

**ANXIETY SENSITIVITY AND ANTICIPATION OF ANXIETY AMONG
UNIVERSITY HOSTELITES: THE MEDIATING ROLES OF
METACOGNITION AND COPING**



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**Anxiety Sensitivity and Anticipation of Anxiety Among University Hostelites:
The Mediating Roles of Metacognition and Coping**

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ABSTRACT

This study examines the relationship between anxiety sensitivity and anticipatory anxiety along with the mediating role of metacognitions and coping among university hostelites of Rawalpindi/Islamabad currently enrolled in first, fourth and eighth semester. Purposive sampling technique was used to collect data from $N = 250$ hostel students in which $n = 69$ students were male and $n = 181$ were female. The data collected were analyzed using statistical methods, including correlation, regression, t-test, ANOVA and mediation analysis. Correlation analysis revealed a significant positive relationship between all variables. Regression analysis indicated that negative beliefs, cognitive confidence, need for control, cognitive self-consciousness, problem and emotion focused coping jointly predict anticipatory anxiety for 57% of the variance ($R^2 = .571, p < 0.001$). Independent sample t-test didn't showed significant differences in anxiety sensitivity among university and private hostel students. ANOVA demonstrated no significant differences with respect to semester levels. Mediation analysis confirmed that metacognitions (positive worry beliefs, cognitive confidence, need for control and coping such as), emotion focused and avoidant focused significantly mediated the relationship between anxiety sensitivity and anticipatory anxiety. These results highlighted the crucial roles that coping strategies and metacognitive beliefs played among university hostelites to maintain their anxiety sensitivity thus having escalated anticipatory anxiety. In order to reduce anxiety symptoms, the study's conclusion offers suggestions for focused interventions that would improve coping mechanisms and deal with maladaptive metacognitions.

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Chapter 1

Introduction

Anxiety Sensitivity

People all over the world relocate from their home either within the same country or internationally in search of better opportunities for both study and/or employment. These individuals may face a number of challenges for instance, making a decision, carrying out the plan, and adjusting to a new situation. Being afraid of new places and environments due to uncertainty may be common among individuals moving from their hometown. In particular, when compared with day scholars, students residing in hostels reported higher level of anxiety due to limited control over the environment, and making adjustments in the hostel is important because hostels can create a lot of academic and social pressure, which can affect student's mental health (Liu et al., 2018).

Anxiety sensitivity has been studied for decades as a critical component of anxiety disorders (Reiss, 1991). The idea is based on the misperception that the physical symptoms of anxiety are dangerous, as well as the fear of these sensations (Deacon & Abramowitz, 2006). Anxiety-sensitive people interpret symptoms such as racing heartbeat or lightheadedness as warning indicators that could have disastrous outcomes (Taylor, 2014). This anxiety can feed a vicious loop in which the interpretation of bodily sensations exacerbates the original concern and may even precipitate panic attacks (McNally, 2002). Anxiety sensitivity is well-supported as a transdiagnostic risk factor, which means that it influences the emergence of multiple anxiety disorders, with panic disorder exhibiting the strongest correlation (Leyro et al., 2012).

Taylor (1999) defines anxiety sensitivity as the fear of experiencing anxious sