problem-solving techniques. While lower self-efficacy is linked with negative thoughts, avoidance behavior and emotional dysregulation which ultimately lead to stress eating and rumination (Volpe, 2024).

In a sample of American students above the age of 18, 83% of participants indicated moderate to severe perceived stress while students' consumption of fruits and vegetables was lower while unhealthy food intake was once everyday (Ling and Zahry, 2021). In another study on US young college students, 26% reported moderate to extremely severe stress (Brown, 2023). The increasing prevalence of maladaptive behaviors due to perceived stress among young adults (Arnett, 2000),

it is critical to examine if higher level of self-efficacy can buffer these negative impacts.

The effect of perceived stress on psychological health outcomes is well established, and research has also examined self-efficacy as a buffer in stress management (Henderson, 2019). However, limited research in Pakistan has explored about the effect of self-efficacy in moderating the relationship between perceived stress and two distinct yet interrelated outcomes in young adults: stress eating and rumination (Anjum et al., 2022).

Most of the past studies in Pakistan examined self-efficacy in link with academic performance or psychological wellbeing (Kamal et al., 2020). Most of the existing literature either examines these constructs in isolation or only considers clinical groups. In addition, rather than being probe as a moderating factor between stress and poor coping, self-efficacy is often viewed as a global predictor of mental well-being (Brown, 2023).

While self-efficacy has a demonstrated effect on how individuals respond to stress in general, it is not yet well established empirically how self-efficacy affects the link between perceived stress and these maladaptive behaviors (Moniri, 2024). If this relationship is not adequately understood, interventions intended to minimize the ill impacts of stress in young adults in Pakistan may never be fully engaged or effective (Anjum et al., 2022). Previous research often studied these variables and did not have a comprehensive model that assesses how self-efficacy interacts with both cognitive (rumination) and behavioral (stress eating) outcomes (Zhang, 2024). Moreover, only a few longitudinal or structural path models account for indirect effects across time (Rezeppa, 2024).

Few studies have been undertaken in Pakistan to examine the role of self-efficacy. However, these studies are insufficient in this area, necessitating additional in-depth investigations among these variables (Sharma, 2017). As a result, the present study seeks to examine new paths of understanding the idea of self-efficacy

and it's relationship by considering all four variables and testing how self-efficacy moderates the indirect impact of perceived stress on stress eating and rumination among young adults in Pakistan (Rehman, 2024).

Additionally, there is potential for more culturally diverse and integrative analyses (Mardiyah, 2024). By studying this relationship, future researchers can get insight into cognitive and behavioral pathways underlying stress responses. Also, current research is timely and essential to develop culturally appropriate evidence-based interventions to promote adaptive coping with stress among young adults of Pakistan (Tomiyama, 2015).

1.4 Rationale

This study will contribute in theoretical advancement by investigating the moderating effect of self-efficacy in the link between perceived stress and rumination, while also examining stress eating as a distinct behavioral outcome within this framework (Nastaskin, 2015). This contributes to psychological literature by identifying protective internal resource (self-efficacy) that can mitigate harmful stress impacts rather than only focusing on direct relationships. As, researchers point out that while self-efficacy appears to be significant in overall stress resistance, its involvement in reducing rumination and emotional eating is not well understood (Whitt, 2025). A recent review highlighted that there is more stress eating among students and adolescents, but not many stress-eating models examine how self-efficacy and similar traits might prevent stress eating (Costello, 2025).

While most of the researches conducted in Western cultures, it difficult to implement the findings internationally or in different cultures. Pakistan has a distinct cultural context than individualized western countries (Khan and Shamama-Tus-Sabah, 2020). As, culture guides the gender roles in managing negative emotions. In particular, collectivistic and developing cultures like Pakistan, females are considered as emotionally sensitive while men don't express emotions so, females ruminate over longer periods of time than men (Altaf et al., 2025). Also, males

experience less gender specific stressful situations and have no longer-term consequences as do for women that's why perceived stress is shown higher for women (Willis and Burnett, 2016).

In addition, European and Asian countries usually have different approaches to careers and academics, which may significantly influence young students perceived stress levels (Chou et al., 1998). So, it's difficult to generalize western findings on Pakistan's culture. Current study provides findings from Pakistani context which can help to develop culturally appropriate interventions. According to World Health Organization (WHO) research studies, between 60 and 70% of young adults who were university students experience moderate to high levels of stress, typically because of academic stress, uncertain future, and relationship problems (Wilson et al., 2015).

In a study by Gonmei and Devendiran (2017) 84.4% participants reported moderate levels of perceived stress and stress was recognized as major cause of increasing suicide rates among young adults.Similarly, Lewis (2024) in a cross-national study reported that 40% of students who are young adults in Southeast Asia experience both stress rumination and excessive snacking as a result of it.

Based on latest researches conducted among young adults at Pakistani universities, 71.4% of students reported feeling extremely stressed and 45% dealt with stress by emotional eating (Khan and Shamama-Tus-Sabah, 2020). Stress has been recognized as one of the most important factors impacting academic performance among young adults, and it has been associated with different adverse consequences, like poor class performance, loss of interest, and emotional dysregulation (Erfanian, 2024). Thus, gaining insight about the underlying pathways that link stress to educational failure and poor mental health, is critical for developing effective intervention strategies.

Despite these distressing trends, no integrated model currently exists that simultaneously investigates the roles of perceived stress, rumination, stress eating, and

self-efficacy in the Pakistani context. Also, gender differences in experience of these psychological constructs also remained under explored (Arnett, 2000). Thus, present study is essential to highlight prevalence and interlink of these variables along with the gender differences across Pakistan's cultural context. According to the results of (Mardiyah, 2024) female students facing socio-economic disadvantages are more likely to experience more hardships and psychological burden than others due to inadequate psychological assistance and extra-large roles within their community.

So, current study will provide empirical evidence related to gender differences in context of Pakistan. In psychological literature, current study will also set ground for future cross-cultural comparisons, longitudinal or experimental studies and intervention-based research on these variables. Seeking empirical evidence on how self-efficacy could function as a protective measure has practical implications(Moeini et al., 2008). Stress eating leads to poor physical and mental health outcomes like obesity, cardiovascular problems and body image concerns. Filling this gap by gaining insight on moderators like self-efficacy may provide prevention efforts, including psychoeducation and self-efficacy training, aimed at averting rumination and emotional eating.

Study emphasizes on culturally appropriate interventions considering unique needs and mental health barriers in Pakistan. Young adults mainly students or those in early career years, experience elevated stress levels and maladaptive coping strategies. Insights from this study can guide wellbeing programs and effective stress management in educational institutes to lower perceived stress and its negative impacts.

1.5 Theoretical Framework

Social Cognitive Theory of Albert Bandura (1986) provides a theoretical framework for understanding link between perceived stress, rumination and stress eating with moderating role of self-efficacy. Social cognitive theory helps to describe how

people's behavior and their environment interact with what they think. This theory emphasizes that individual's behavior is not only shaped by the environment or their setting but also through active interpretation of their environment through cognitive mechanisms like perceived control, goal setting, resources appraisal and self-reflection (Bandura, 1997).

According to Bandura, the idea of self-efficacy is central to this account and involves a person's belief in being able to behave in ways that lead to accomplishing specific results (El-Zayat et al., 2025). Such beliefs can affect the decisions people take and the strength to keep working when things get tough, the energy individuals put in, and their ability to resolve problems (Dan et al., 2024).According to Bandura, the idea of self-efficacy is central to this account and involves a person's belief in being able to behave in ways that lead to accomplishing specific results (Erfanian, 2024). Such beliefs can affect the decisions people take and the strength to keep working when things get tough, the energy individuals put in, and their ability to resolve problems (Dan et al., 2024).

According to Bandura's social cognitive theory stress is not only developed by environmental stressors like academic stress, financial challenges or family conflicts but it also depends on how people perceive and interpret stressors through their cognitions (Eltaiba and Samara, 2022). When individual perceives environmental stressors as threatening and uncontrollable it increases the likelihood of experience of higher perceived distress (Carpio-Arias, 2022). Rumination further intensifies the negative consequences of perceived stress as maladaptive cognitive function. According to Bandura (1997) people constantly reflect and process environment through their thoughts and emotions. When already stressors are perceived as threatening, constant negative thinking and catastrophizing the outcome reduces problem solving behavior and sustains stress in long term instead of minimizing it (Nickerson, 2024). Rumination heightens the experience of stress and leads to adverse psychological health outcomes like depression, anxiety, poor self-concept and low self-esteem (Willis and Burnett, 2016). As, study by Liu (2024) showed that young adults who constantly ruminate due to ongoing academic stressors it

impacts their ability to focus, academic achievement and leads to maladaptive coping strategies.

When environmental stressors and negative cognitions combine, they increase the likelihood of maladaptive coping behaviors like emotional eating which provides short term relaxation from stressors (Vivek N. C., 2025). According to SCT, behavioral outcome is dependent on learned expectations and self-regulation capacity. Stress eating is a behavioral coping strategy which shows low self-regulation and limited confidence in one's capacity to manage stressors in a positive way (Ling and Zahry, 2021).

Since individuals think stressors cannot be managed, they are more likely to develop negative emotional and behavioral reactions (Scott, 2024). Under high levels of perceived stress, individuals take part in rumination, which means they repeatedly and passively focus on the problems and outcomes of disturbing events (Houminer Klepar, 2024). It has been found that rumination leads to extended sadness and difficulty solving problems. By concentrating on uncomfortable emotions and disrupting efforts to reach goals, it makes things feel even more painful (Watkins and Roberts, 2020). With time, repeated rumination may lead to anxiety, depression and a variety of affective disorders (Simon, 2024). Individuals prone to rumination are more inclined to use diet as a means of coping and relaxation. In another study, Kambara (2024) examined rumination as a strong predictor of emotional eating.

Bandura's Social Cognitive Theory offers a strong way to explore how self-efficacy as a protective psychological resource moderates the link between stress, thinking too much, and eating for comfort. Those with high self-efficacy tend to trust they can control their stress, control their feelings, and use good coping methods.Examples of these are reassessing one's thoughts, acting toward goals, and findingsomeone to talk to or get advice from, which all protect the mind and body from stress (Joseph et al., 2023). So, current study hypothesizes that stronger self-efficacy means weaker impact of perceived stress as rumination and emotional

eating.

Therefore, social cognitive theory gives a comprehensive framework for this study, explaining all three variables perceived stress, rumination and stress eating along with the protective factor of self-efficacy. SCT also incorporates cultural role in shaping the beliefs and behaviors. Culture influences how stressors are interpreted, perceived and responded (Khan and Shamama-Tus-Sabah, 2020). SCT doesn't ignore these environmental factors like stigmas, gender roles shaped by culture which can differ the prevalence of variables being studied across cultures and genders (Liu, 2024). Instead, SCT views behavioral outcomes as combined consequence of person's environment and it's cognitions.

1.6 Conceptual Framework

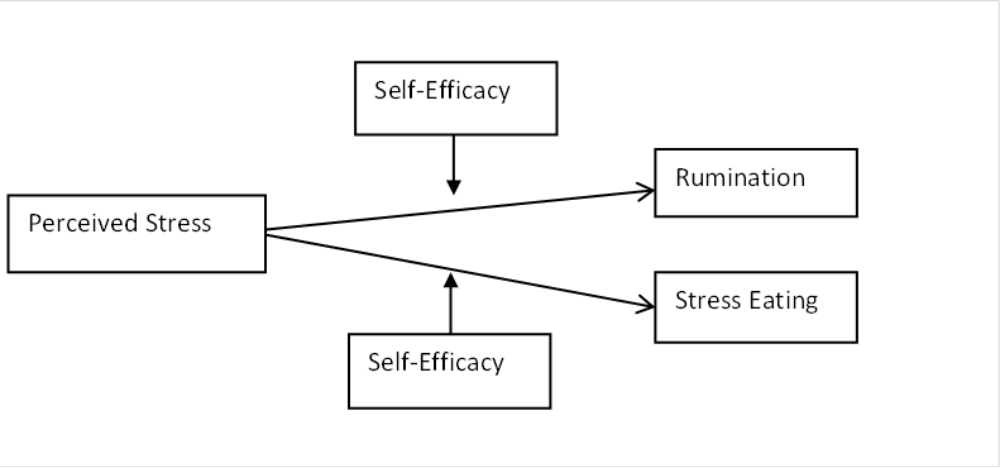

FIGURE 1.1: Conceptual Framework

The self-efficacy a person has often affects the way they react and make sense of stress. People who have confidence in themselves usually treat uncertain and risky situations as problems they can handle. Having a positive view of the situation helps individuals adapt to problems, regulate feelings, and increase mental toughness (Warner, 2024). Individuals tend to address difficulties by resolving them, changing their thoughts, and looking for social help. People who feel they cannot influence what happens in their lives are more likely to suffer from stress.

Stress eating which is sometimes called emotional eating is something people tend to do as a result of raised perceived stress and prolonged thinking. Many times, such behavior occurs when people are agitated and consume a lot of diet that is higher in sugar and fat, rather than eating because they are hungry (Mehmood, 2024).For many, when they experience stress, they use eating to momentarily relieve stress. At the same time, excessive intake of this food may cause people to be at greater risk for conditions such as obesity, insulin resistance, and heart problems (Torske, 2024). Because this cycle repeats, investigating what affects our self-belief (self-efficacy) in effectiveness can explain the reasons behind these results.

1.7 Research Objectives

Following are the research objectives of the study:

i. To examine the link between perceived stress, stress eating, and rumination among young adults.

ii. To determine if self-efficacy moderates the impact of perceived stress on stress eating among young adults.

iii. To determine whether self-efficacy moderates the relationship of perceived stress and rumination among young adults.

iv. To study the gender difference between perceived stress, stress eating, and rumination among young adults.

1.8 Hypotheses

Following are the research hypotheses of the study:

H1:There will be a positive relationship between perceived stress, stress eating, and rumination among young adults.

H2: Self-efficacy will moderate the relationship between perceived stress and rumination among young adults.

H3: Self-efficacy will moderate the relationship between perceived stress and stress eating among young adults.

H4: There will be a gender difference between perceived stress, stress eating, and rumination among young adults.

Chapter 2

Literature Review

Self-efficacy as a psychological resource can act as a protective factors against stressful situations. With increasing prevalence of mental health issues among youth, this construct has gained increasing research attention in recent years. There is emerging research on how it can mitigate adverse emotional and behavioral impacts of perceived stress among young adults and students.

2.1 Perceived Stress

The impact of stress is dependent on our perspective about how critically we evaluate it. This leads to the term "perceived stress," which is defined as the extent to which events in one's life are viewed as stressful, unexpected, and unmanageable (Lee et al., 2016). Perceived stress is more important than the term "stress" since it reflects the subjective perspective (Chen, 2001). According to Robotham (2008), individuals perceive and interpret stresses that create pain and threat, rather than the stressors themselves. For example, a young adult experiencing severe academic pressure may view it as more stressful than actual expectations indicate. Male and female students in university environments often show frequent symptoms of rumination and stress eating as reactions to pressure (Burger, 2017). This subjective outlook heightens the psychological responses, magnifying the overall impact of self-efficacy, underlining the pivotal role our interpretation of stress plays during this developmental stage.

While stress is a universal and inevitable part of life (Costello, 2025), people perceive and behave differently to stressful experiences. Therefore, the effect of stress on wellbeing should be measured primarily by its perceived severity. Thus, Lee et al. (2016) done a correlational research to investigate the link between perceived stress and life satisfaction among 282 undergraduate young adults in Korea. Researchers also examined the mediating role of self-efficacy in this relationship.

Data was collected through quantitative questionnaires. Findings from the data indicated higher perceived stress was associated with lower life satisfaction among young adults, indicating a significant negative correlation between these variables. Self-efficacy partially mediated this relationship. Self-efficacy influenced the internal cognitive evaluation of stress and life satisfaction.The relationship between perceived stress and life satisfaction remained strong however the significance was minimized when self-efficacy acted as mediator. Study suggested to link other behavioral and cognitive outcomes with perceived stress (e.g. rumination, stress eating) and further examining the protective effect of self-efficacy on that relationship.

Another cause of increased perceived stress among young adults, is academic challenges due to transition from school or college setting to university setting. This transition involves changes in methods of teaching, higher academic demands and changes in peer relationships collectively causing psychological, social and emotional shock (Gonmei and Devendiran, 2017). Therefore, To examine perceived stress due to academic pressure, in Iran another quantitative correlational study design was done to investigate the link between perceived stress, mental wellbeing and self-efficacy. Only males were recruited from colleges in Tehran. Statistical analysis of the collected data showed that perceived stress and self-efficacy had significant negative link between them. Also, higher perceived stress was linked with lower mental health status. While increase in self-efficacy increased mental wellbeing.

Study examined the direct link of self-efficacy with perceived stress and mental health but it's moderating role in this relationship remained unexplored. Also

study didn't provide any data related to the gender differences in experience of these variables (Moeini et al., 2008). People perceive stress as threatening when they require more resources to manage situational demands than their emotional and social network can provide (Anjum et al., 2022).

2.2 Self-Efficacy among Young Adults

Self-efficacy is defined as an individual's belief in their capacity to perform required behavioral actions that create specific results because this self-confidence impacts stress perception and management abilities (Esin, 2024). When people have high self-efficacy, they demonstrate better capabilities in confronting obstacles while implementing smart coping techniques and maintaining emotional stability.

Self-efficacy is associated with the social psychology construct locus of control (Gonmei and Devendiran, 2017) and defined as a cognitive orientation or set of beliefs about the link between one's own efforts and subsequent rewards or outcomes. Importantly, higher self-efficacy has behavioral implications (e.g., approach vs. avoidance and/or persistence in the face of discouragement), which may serve as an important protective factor against stress and depression (Sukhodolsky, 2001).

Varghese et al. (2015) conducted a meta-analysis of past researches finding the link between perceived stress and self-efficacy among young adults. Peer-reviewed studies were systematically analyzed to summarize findings from different researches. It was found that higher perceived stress lowers academic performance among young adults. On average, 60% young adults reported themselves as highly stressed.

While self-efficacy has significant negative link with perceived stress. Self-efficacy is based on specific goals which increase ls performance for achieving them. Self-efficacy increases motivation, positive Psychological and physiological health outcomes. In terms of gender, research have consistently found that women experience more stress than men. A literature review cited multiple studies that discuss the impact of gender on stress processes (Manzella, 2025). Women, who are in more

gender-specific stressful contexts, tend to rate threatening situations higher than men, are impacted by social role demands and experience of daily stressors linked with their role performance, and are more impacted by the stress of those around them (Meule, 2018). According to past evidence, another significant cause of stress among young adults is social domain like developing and sustaining social relationships (Andargeery, 2024). Disturbed family relationships particularly among those coming from broken families also serves as dominant factor leading to higher perceived stress (Gonmei and Devendiran, 2017).

As, Cheng (2009) in a study among college students shown that participants had moderate levels of perceived stress where poor social relationship was most common cause of stress among them. While, Arnett (2000) indicated in study that academic factors were most likely cause of perceived stress among college students. Past evidence has also indicated that higher perceived stress is negatively linked with psychological functioning and positively linked to adverse psychological health outcomes like depression, anxiety and life satisfaction (Altaf et al., 2025).

According to Barrington et al. (2014), young adults' susceptibility to stress increases as they emerge from teenage to adulthood. This change requires confronting multifaceted problems such as independent living, financial management, academic duties, and adjusting to new social conditions either through work or education that may be perceived as threatening or beyond one's control. People who fail to do so are considered as idle or failure (Gonmei and Devendiran, 2017).

2.3 Association of Rumination with Other Psychological Constructs

Lewis (2024) also examined the relationship in 412 university young adults and identified a significant positive link between perceived stress and rumination among

participants, individuals reporting persistent overthinking as a response to overwhelming stress. Correspondingly, Zeng et al. (2021) conducted a study that suggested individuals who perceived high stress showed significantly higher ruminative tendencies, particularly in exam periods. Two forms of rumination have been described in the literature: brooding and reflection (Buerke, 2025; Nolen-Hoeksema et al., 2008). Brooding is a passive competition of person's present state to some unattained standard and is highly linked with emotional distress. Reflection, however, is turning inward focus aimed at problem-solving although, it can become pathological if it leads to excessive over-analysis without behavioral action (Dan et al., 2024). Due to association of rumination with depression and other psychological disorders, this construct has gained increasing attention of researchers as by 2019, 7197 papers were published on this variable (Watkins and Roberts, 2020).

Past literature emphasizes that rumination intensifies psychopathologies through four different ways; Increasing and prolonging negative emotions, when such emotional states persist for prolonged periods, it can lead to affective disorder (Nolen-Hoeksema et al., 2008), secondly, by reducing problem solving abilities despite having insight to the problem, third by increasing instrumental behavior and reduceSocial engagement and fourth by reducing attention and response to changing circumstances instead often lost in preoccupied thoughts (Liu, 2024; Watkins and Roberts, 2020).

To further confirm these findings, another correlational research examined the link between perceived stress and rumination. Study also aimed to link these variables with cognitive factors like self-concept clarity and resilience. 164 college students having mean age 20, were included using convenient sampling technique. Participants completed the demographic sheet and psychometric scales for these variables. Correlational analysis showed that perceived stress had significant positive link with rumination. Higher negative thinking regarding a stress situation was linked with higher perceived stress.

While perceived stress was negative associated with positive cognitive functions

self-concept clarity and resilience. Perceived stress and ruminating thinking in women was seen higher as compared to males. Study examined the link of perceived stress and rumination with two protective factors but their moderating role remained unexplored. Also, other moderating psychological factors like self-efficacy remained unexplored which can mitigate the negative impacts in this relationship(Willis and Burnett, 2016). People who experience high and prolonged amounts of perceived stress report feeling that their life circumstances exceed their ability to cope (Nastaskin, 2015). Gender differences in a ruminative coping style appear to emerge during teenage , when gender differences in depression between females and males become obvious, as well as parents rewarding gender roles in how males and females regulate their negative emotional states (Brown, 2023).

As a result of their lower social status women ruminate more, are perceived as more emotionally vulnerable, have less emotional control (Dickhäuser, 2024), and exposed to more adverse and uncontrollable incidents than men (Lewis, 2024). Thus, the current data indicate that gender disparities in perceived stress and rumination have remained constant throughout time. Men, on the other side, tend to ruminate for shorter periods of time on certain life exposures and events, which do not have the same upsetting repercussions for women (Houminer Klepar, 2024).

Barcın-Güzeldere and Devrim-Lanpir (2022), observed no distinction in perceived stress or ruminating between male and female adults, but they did discover that those with a feminine gender role orientation had the highest rumination ratings. The extensive corpus of research on rumination and stress has not clearly recognized variables that predispose people, particularly females, to ruminate.

Chamandoust et al. (2025) in Iran, also investigated the link between perceived stress and distorted thinking with rumination playing a mediating role among youth. Descriptive correlational study design was employed. Data was collected from 158 young adults who were unemployed. Results of the research showed a significant positive impact of rumination on perceived stress.

Distorted thinking was seen as positively correlated with perceived stress. Distorted thinking had direct positive effect on rumination. Thus, both rumination and distorted thinking increase perceived stress among young adults. Perceived stress in young adults is crucial to understand as they experience life transitions, academic stress, and identity formation. Also, there is increasing prevalence of perceived stress among young adults more than other age groups. As, Varghese et al. (2015) cited that among Australian young adults' psychological problems were higher as compared to other age groups while 83.9% reported higher levels of perceived distress. Because of its ubiquitous influence, perceived stress is a core variable in this study, acting as the independent variable that affects rumination and stress eating (Xue, 2024). In another study by Walpola et al. (2020), 79.4% participants had moderate perceived stress while 12.7% indicated having high perceived stress.

2.4 Stress Eating as Maladaptive Coping Strategy

To cope with this stress, young adults frequently adopt stress eating to reduce negative emotions. Stress impacts the choice of type and amount of food people eat. As, high nutrient foods like fruits and vegetables intake is reduced as stress increases (Walpola et al., 2020). Similarly, persistent stress has also being associated to higher consumption of calorie-dense comfort diet, which points towards an established link between perceived stress and emotional eating (Raper, 2024).

In accordance with the Affect Regulation Model, people consume food in reaction to negative emotions in an attempt to self-soothe and modulate mood. Food provides a compensatory effect and helps to distract the individual from negative emotions like rumination, sense of uncertainty, hopelessness and fear (De Pasquale et al., 2021).

A meta-analysis of 54 past research evidences also indicated that stress is related

to unhealthy emotional eating behavior and reduced preference for health foods (Hill et al., 2022). Stress alters bodily and neural functions, which contribute to overeating behaviors like binge eating, uncontrolled eating, addictive or emotional eating (Annesi, 2024) and negative cognitive processes like rumination.

For empirical evidence, El-Zayat et al. (2025) among female university students in Saudi Arabia, examined direct link between perceived stress and emotional eating. 1050 females were included having average age of 21. Analysis of collected data revealed that 21% of total participants had high stress eating behavior. 54% had moderate emotional eating. Statistics related to perceived stress revealed that 41.5% had severe perceived stress while 57.9% had moderate levels of stress. Correlational analysis revealed that perceived stress and stress eating were significantly and positively correlated. Students from higher education classes and those having higher perceived stress, significantly predicted stress eating.

Other past evidence also indicates that stress is directly linked not only to psychological problems but also physiological impacts like obesity due to unhealthy eating, hypertension and reduced immune function (Hill et al., 2022). In terms of stress eating, Chakrabarty (2024) also investigated a positive relationship between academic stress and higher intake of high-calorie food, particularly during emotional stress. The findings of the study confirmed that stress not only increased negative emotions but also impulsive food consumption.

Past evidence suggested that internal cues like stress or anxiety create higher need to eat as compared to external stimuli like sight of palatable but unhealthy food. Psychologists classify this eating habit as a harmful method of coping with difficult situations (Esin, 2024). In addition (Abbasian, 2024) reported that low self-efficacy correlated with more intense rumination because those individuals with low confidence in their abilities to cope tend to engage in less problem-solving behavior and stay mentally mired in ruminative loops (Abbasian, 2024).

To examine the effect of self-efficacy on rumination, Dan et al. (2024) investigated

the link between rumination and creativity among higher education students who had daily exposure to pressure and stress in college, with the mediating role of self-efficacy. 881 undergraduate Chinese students filled the quantitative surveys related to rumination, creativity and self-efficacy. Empirical data revealed a significant negative association between rumination and creativity while self-efficacy acted as a significant mediator in this association. Self-efficacy as practical resource could foster creativity in the presence of daily stressful demands. Thus, study emphasized on building self-efficacy among young adults to promote better academic performance.

Nolen-Hoeksema et al. (2008) discovered that a idea of mastery, beliefs about own power to manage emotions, and sense of responsibility for the emotional tone of relationships thoroughly mediated a gender difference in rumination among participants of 740 dysphoric and non-dysphoric individuals (417 females and 323 males). In a sample of 589 freshmen college students (211 males, 378 females), Wu (2024) discovered lower level of masculinity (operationalized as instrumental behaviors and agency), associated with high levels of socialized femininity, predicting rumination and perceived stress irrespective of gender.

To further examined the demographic differences, Walpola et al. (2020) conducted a cross-sectional study to examine association between perceived stress, general self-efficacy and socio-demographic factors among undergraduate young adults in Sri Lanka. Participants were recruited through stratified random sampling. Quantitative data analysis was done. Findings revealed significant inverse association between perceived stress and general self-efficacy. Which means higher self-efficacy reduces scores on perceived stress. No significant link was shown between perceived stress and socio demographic factors. There was no gender difference in experience of perceived stress among males and females. The gender differences should be assessed in future researches in different cultural contexts.

In a longitudinal research of 137 university students (88 females, 49 males), Sheikh

et al. (2024) discovered that rumination mediated links between negative cognitive style, self-criticism, neediness and depression, implying that these threatening factors were linked to depression via the cognitive pathways of rumination. In a follow-up study in the same cohort, (Sheikh et al., 2024) discovered that rumination moderated the link between various childhood stressors (over controlling parenting, emotional abuse, and for females, sexual trauma) and the number of depressive episodes in adulthood.

Some studies believe that ruminating is a psychological habit that develops in response to negative emotion. Furthermore, studies using an exogenous cueing task found that restricted eaters are more sensitive to food cues; when confronted with food cravings, they must put more cognitive hard work to suppress uncontrolled eating and engage in more cognitive assets to manage the conflict between eating goals and food cravings (Jaffar, 2023). This is consistent with the past evidence that rumination, as a repeated and passive thought activity, may contribute to the higher cognitive effort reported in constrained eaters (Watkins and Roberts, 2020). Rumination is a frequent unpleasant cognitive response characterized by a persistent emphasis on one's uncontrollable adverse condition as well as repetitive passive pondering about anything (Sukhodolsky, 2001).

In past literature, the findings demonstrated a negative connection between rumination and controlled eating behavior. That is, higher levels of ruminating were associated with worse self-control during eating (Hunsmann, 2024). A similar study done by Muha (2024) reported that rumination acted as the mediator between stress and eating behavior, affirming that individuals prone to rumination are more likely to consume food as a means of coping. In another study, Kotecki et al. (2020) examined rumination as a strong predictor of emotional eating, particularly in females, with implications for gender-specific risk.

With particular focus on health, self-efficacy impacts how well people find, understand and follow health related information. People having high self-efficacy are more likely to participate in health increasing actions, seeking professional help

and positively respond to psychological difficulties (Eltaiba and Samara, 2022). Moreover, it enables to apply psychoeducational knowledge in real-world scenarios, as self-efficacy is shown to have a positive link with mental health education (Altaf et al., 2025). Study indicates that high self-efficacy has a notable effect in reducing the effect of stress on maladaptive behaviors, such as binge eating and over thinking (Barcın-Güzeldere and Devrim-Lanpir, 2022). Likewise, Tomiyama (2015) discovered self-efficacy as a protective factor in mitigating the link between stress and negative eating behaviors. While these relationships have been investigated in existing studies, much research has not tested all variables within one moderated mediation model.

Correspondingly, researches have shown that general self-efficacy as a predictor of adaptive coping techniques and mental well-being in young adults undergoing academic stress (Baser and Al-A., 2024). When examining the association between stress and maladaptive coping strategies such as rumination and emotional eating, self-efficacy is a consistent protective factor. People with lower self-efficacy were more likely to perform ruminative thinking, especially in reaction to adverse life events. Repetitive and persistent thinking about painful experiences is usually prompted by a sense of not being able to cope with stress (Salado, 2024). By contrast, people with higher self-efficacy will be more likely to reinterpret stressors and use active coping. Within the field of eating behavior, research also indicates a buffering effect of self-efficacy.

To further confirm the role of self-efficacy, (Altaf et al., 2025) conducted another correlational study in Pakistan. The study examined the association between self-efficacy and mental health literacy among young adults, while perceived stress was investigated as moderator in this relationship. Quantitative questionnaires were filled by participants. Results indicated that self-efficacy acted as a significant predictor of psychological wellbeing and literacy. Research emphasized the impact of self-efficacy as a positive mental health resource leading to positive healthy behaviors. While higher level of perceived stress moderated this relationship as it reduces the effect of self-efficacy on mental health literacy acting as a suppressor.

Study still lacked data on how self-efficacy can act as a moderator in link between perceived stress and negative health outcomes.

Chen (2001) conducted research with 500 U.S. college students and discovered that 68% of them had experienced a moderate to high level of perceived stress during academic transitions, which negatively impacted focus and mood. However, the study did not examine behavioral outcomes such as eating responses, therefore reducing the scope of the study concerning stress coping mechanisms.

To combine examine the relationship of perceived stress and diet self-efficacy with unhealthy dietary habits, another quantitative correlational study was conducted. Both male and female young adults completed the quantitative questionnaires. Findings indicated that lower perceived stress and higher diet related self-efficacy was linked to health dietary intake, low fat and salt consumption. Findings were more prevalent among female student as compared to males. Study emphasized that further research to minimize perceived stress and improving self-efficacy among females can lead to healthy dietary consumption (Nastaskin, 2015).

Past evidence showed that self-efficacy leads to positive cognitive appraisal of stressful situations and view stressors as manageable with available resources rather than as threatening thus leading to adaptive stress response (Nastaskin, 2015). When individuals believe they can manage stress, they are more likely to remain resistant to cyclic negative thinking and indulge in healthy eating as emotional regulation. By incorporating self-efficacy in the theory, the research seeks to reveal not just the immediate effects of stress but also the circumstances under which its effects might be reduced (Hunsmann, 2024).

Zeng et al. (2021) conducted an online survey during COVID-19 time among 430 university students in China, who reported their stress related to the online academic environment, with the majority, approximately 74%, expressing high stress. Although pointing out substantial disruption of emotions, the study was devoid of understanding cognitive mediators like rumination, which might account for

the emergence of maladaptive behaviors. Luo (2021) found a strong positive link between perceived stress and rumination in 320 undergraduate participants. Most participants dwelt on academic and social-related power dynamics. However, the study did not appraise how such repetitive thinking can result in such behaviors as stress eating.

Kruk (2024) studied 389 Turkish students and found that 67% often had negative rumination, particularly about their personal performance and appearance. Rumination was shown to be a cognitive vulnerability highlighted in the study. However, it was not examined in relation to elements that may potentially diminish the impact or risks of rumination. Tomiyama (2015) revealed that 59% of 300 Indian undergraduates indicated stress-induced eating and preferred sugary and high-carb foods during exams. Although the behavioral side was clear, the study did not measure the psychological processes, such as rumination, that can mediate the association between stress and eating behavior.

Barrington et al. (2014) done a cross-sectional to examine link between perceived stress, eating behaviors by gender, obesity and stress vulnerability. Results of the study showed positive association between perceived stress and stress eating (higher fat and fast-food intake). Those with higher stress vulnerability had few eating episodes of main meals but had higher snacking. Differences on the basis of gender or obesity status were not found. Study emphasized that perceived stress acts an important predictor of maladaptive eating behaviors.

Jaffar (2023) conducted research on 270 students and found that the likelihood that students, who were more stressed, risk of engaging in late-night stress eating was 1.8 times higher. The study was strong in establishing patterns, but it failed to consider such personal psychological strengths as self-efficacy that could mitigate such eating behaviors.

Similarly, Carpio-Arias (2022) done a cross-sectional research on 2333 participants of mean age 25. Study aimed to find out the link between perceived stress and

stress eating during COVID-19. Results indicated that perceived stress has significant and positive association with emotional eating. 64% of participants who had higher scores on perceived stress had higher stress eating behavior. Gender differences were observed in experience of perceived stress as females reports of perceived stress were higher as compared to males. Study emphasized that intervention planning for nutritional problems should also consider stress and emotional eating. Future research including other correlating factors like rumination or self-efficacy can provide more insight to prevent nutritional issues.

To further understand the role of high perceived stress of COVID-19 during pandemic, De Pasquale et al. (2021) examined link between fear of COVID-19, mood states and eating behavior among 469 Italian college students. Gender differences were also investigated. Data was gathered through quantitative questionnaires. Emotional states including depression, tension, anger, confusion, tiredness were significantly and positively linked to fear of COVID-19. Higher perceived stress, mood disturbances were linked with higher emotional eating behavior. Females indicated higher negative emotional profiles, fear of COVID-19 and problematic eating as compared to males. But there can be differences in recognition of symptoms among males and females across cultures which require cultural specific studies.

Barcın-Güzeldere and Devrim-Lanpir (2022) also linked emotional eating, body mass index and perceived stress during COVID-19. Data was collected through online quantitative surveys. Data related to weight and any changes in it during COVID-19 was also gathered. It was found that BMI was positively correlated with stress eating. People with more weight or those having obesity were more likely to stress eat during quarantine.

While, lower BMI was linked with higher perceived stress. Nearly all participants reported weight gain during quarantine. Participants having obesity reported consumption of sweet and carbonated drinks two times more than other participants. Gender differences were significantly present as scores of females on stress eating

and perceived stress were higher as compared to males. Study emphasized on implying preventive strategies to reduce eating disorder in long-term. Hill et al. (2022) performed a meta-analysis of past researches on perceived stress and eating problems. Studies having participants of 18 year or older were included. It was concluded that stress leads to unhealthy eating behavior. Stress was seen as negatively related to healthy food intake. But the effect size for these relationships was small which needs to be further explored in future researches. Also, no significant moderation effect of gender or BMI was seen. So, further examination is required to find out other moderating factors which can influence the effect size of this relationship.

In Pakistan, (Anjum et al., 2022) examined the moderating effect of perceived stress related to academics in association between psychological wellbeing and coping strategies. 200 undergraduate students completed the quantitative questionnaires. Findings showed that perceived academic stress had negative relationship with adaptive coping strategies. While psychological wellbeing had positive relationship with adaptive coping strategies. Higher perceived stress indicated lower scores on psychological well-being scale. The study had broadly investigated the role of perceived stress on psychological health and coping strategies. But remained limited in specifically examining the constructs like rumination and stress eating as psychological impacts.

Another research from Pakistan also examined the mediating role of rumination in link between worry and stress eating among young adults. 200 participants including both males and females were recruited from universities, using purposive sampling . Study indicated that stress eating had a significant positive correlation with excessive worry and stress while rumination significantly mediated the relationship. Study concluded that people who worry and persistently ruminate are more likely to develop stress eating behavior (Mehmood, 2024).

In Lahore, Pakistan Sheikh et al. (2024) also conducted a cross-sectional study to examine emotional, cognitive and behavioral aspects of stress eating. Findings

indicated an increased prevalence of unmanaged eating among young adults in educational institutes. Males reported lower rates of stress eating as compared to females. The findings had no association with students' residence as day scholars or hostelites. These results emphasized the complex interlink of cognitive, behavioral and emotional factors leading to stress eating behaviors among university students in Pakistan and highlighted the need for interventions targeting unhealthy dietary habits in this population using positive Psychological resources (Self-efficacy).

To examining stress eating specifically as maladaptive coping strategy due to perceived stress, Ling and Zahry (2021) completed a cross-sectional research with 523 young adult, students. Objective of the research was to examine link between perceived stress, emotional eating and dietary intake with eating self-regulation acting as mediator. 83% participants had moderate to severe perceived stress. Results further showed that higher perceived stress was linked with higher stress eating. Stress eating was positively linked to excessive unhealthy dietary intake. While perceived stress and stress eating were negatively linked to eating self-regulation. Further research on role of self regulatory strategies in eating habits is necessary to promote healthy dietary intake.

In research of 301 female nurses in Tammilehto (2025), discovered that gender roles had an indirect effect on perceived stress, with self-efficacy and internal locus of control acting as mediators. Masculine qualities were also linked to reduced levels of stress and depression, albeit this was heavily controlled by self-esteem. However, the evidence for the direct impacts of gender role on negative affect is weaker (Luo, 2021). Although masculine features have been shown to be protective against perceived stress (Wu, 2024), the negative impact of feminine traits is unclear. It is apparent, however, that gender roles and gender frequently interact. O'Leary (1992) concluded that self-efficacy diminished the adverse behavioral effects of stress by 35%. However, they did not use cognitive mediators such as rumination, which limited a total understanding of how self-efficacy works on a larger stress response model.

Research demonstrated that people with high eating self-efficacy were more likely to preserve control of their eating behaviors during times of stress (Chawner, 2024). Similarly, Volpe (2024) established that individuals with low self-efficacy as emotional eaters were more likely to binge eat in response to a negative effect. Self-efficacy could drastically diminish the consumption of food as an emotional coping strategy. As a result, there is a greater chance of rumination and engaging in adverse behaviors; such as emotional eating as a way to manage mood (Schönfeld, 2019).

(Chou et al., 1998) investigated gender role variations in self-efficacy in a sample of American undergraduates (N = 215) and discovered that masculinity was related with greater levels of overall self-efficacy than femininity. Stern (2014), showed gender role disparities in experience of self-efficacy and mastery for professional accomplishment and motivation in 60 graduate participants (36 males, 24 females). Self-efficacy beliefs appear to impact the emergence or sustainance of stress symptoms, although they are part of a more complicated collection of factors that include gender and gender role.

Women's higher rates of stress and depression may be attributed to both feminine gender roles and self-efficacy beliefs. If self-efficacy beliefs are divided along gender role orientation lines, it is possible that females who stick to traditional gender role demands and have lower self-efficacy will look inward as result of depressed feelings, engage in emotion-focused coping, and ruminate to investigate source of depressed mood. Conversely, if female gender includes a factor of reliance or lack of agency, as the gender role studies argue, it is possible that lower problem-solving capacity promotes rumination. In both cases, it seems to justify that low self-efficacy could be linked to ruminating. Thus, gender role and self-efficacy beliefs can promote rumination in two genders.

Although there is empirical gap in studies on gender role and self-efficacy views in relation to rumination, perceived stress and stress-eating behaviors, several causal explanations have been postulated. In a study of 1,100 individuals, Larson and

Grayson (1999) discovered that women have more chronic stress and sadness, more rumination, and less mastery (self-efficacy).

Rumination was connected with more perceived stress in both genders (approximately equally), although females ruminated more, likely due to chronic stress and a poorer skill of mastery, leading to higher depression (Houminer Klepar, 2024). One objective of this study is to investigate into the association between self-efficacy, perceived stress, stress eating, and rumination and how it differs by gender.

Gender role, rumination, and neuroticism (Wu, 2024), gender role and self-confusion (Gonmei and Devendiran, 2017), gender role confusion, alcohol consumption, and depression (Mardiyah, 2024), and gender role and assisstance seeking (Kim, 2024b), have all been studied in relation to perceived stress and depression, but there is empirical gap in data related to gender differences in context to Pakistan.

While increased thought observation is a trait of high ruminators (a positive link was found here), the other facets (involving non-judging and non-reactivity) were negatively linked with rumination, emphasizing the significance of these other variables in combating ruminative abilities (Schönfeld, 2019). Self-efficacy has been shown to act as a buffer against psychological distress and perceived stress, influencing health behaviors such as stress eating discovered that, in a broad adult population self-efficacy was adversely connected to perceived stress, which totally moderated the favorable relationship between rumination and Stress Eating (Liu, 2024).

Vivek N. C. (2025) also investigated the association between self-efficacy and stress eating in people who had high consumption of junk food in India. 244 young adults completed the quantitative surveys to analyze their perceived ability to manage eating behaviors (self-efficacy) and eating as an outcome of emotions. Findings of study showed that higher scores on self-efficacy are linked with lower scores on emotional eating. Interventions based on improving self-efficacy can help to reduce

stress eating. Study overlooked the analysis of stress which primarily causes stress eating and also the cognitive impact like rumination in this relationship.

(Rumjaun, 2025) discovered a partial mediation role in undergraduate participants. This ensures that perceived stress has an important role in the association. Thus, self-efficacy appears to mitigate the adverse effects of stress, mainly in high-stress populations such as students, and when stress has a direct impact on health outcomes, such as stress eating, self-efficacy and mindfulness-based training have been shown to influence affect regulation, and mindfulness-based training has been shown to alter stress reactivity; this is thought to impact health outcomes by reducing physiological stress responses. These findings gave vital insight into the pathways relating self-efficacy to stress eating and rumination are highly relevant to young adults, mainly students who frequently reported higher levels of stress (Pan, 2024).

Self-efficacy is the subjective judgement and believe in one's capacity to execute a task. Many researchers implies a association between adults' self-efficacy and perceived stress. When students confront obstacles at this period of development, such as those related to their family environment, academics, or career, self-efficacy can help them adapt. Students with high self-efficacy always see threat situations as challenges, and they set high goals and remain committed (Stern, 2014). When confronted with failure, they can keep hope and persevere, lowering their risk of depression. In contrast, college students with low self-efficacy frequently avoid issues and experience more negative emotions and anxiety, increasing their risk of stress and depression (Luo, 2021).

A study of 780 ethnically diverse college students discovered that interplay of body dissatisfaction and rumination was a strong predictor of eating problems. Furthermore, a meta-analysis of rumination and eating disorders revealed that rumination plays an important role in the psychopathology of eating disorders. This suggests that rumination is linked to both body dissatisfaction and limited eating, and that it may operate as a mediator between the two (Ali, 2024).

Similarly, Kornacka et al. (2021) examined how rumination as maladaptive coping strategy and mood link with stress eating in both obese and healthy young adults. Study observed that stress eating mediated the link between rumination and over eating or frequent snacking among healthy weight individuals. Regression analysis revealed that rumination predicted emotional eating more significantly than mood distances, in both weight groups. Study thus, emphasized that rumination along with perceived stress can play a key role in prompting maladaptive eating as coping strategy with negative moods. These findings proposed that repetitive negative thinking may contribute to stress eating by reducing emotional regulation resources like self- efficacy.

Kotecki et al. (2020) also combined studied whether perceived stress levels and self-efficacy is linked to eating habits in university students. A cross-sectional study design was used and data was collected online through quantitative questionnaires. Data analysis results indicated that lower perceived stress was linked with higher diet quality, low sugar intake. Also, higher self-efficacy was also linked with low stress eating and better diet quality among young adults.

Chapter 3

Research Methodology

3.1 Research Design

A quantitative cross-sectional study design was used within this study.

3.2 Sampling Method

Participants were recruited by convenient sampling technique from different colleges and universities guaranteeing easy accessibility.

3.3 Sample

A sample of 300 students (N=300) consisting of young adults aged 18-25 will be drawn from universities and colleges within the twin cities of Islamabad and Rawalpindi. The sample size was estimated using G Power 3.1 for multiple linear regression analysis to investigate the moderating effect of self-efficacy. Considering a small-to-moderate effect size ($f^2 = 0.05$), an alpha (significance) level of 0.05, statistical power of 0.80, and three predictor factors (perceived stress, self-efficacy, and their interaction term PS×SE), the needed minimum sample size was found as 296 participants. The calculated sample was 300 young adults, which was identified as adequate to examine the proposed moderation model. The age range

of sample was decided based on past studies; the age range of young adults is widely known as 18-25 years (Nolen-Hoeksema et al., 2008) and also because of the age group's inherent susceptibility to cognitive and behavioral processes associated with stress, including rumination and eating due to stress (Stern, 2014).

3.3.1 Inclusion Criteria

Following is the inclusion criteria given;

i. Individuals aged 18-25 years, residing in Rawalpindi and Islamabad will be included in the study.

ii. Both females and males will be eligible to participate.

3.3.2 Exclusion Criteria

Following is the exclusion criteria given;

i. Individuals with any self-reported history of diagnosed intellectual disability or other severe cognitive impairment will be excluded.

ii. Participants who don't understand English properly.

3.4 Instruments

3.4.1 Demographic Sheet

Background information from the study participants will be collected using a demographic sheet which included their names, ages, gender, educational year and the presence of any psychological disorder or physical disability.

3.4.2 Perceived Stress Scale (Cohen & Williamson, 1988)

The (PSS-10) having 10 items is a short version of 14 item PSS developed in 1983 (Chen, 2001). It serves as a measurement tool through which people report their stress thinking and emotions over the last month using specific language.

The respondents answer using a 5-point Likert scale that ranged from 0 (Never) to 4 (Very Often). The scoring system ranges from zero to forty points where increased composite scores show higher perceived stress levels. The Cronbach alpha (α) reliability of this questionnaire was found to be around 0.79 to 0.85 (Lee, 2012).

3.4.3 General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995)

The General Self-Efficacy (GSE) Scale provides a self-report scale containing ten items for measuring optimistic self-beliefs related to handling challenging life demands. The scale is not divided into subscales and is unidimensional.

The rating scale consists of four points ranging from 1 (Not at all true) to 4 (Exactly true). The range of possible scores on the assessment measures total efficacy beliefs from 10 to 40 points (Chen, 2001). Higher scores indicated higher self-efficacy. The Cronbach alpha (α) reliability of this questionnaire was found to be around 0.76 to 0.90 (Gonmei and Devendiran, 2017).

3.4.4 Rumination Scale (Hoeksema & Morrow, 1991)

Ruminative Scale (RS) is part of the Response Styles Questionnaire (RSQ). This measure consists of 22 items that determine the regularity with which people direct their attention to depressive symptoms during periods of sadness. It has three dimensions rumination symptoms, brooding and reflective pondering.

The survey items are ranked on a 4-point Likert-type scale which ranges from 1 = Almost never to 4 = Almost always. The measurement scale uses composite scoring methods to establish how often people ruminate under stressful conditions. Higher scores show higher ruminative thought pattern.
The Cronbach alpha (α) reliability of this questionnaire was found to be around 0.80 (Kim, 2024a).

3.4.5 Salzburg Stress Eating Scale (Meule et al., 2018)

Salzburg Stress Eating Scale (SSES) is used to evaluate how people's eating habits change while they are under stress. The SSES examines both increases and decreases in food consumption induced due to stress. 10- likert scale items rated (1-5) contributes to the evaluation. Scores over 3 indicates increased eating during stressful circumstances, whereas scores below 3 indicate less consumption (Meule, 2018). The Cronbach alpha (α) reliability of this questionnaire was found to be around 0.89 (Gonmei and Devendiran, 2017).

3.5 Analyses

The data analysis for overall study began with data cleaning, frequencies of demographics, reliability analysis of scales used along with mean, standard deviation and actual potential range. T-test was done to examine the gender differences in experience of psychological variables. This research analyzed the relationship among perceived stress, rumination, stress eating, and self-efficacy, through Pearson correlational analyses with Statistical Package for Social Sciences (SPSS version 27) and Andrew F. Hayes's PROCESS macro model 1 for moderation analysis.

3.6 Ethical Considerations

Present study was performed after the ethical approval of Capital University of Science and Technology (CUST) defense panel experts and Ethics Review Committee of Faculty of Management and Social Sciences. Institutional approval from the universities and colleges was taken to access students who were young adults. Written informed consent was taken before study from the students who were willing to participate.

The participation was by participants own will and they were informed about the purpose of study. Confidentiality was maintained and data was only used for research purposes. Participants were given the opportunity to know study results.

No personal details that can lead to the identification of individuals were collected to ensure confidentiality and anonymity.

3.7 Procedure

Following informed consent from study participants, data was collected by administering demographic sheet and series of questionnaires designed to assess self-efficacy, rumination, perceived stress and stress eating. Participants had enough time to complete the scales and can ask for clarification, if needed. After data collection, data was analyzed using IBM SPSS-26 to confirm the proposed hypotheses.

Chapter 4

Results

This chapter presents all the findings of the current study, involving descriptive statistics of the demographic factors, correlational analysis using Pearson correlation, Independent sample T-test for gender differences and Moderation analysis for Self-efficacy.

4.1 Descriptive Statistics of Demographic Variables

The demographic characteristics of the participants are shown in Table 1. A total of 300 young adults from twin cities voluntarily participated in this study. Considering gender distribution, most of the study sample was from females (n = 182, 60.7%), whereas male sample comprised of 39.3% (n = 118) of the sample.

For age related demographic factor, slightly more than half of the participants were of age 22–25 years (n = 159, 53.0%), whereas 141 (47%) participants were within the range of 18–21 years, suggesting a relatively balanced depiction of young adults.

For the third demographic variable educational status, most participants were studying in or had accomplished an undergraduate degree (n = 231, 77.0%). Moderate proportion of participants reported having an Intermediate level education

(n = 33, 11.0%). While smallest number of participants were from Master's level education (n = 36, 12.0%). Nearly all participants were educated and were able to understand psychometric scales in English language.

Descriptive statistics of socioeconomic status showed that most participants were from the middle socioeconomic status (n = 243, 81.0%), followed by the upper socioeconomic status (n = 40, 13.3%), while smaller proportion belonged to the lower socioeconomic status (n = 17, 5.7%). Related to employment status, more than half of the respondents recognized as those who were students only (n = 165, 55.0%), while 31.0% participants (n = 93) were unemployed. Smallest proportion from the sample (n = 42, 14.0%) were employed during the time of data collection. In terms of relationship status, most of the participants were single (n = 260, 86.7%), while smaller percentage 12.0% (n = 36) were married and very few were widowed (n = 4, 1.3%). Finally, regarding the living arrangements status, majority of the participants reported living with their families (n = 233, 77.7%). A smaller proportion was living in hostels (n = 56, 18.7%), while very little percentage 3.7% (n = 11) were living alone.

4.2 Reliability Analysis of Instruments

Table 4.2 demonstrates the descriptive statistics, internal consistency or the reliability coefficients, and normality analysis for the present study constructs: Stress Eating (SE), General Self-Efficacy (GSE), Perceived Stress (PS) and Rumination (RS). The Stress Eating Scale showed good reliability (α=.805) with an average score of 25.35 (SD = 7.053). The General Self-Efficacy Scale also indicated acceptable high reliability (α=.781) with a mean score of 20.92 (SD = 4.659).

The Rumination Scale (21 items) showed high reliability (α=.716) with a mean score of 55.79 (SD = 8.514). However, the Perceived Stress Scale demonstrated relatively low reliability (α=.375) with a mean score of 24.27 (SD = 4.126), emphasizing that this scale may have limited internal consistency within this sample.

Table 4.1: Demographic Characteristics of Participants

Variables	**Categories**	**F**	**%**
Gender	Male	118	39.3
	Female	182	60.7
Age	18–21	141	47.0
	22–25	159	53.0
Education	Intermediate	33	11.0
	Bachelors	231	77.0
	Masters	36	12.0
Socioeconomic Status	Lower class	17	5.7
	Middle class	243	81.0
	Upper class	40	13.3
Employment Status	Employed	42	14.0
	Unemployed	93	31.0
	Student only	165	55.0
Relationship Status	Single	260	86.7
	Married	36	12.0
	Widowed	4	1.3
Living Arrangement	With family	233	77.7
	Hostel	56	18.7
	Alone	11	3.7

Note. f= Frequencies, %= Percentages

Table 4.2: Descriptive Statistics and Reliability of Study Scales

Scales	**Items**	**M**	**SD**	$\boldsymbol{\alpha}$	**Kurtosis**	**Skewness**
SE	10	25.35	7.05	0.805	-0.37	0.38
GSE	10	20.92	4.66	0.781	0.58	-0.81
RS	21	55.79	8.51	0.716	0.49	0.08
PS	10	24.27	4.13	0.375	0.57	-0.11

Note. SE = Stress Eating; GSE = General Self-Efficacy;RS = Rumination; PS = Perceived Stress.

4.3 Normality Testing

Regarding data normality, skewness values ranged from .805 to .381, and kurtosis values from .367 to .576, both within acceptable ranges (±2.00), showing approximate normal distribution of the data. Overall, while most scales indicated acceptable internal consistency, scale for Perceived Stress has low internal consistency requiring careful consideration in interpreting related findings.

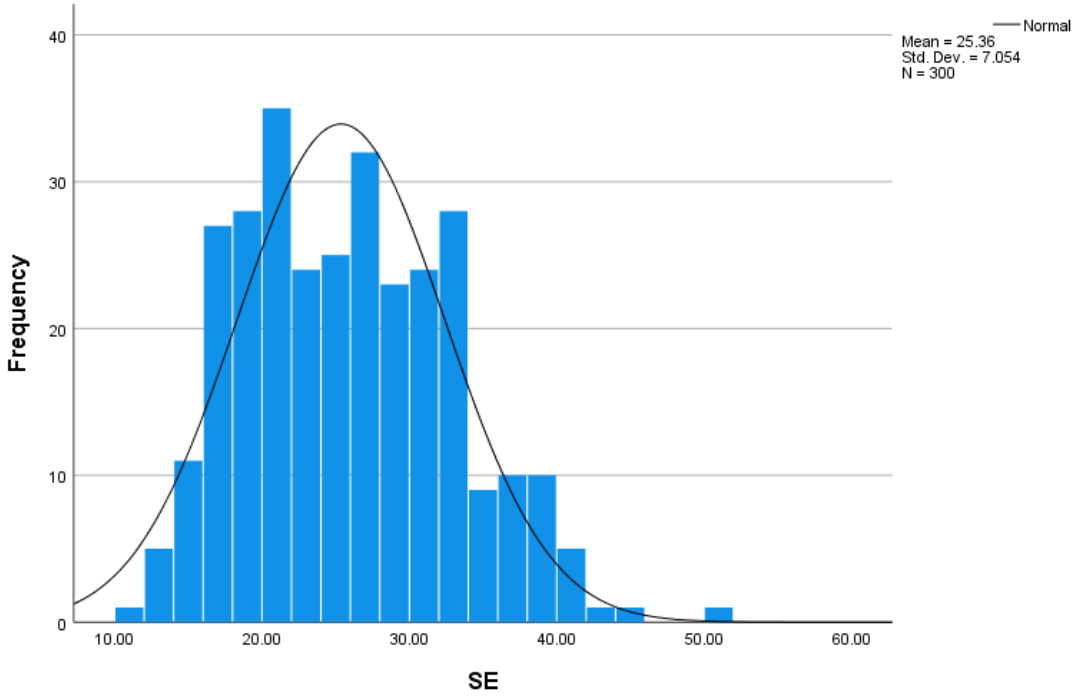

FIGURE 4.1: Histogram of SE

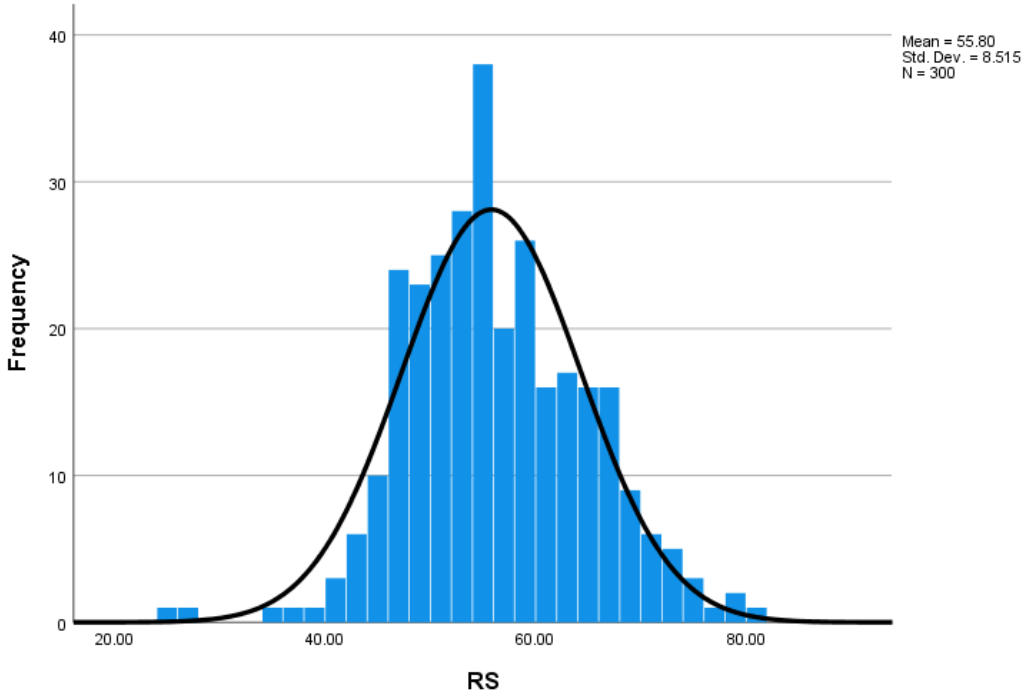

FIGURE 4.2: Histogram of RS

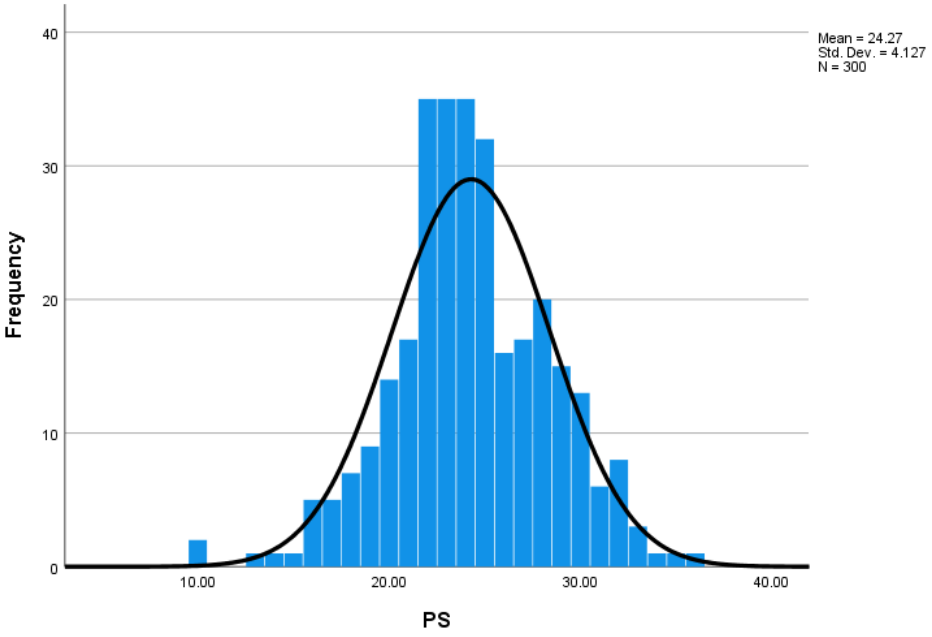

FIGURE 4.3: Histogram of PS

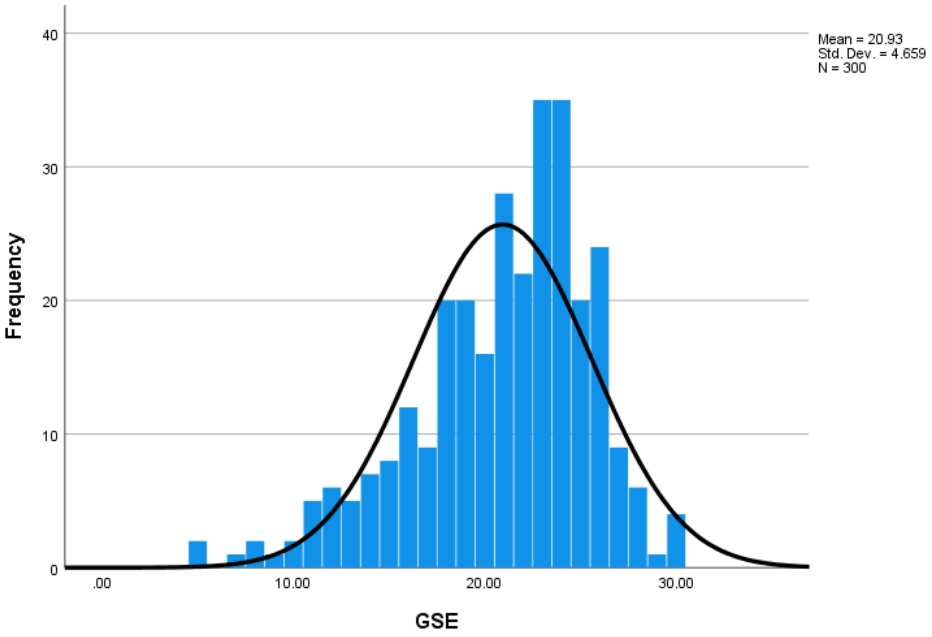

FIGURE 4.4: Histogram of GSE

4.4 Correlational Analysis

TABLE 4.3: Pearson Correlation between Stress Eating, General Self-Efficacy, Rumination and Perceived stress (N=300)

Variables	**1**	**2**	**3**	**4**
SE –	–	–	–	
GSE	-.118*	–	–	–
RS	-0.062	0.077	–	–
PS	-.116*	-.296**	.450**	–

Note. *$p < .05$, **$p < .01$. SE = Stress Eating; GSE = General Self-Efficacy; RS = Rumination; PS = Perceived Stress.

Table 4.3 shows the Pearson correlational analysis conducted to examine the link between Stress eating, General Self-efficacy, Rumination and Perceived stress among 300 young adults. Findings indicated that Stress eating was negatively correlated with General self-efficacy (r= .118, p < .05). Also Stress eating was negatively linked with perceived stress (r= .116, p < .05). These findings indicated that higher scores on General self-efficacy and Perceived stress were linked with lower scores on stress eating. Stress eating and rumination also had inverse relationship which means that higher rumination was linked with lower stress eating. However, the correlation between stress eating and rumination was statistically insignificant (r = .062, p < .05).

General self-efficacy indicated a moderate negative correlation with perceived stress (r = .296, p > .01), indicating that people with higher self-efficacy were likely to report lower scores on perceived stress. The link between general self-efficacy and rumination was positive but not statistically significant (r = .077, p > .05). Rumination was found to have a significant and moderately positive link with perceived stress (r = .450, p < .01), showing that higher levels of rumination were linked with higher perceived stress.Overall, these results demonstrated significant correlation among self-efficacy, rumination, and perceived stress, whereas stress eating showed weak but had significant relationships with general self-efficacy and perceived stress.

4.4.1 Independent Samples t-test for Gender Differences

TABLE 4.4: Independent samples t-test for gender differences in Perceived stress, General Self-Efficacy, Rumination, and Stress eating

Variables	**Male**		**Female**		**t**	**p**	**Cohen's d**
	M	**SD**	**M**	**SD**			
PS	25.26	4.87	26.65	5.54	-3.38	$< .001$	0.39
RS	29.08	8.46	31.48	8.68	-2.39	.017	0.28
SE	23.80	4.23	24.44	4.57	-1.23	.222	0.14
GSE	24.77	4.68	26.25	5.00	-1.23	.222	0.14

Note. SE = Stress Eating; GSE = General Self-Efficacy; RS = Rumination; PS = Perceived Stress.

An independent-samples t-test was conducted to investigate gender differences in experience of Perceived stress, General self-efficacy, Rumination and Stress eating. Results indicated that females scored significantly higher on Perceived stress (M = 26.65, SD = 5.54) as compared to males (M = 25.26, SD = 4.87), t(298) = –3.38, p< .001 and had a small to moderate effect size (Cohen's d=0.39). Females also showed significantly higher scores on Rumination (M = 31.48, SD = 8.68) than males (M = 29.08, SD = 8.46), t(298) = –2.39, p = .017 but also with small effect (d=0.28).

In terms of General self-efficacy, females significantly indicated higher scores (M = 26.25, SD = 5.00) as compared to males (M = 24.77, SD = 4.68), t(298) = -2.39, p = .017. Value of Cohen's d was 0.28. However, no significant gender differences were observed in case of stress eating, t(298) = -1.23, p = .222, although females scored slightly higher (M = 24.44, SD = 4.57) than males (M = 23.80, SD = 4.23). Levene's tests showed that equal variances could be assumed for Stress eating, General self-efficacy and Rumination as sig.>.05. While for Perceived stress equal variances were not assumed as sig. < .05.

As a whole, gender differences were significant for perceived stress, rumination,

and General self-efficacy (p<.05), which means the difference could be considered meaningful or reliable. Differences in mean scores were present with magnitude of small or small to moderate. While gender differences for stress eating were insignificant since p>.05.

4.5 Moderation Analysis for Self-Efficacy

Table 4.5 shows the moderation analysis conducted using Hayes' Process Macro Model 1 to investigate the impact of Perceived stress and General self-efficacy on Rumination and also the moderating role of General Self-efficacy in relationship between Perceived stress and Rumination. Results showed a significant main effect of Perceived stress on Rumination (B=.99, SE=.11, t=8.86, p=.00). The p significance value was less than 0.05, which means significant results. The results showed that individuals with higher perceived stress tend to experience higher Rumination. Thus, Perceived stress acted as a positive predictor of Rumination. For General self-efficacy, Results showed that main effect of General self-efficacy was not statistically significant (B=-.063, SE=.10, t=-.62, p=.52), indicating that General self-efficacy had negatively predicted Rumination. Higher General self-efficacy means lower rumination, but the results were insignificant. As, the significance p value was ¿.05, which means that General self-efficacy did not independently predict Rumination. The model summary revealed that the interaction PS*GSE was significant (B=.05, SE=.02, t=2.36, p=.018), which means that General self-efficacy significantly moderated the relationship between PS and RS (dependent variable).

This analysis suggested that people with higher General self-efficacy tend to experience a lower level of rumination even when they had exposed to high perceived stress. When moderation occurs the strength of the relationship between perceived stress and rumination varied across various levels of general self-efficacy.

The overall model was significant, F(3296)=27.93,p<.001, R^2=.221, indicating 22.1% of variance in rumination. While, R^2=.0147, F(1296)=5.596, p=.0186,

which means interaction contributed to additional 1.47% of variance in rumination. The direction of moderation was positive because of having a positive interaction coefficient (B). The positive interaction coefficient indicates that higher general self-efficacy increases the impact of perceived stress on rumination, so it acts as significant facilitating moderator.

Table 4.5: Moderation Analysis (model 1)

Variables	**B**	**SE**	**t**	**p**
Constant	55.56	0.45	122.81	.001
PS	0.99	0.11	8.87	.001
GSE	-0.06	0.10	-0.63	.529
PS × GSE	0.05	0.02	2.37	.018

Note. PS = Perceived Stress; GSE = General Self-Efficacy; B = Unstandardized regression coefficient.

4.6 Moderation Analysis (Conditional Effects)

Table 4.6: Conditional effects of Perceived stress on Rumination at values of (GSE)

GSE Value	**B**	**SE**	**t**	**p**	**LLCI**	**ULCI**
−1 SD (−4.92)	0.74	0.15	5.08	.001	0.45	1.02
Mean (1.07)	1.03	0.12	9.03	.001	0.81	1.26
+1 SD (4.07)	1.18	0.15	8.19	.001	0.90	1.47

Note. GSE = General Self-Efficacy; B = Unstandardized regression coefficient; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval.

Table 4.6 shows the conditional effect analysis, which was conducted to have a better insight of the moderating role of General self-efficacy at various levels. At a very low level (-1SD) of general self-efficacy, perceived stress had a positive, significant

association with rumination (B=.74, p<.001). This link became stronger at mean level of general self-efficacy (B=1.0387, p<.001) and the link became strongest at higher level of self-efficacy (+1SD, B=1.18, p<.001). The confidence intervals at all levels didn't include 0, indicating significant moderating effects. Findings indicated that link between perceived stress and rumination increased constantly but the magnitude of relationship varied as function of moderation by self-efficacy (in positive direction). The results indicated the presence of moderating role of GSE.

4.7 Moderation Analysis

A moderation analysis using PROCESS Model 1 was conducted to examine whether general self-efficacy (moderator) moderates the link between perceived stress (IV) and stress eating (DV) among young adults.The overall regression model was not statistically significant ($F(3, 296) = 2.13$, $p = .096$) showing 2.1% of the variance in stress eating.Perceived stress did not significantly predict stress eating but link was negative ($B = 0.15$, $p = .141$), and general self-efficacy was also a non-significant predictor, also having negative association ($B = 0.14$, $p = .144$). Mainly, the interaction between perceived stress and general self-efficacy was non-significant ($B = 0.001$, $p = .951$), with confidence intervals crossing zero, showing that general self-efficacy does not act as a moderator in the link between perceived stress and stress eating. Thus, changing levels of self-efficacy didn't cause any changes in perceived stress and stress eating relationship.

Table 4.7: Regression Analysis Predicting Outcome Variable

Variables	**B**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	25.34	0.42	60.40	.001	24.52	26.17
PS	-0.15	0.10	-1.48	.140	-0.36	0.05
GSE	-0.14	0.09	-1.47	.143	-0.32	0.05
PS × GSE	0.00	0.02	0.06	.950	-0.04	0.04

Note. GSE = General Self-Efficacy; B = Unstandardized regression coefficient; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval.

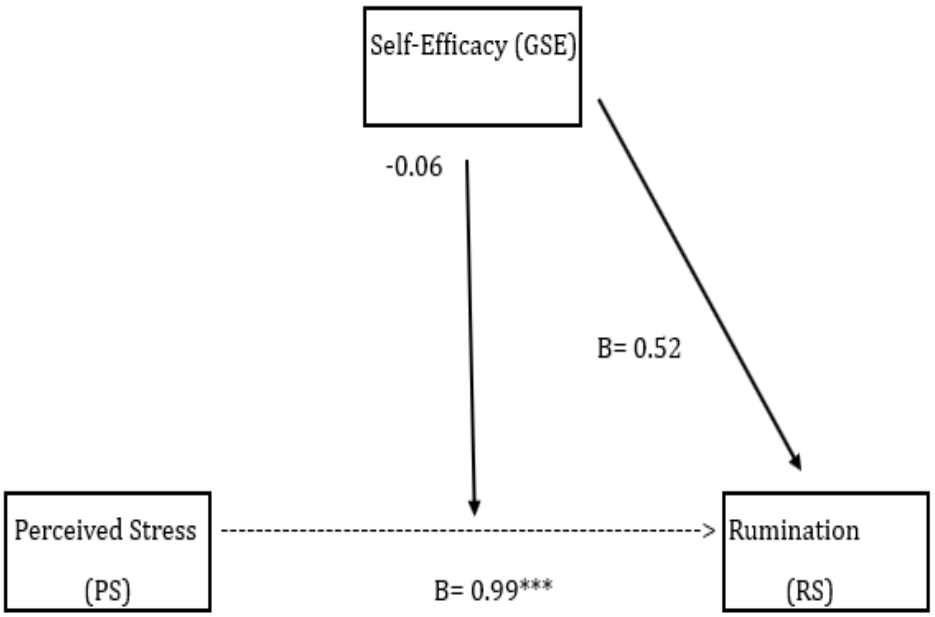

FIGURE 4.5: Moderation Graph showing Interaction Effect (PS× GSE) on Rumination

FIGURE 4.6: Moderation Graph showing Interaction Effect (PS×GSE) on Stress Eating

Chapter 5

Discussion and Conclusion

Current study aimed to examine the realtionship of perceived stress on rumination and stress eating among young adults in Pakistan as well as the moderating effect of self-efficacy in these relationships between variables. Another purpose of the study was to investigate the gender differences that might exist in experience of perceived stress, rumination, stress eating and self-efficacy.

5.1 Descriptive Statistics

During the study, data was collected from young adults of Pakistan living in Rawalpindi and Islamabad. After data collection, analysis was done on demographic characteristics of the participants. Frequencies and percentages were gained for age, gender, socioeconomic status (Table 1). An important consideration is that the study had unequal sample size from male (n=118) and female (n=182). While the overall sample size (N=300) was enough for statistical power. The overrepresentation of female group may also show sampling trends in mental health research where females are more likely to participate in studies including emotional and behavioral assessments especially in Pakistan where males face stigma related to emotional expression or participating in studies related to mental health rather than academic (Varghese et al., 2015) . Many past researches on perceived stress, emotional eating, rumination and self-efficacy also reported having unequal sample size between genders. Like, Carpio-Arias (2022) in a study

on examining link between perceived stress and stress eating had a sample size of 2333 young adults, in which female group had n=1581 while male had n=752 but reported validated and significant statistical comparisons.

Analysis on psychometric properties of scales was also done which gave values of Cronbach's alpha showing that the scales were reliable to be used in current sample except for perceived stress (a=.375). The low reliability coefficient (a = .375) for the Perceived Stress Scale (PSS) in current study may be because of several situational and methodological factors.

Past evidence has indicated that reliability for the scale can change widely based on cultural context, age factor, and situational stress experience. Lee (2012) indicated that the PSS showed lower internal consistency among young adults' sample because of heterogeneous interpretations of stress-related items, mainly those related to perceived control and unpredictability. Similarly, Rezeppa (2024) found reduced reliability of the PSS among university students, emphasizing that varying academic and social stressors may cause inconsistent item responses over short periods. Moreover, cultural and linguistic differences in comprehending stress-related items can affect item coherence and inter-item links (Torske, 2024). In collectivist cultures, stress may be perceived in relation to others rather than individually, thus weakening the internal homogeneity of responses (De Pasquale et al., 2021).

Therefore, the low internal consistency in this study may show sample-specific variability in stress perception, situational impact of academic or social transitions, and potential conceptual overlap with self-efficacy items. Future studies may employ PSS with validated local adaptations or examining exploratory factor analyses to refine stress scale among young adults in Pakistan.

Skewness and Kurtosis values were also analyzed which were within acceptable ranges +2 and -2. Further, the K-S analysis and histograms showed normal distribution of the data and confirmed the use of parametric tests in the study. Overall, results from the analysis of collected data provided meaningful insights related to

psychological pathways through which perceived stress impacts maladaptive cognitive and behavioral health outcomes while also emphasized on the moderating role of self-efficacy.

5.2 Relationship between Perceived Stress, Rumination and Stress Eating

There were four hypotheses of the study. The first hypotheses indicated that there exists a positive link between perceived stress, rumination and stress eating. It means that people with higher perceived stress are more likely to have higher scores on rumination and stress eating. Results of the study also supported the part of hypotheses that there will be a positive link between perceived stress and rumination. Rumination was found to have a significant and moderately positive link with perceived stress ($r = .450$, $p < .01$), showing that young adults with higher levels of rumination were linked with higher perceived stress.

Many past researches also provided the supporting evidence for positive correlation between perceived stress and rumination. Willis and Burnett (2016) examined the relationship between perceived stress and rumination among young adults in colleges. Correlational analysis revealed that higher perceived stress was linked with higher levels of rumination a form of negative cognitive process. Current results are also supported by transactional model for stress and coping process (Lizana-Calderón, 2024).

In this study, young adults with higher Perceived stress appraise stress as undesirable, their lack of resources like low self-concept, self-efficacy and resilience use maladaptive coping like rumination to cope with stressors. Thus, Rumination was also found to have a significant and moderately positive link with perceived stress ($r = .450$, $p < .01$) (Table 2), showing that higher levels of rumination were linked with higher perceived stress. Nickerson (2024) also demonstrated in a study on undergraduate students that perceived stress was significantly and positively

linked with ruminative thinking and persistent worry.

Second part of the hypotheses was that there exists a positive association between perceived stress and stress eating. But results of the research didn't support this hypotheses.

According to the results, Stress eating was found significantly and negatively correlated with perceived stress ($r = .116$, $p < .05$). These findings indicated that higher scores on Perceived stress were linked with lower scores on stress eating. Many past studies also reported having same findings and contradict with current hypotheses also. According to a correlational study, the link between perceived stress and stress eating may vary depending on the body mass index (BMI).

Higher stress levels were observed to be associated with higher emotional eating behavior for lower BMI people but this relationship changes as BMI changes. When BMI increases in study sample, perceived stress was seen as negatively linked to stress eating. Also, if a person had higher stress but higher coping resources, it inverses the relationship and emotional eating is found to be reduced Wilson et al. (2015).

Meule (2018) also showed that some people respond to stress by over eating while other people reduce their dietary intake, it depends on other personal and lifestyle factors also. Study showed that when perceived stress was higher, stress eating was reduced among young adults who smoke and smoking behavior was increased to cope up with stress.

In another study, Al-Asadi (2014) examined eating patterns among young adults who were medical students in association with perceived stress. The total sample was 723 students out of which 60.4% participants reported skipping breakfast and food intake as the stress increases while 56.7% reported eating less than three times a day.
Higher perceived stress was also associated with less frequent fruits intake. Thus,

perceived stress and stress eating were found significantly and negatively linked.

5.3 Self-efficacy as Moderator in Relationship between Perceived Stress and Rumination

Second hypotheses of current study, proposed that self-efficacy can act as a moderator in association between perceived stress and rumination. Results of the study supported the hypotheses that general self-efficacy moderated the link between perceived stress and rumination. P<.001 and the confidence intervals at all levels didn' include 0, indicating significant moderating effects. Past literature also supported the research findings by having similar results. Zeng et al. (2021) examined the link between perceived stress and rumination among college students during pandemic. Results showed that perceived stress was significantly and positively linked to rumination. Self-efficacy acted as a significant moderator in this relationship.

Bandura (1997) social cognitive model also stated that self-efficacy leads to higher cognitive effort where individual analyzes, reinterprets and finds solutions which often manifest as higher ruminative behavior but of problem-solving nature. Self-efficacy in this study acted as positive (amplifying) moderator as link between perceived stress and rumination increased constantly but the magnitude of relationship varied as function of moderation by self-efficacy (in positive direction). The results indicated the presence of moderating role of GSE.

Zeng et al. (2021) also found that self-efficacy positively moderated the link between perceived stress and deliberate rumination, it means people with higher self-efficacy tend to cognitively process stressors rather than avoiding them. It eventually uses rumination as constructive reflection contributing in post traumatic growth and in building psychological resilience. Similarly, Xu et al. (2023) reported that higher self-efficacy acted as a positive moderator in relationship of perceived stress and rumination. It allows people to constructively reappraise

situations, not passive worry. Thus, when perceived stress increases, deliberate rumination also increases in presence of self-efficacy as amplifying moderator. It helps to explain why current study showed positive moderation effect of GSE.

5.4 Self-efficacy as Moderator in Relationship between Perceived Stress and Stress Eating

However, the third hypotheses was that self-efficacy can act as moderator in relationship between perceived stress and stress eating, the moderating role of self-efficacy was found to be insignificant. General self-efficacy was found to be a negative predictor of stress eating but insignificant, which means higher GSE is linked with lower stress eating. But also the moderating role was non-significant. As, the interaction between perceived stress and general self-efficacy was non-significant (B = 0.001, p = .951), with confidence intervals crossing zero, showing that general self-efficacy didn't act as a moderator in the link between perceived stress and stress eating. Which means changing levels of self-efficacy didn't cause any changes in perceived stress and stress eating relationship.

Some studies in past psychological literature also reported having same findings. Varghese et al. (2015) reviewed past researches on perceived stress and self-efficacy among college students. The meta-analysis concluded that self-efficacy's moderating role on stress outcomes were inconsistent and sometimes non-significant in behavioral domains like stress eating. In another correlational study by Raymond (2022), researcher investigated the relationship between stress eating and traumatic stressors, with moderating role of self-efficacy. Higher self-efficacy was found associated with lower scores on disordered eating and stress. But the moderating role of self-efficacy was not significant. Several factors could be responsible for this findings. Higher self-efficacy is the strong belief on one's ability to cope up with the stressor. But self-efficacy does not define whether to use adaptive coping strategies or maladaptive ones. People may have higher self-efficacy but still they can choose maladaptive and emotions focused strategy like stress eating

(Raymond, 2022).

Stress eating also differs based on locations rural or urban. Also, the link between self-efficacy and stress eating is understudied in past literature but based on current statistics GSE is not linked with stress eating significantly and didn't act as moderator in this relationship. Future studies can further examine the moderating role of self-efficacy by using specific perceived stressor, different geographic location and emotional eating behavior. Thus, present study findings rejected the hypotheses that general self-efficacy acts as moderator in link between perceived stress and stress eating.

5.5 Gender Differences

The fourth hypotheses suggested that significant gender differences exist in experience of perceived stress, rumination, general self-efficacy and stress eating. Findings from the analysis in current study supported this hypotheses. Results indicated that females scored significantly higher on Perceived stress as compared to males ($t(298) = -3.38$, $p < .001$). Females also showed significantly higher scores on Rumination than males ($t(298) = -2.39$, $p = .017$). In terms of General self-efficacy, females significantly indicated higher scores ($t(298) = -2.39$, $p = .017$).

Although females scored slightly higher ($M = 24.44$, $SD = 4.57$) than males ($M = 23.80$, $SD = 4.23$) in stress eating but the results were not significant ($t(298) = -1.23$, $p = .222$). Past literature also confirmed having same results and supported current hypotheses. In a study on young adults, it was found that females tend to have higher Perceived stress as compared to males. Also, perceived stress in females was seen significantly and strongly linked higher rumination as compared to males (Willis and Burnett, 2016). Carpio-Arias (2022) also found that females had higher perceived stress which was associated with higher emotional eating behavior. Women tend to use compensatory foods like sweets and fat rich food to calm their stress.

This behavior releases higher levels of serotonin and dopamine which create compulsive eating habits in long term instead of benefit. Al-Asadi (2014) also reported that females had higher perceived stress and maladaptive eating behaviors as compared to males. The reason can be gender difference in reporting of stress and emotions related to stressors as emotional expression is considered as weakness rather than imbalance in experience of stressors among males and females.

In short, study findings supported the hypotheses that perceived stress has significant positive link with rumination and self-efficacy acted as significant moderator in this relationship. Also, third hypotheses was confirmed through observing significant gender differences in experience of perceived stress, rumination and stress eating. But, the link between perceived stress and stress eating was negative and significant. Also, no moderation role of self-efficacy was found in this relationship which needs further exploration in future researches.

From cultural point of view, findings of the study highlight the significance of contextualizing psychological constructs. In Pakistan, there is more prevalence of mental health stigma, collectivistic norms and limited professional psychological assistance availability. Thus young adults may internalize negative emotions and stress and may engage in excessive rumination and negative coping behavior like stress eating rather than seeking professional assistance (Mehmood, 2024; Anjum et al., 2022). Thus, current study contributes in literature by incorporating cognitive (rumination), behavioral (stress eating) and psychological resource (self-efficacy) within non-western collectivistic culture. Findings may help in developing interventions targeted to increase self-efficacy so, negative outcomes of perceived stress can be reduced.

5.6 Conclusion

Present study indicates the significant moderating effect of self-efficacy in association between perceived stress and rumination, also the type of link that exists between perceived stress, rumination and stress eating. Higher self efficacy reduces

the negative psychological outcomes of perceived stress and fosters adaptive coping strategies. Results supported Social Cognitive theory of Bandura highlighting the role of self-efficacy and perceived control in stress coping. Enhancement of self-efficacy can serve as a critical intervention to mitigate stress related maladaptive behaviors in cultural context of Pakistan. This study has implications for future studies and treatment designs, indicating that interventions should focus on stress reduction in order to improve stress eating among young adults. This is critical given the increasing incidence of stress eating and rumination documented in young adult populations (as observed here and in past studies) and the significant ramifications for young adults' daytime performance, as well as long-term physiological and psychological health outcomes(Sharma, 2017).

Chapter 6

Implications and Limitations

6.1 Implications

Following are the implications of present study:

i. Theoretically, the study contributes to knowledge by demonstrating how self-efficacy could potentially serve as a protective resource against the deleterious consequences of perceived stress on rumination and stress eating; two maladaptive behaviors common in young adults (Nastaskin, 2015).

ii. Practically, the results may inform program development aimed at enhancing young people self-efficacy to promote improved coping strategies. To minimize the negative effects of stress, educational and mental health programs could focus on strengthening self-efficacy using methods such as goal-setting, positive reinforcement, and skill-building (Burger, 2017).

iii. Study findings will have implications for youth policy and public health interventions, suggesting that enhancing self-efficacy and self-confidence could play a key role in addressing issues of stress-related stressors such as anxiety and emotional eating.

iv. Current research can set a foundation for future researches to use longitudinal

or experimental design to examine how alterations in self-efficacy and perceived stress impact rumination and eating behaviors over time.

v. Future researches can explore stress eating and rumination in link with other psychological correlating factors like body image concerns, peer pressure or emotionally dysregulation.

vi. This research will help to develop culturally appropriate and evidence-based interventions and techniques to promote healthy eating behaviors and psychological wellbeing.

vii. Future researchers can use same variables to conduct cross-cultural studies in other cities of Pakistan or other countries. Comparative analysis will provide important insight about whether the specific phenomenon is universal among young adults or differs based on cultural factors. viii. Also, mostly past literature and current study is focused on young adults who are students in academic institutes. Future studies can collect data from young adults in different contexts to increase generalizability.

6.2 Limitations

Following are the limitations of present study:
i. The causation can't be confirmed due to the cross-sectional study design; interpretation is limited to associations instead of direct effects.

ii. The use of self-report instruments will increase the chances of biasness such as social desirability and faulty memory that may invalidate data.

iii. The results will be less likely to be applicable to the general group of young adults because the sampling strategy, which primarily employed convenience sampling, used a non-probability sampling technique.

iv. Significant contextual variables for example, socioeconomic status, culture, and access to social support are not considered in this research which will potentially influence how stress is experienced and handled.

v. Additional psychological factors such as personality characteristics or emotional management skills that may serve as additional moderators can impact the validity of study outcomes.

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Appendix A

Informed Consent form

I, Zaira Zaheer, a student of MS Clinical Psychology at Capital University of Science and Technology, invite you to participate in my research study. The title of my research is: "The Moderating role of Self-efficacy in reducing the impact of Perceived Stress on Rumination and Stress Eating among Young Adults." To participate in this research, you will be asked to complete a self-report questionnaire related to self efficacy, rumination, perceived stress and stress eating. The estimated time to complete the questionnaire is 15-20 minutes. Your responses will be kept confidential, and your Identity will not be disclosed in any reports or publications. Participation in this study is entirely voluntary, and you have the right to withdraw at any time without any consequences. All responses will be kept strictly confidential and used for research purposes only. The data will be stored securely and accessed only by the researcher and supervisor. If you withdraw before submitting the questionnaire, your responses will not be recorded. If you withdraw after submission, your data will be discarded by the researcher and will not be included in the final analysis. All collected data will be securely stored for 3 years after the completion of the study and will then be permanently discarded to ensure confidentiality. If you have any questions or concerns about this study, feel free to contact me at zairazaheer99gmail.com. By signing below, you confirm that you have read and understood the study details and voluntarily agree to participate.

Participant's Signature:

Date:

Demographic Information Sheet

Please provide the following information. Your responses will be kept confidential and used for research purposes only.

1. Personal Information

Age:

Gender:

Male Female

2. Education Level

Intermediate

Bachelors

Masters

3. Socioeconomic status

Lower class

Middle class

Upper class

4. Employment status

Employed Unemployed Student only

5. Relationship Status

Single Married Widowed

6. Living Arrangements

With family Hostel Alone

Appendix B

Salzburg Stress Eating Scale (SSES)

		I eat **much less** than usual 1	I eat **less** than usual 2	I eat **just as much** as usual 3	I eat **more** than usual 4	I eat **much more** than usual 5
1.	When I am overwhelmed with things I have to do, ...	0	0	0	0	0
2.	During periods of great stress, ...	0	0	0	0	0
3.	When I feel things are out of control, ...	0	0	0	0	0
4.	On days where everything seems to go wrong, ...	0	0	0	0	0
5.	While preparing for a strenuous task, ...	0	0	0	0	0
6.	When I am under pressure, ...	0	0	0	0	0
7.	When I feel nervous and stressed, ...	0	0	0	0	0
8.	When I feel that I have no influence over the important things in my life, ...	0	0	0	0	0
9.	When I feel that I am not really on top of things, ...	0	0	0	0	0
10.	When I feel difficulties have been piling up so high that I cannot overcome them, ...	0	0	0	0	0

General Self-Efficacy Scale (GSE)

	Not at all true	Hardly true	Moderately true	Exactly true
1. I can always manage to solve difficult problems if I try hard enough	□	□	□	□
2. If someone opposes me, I can find the means and ways to get what I want.	□	□	□	□
3. It is easy for me to stick to my aims and accomplish my goals.	□	□	□	□
4. I am confident that I could deal efficiently with unexpected events.	□	□	□	□
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	□	□	□	□
6. I can solve most problems if I invest the necessary effort.	□	□	□	□
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	□	□	□	□
8. When I am confronted with a problem, I can usually find several solutions.	□	□	□	□
9. If I am in trouble, I can usually think of a solution	□	□	□	□
10. I can usually handle whatever comes my way.	□	□	□	□

Rumination Scale

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1 almost never 2 sometimes 3 often 4 almost always

1. think about how alone you feel
2. think "I won't be able to do my job if I don't snap out of this"
3. think about your feelings of fatigue and achiness
4. think about how hard it is to concentrate
5. think "What am I doing to deserve this?"
6. think about how passive and unmotivated you feel.
7. analyze recent events to try to understand why you are depressed
8. think about how you don't seem to feel anything anymore
9. think "Why can't I get going?"
10. think "Why do I always react this way?"
11. go away by yourself and think about why you feel this way
12. write down what you are thinking about and analyze it
13. think about a recent situation, wishing it had gone better
14. think "I won't be able to concentrate if I keep feeling this way."
15. think "Why do I have problems other people don't have?"
16. think "Why can't I handle things better?"
17. think about how sad you feel.
18. think about all your shortcomings, failings, faults, mistakes
19. think about how you don't feel up to doing anything
20. analyze your personality to try to understand why you are depressed
21. go someplace alone to think about your feelings
22. think about how angry you are with yourself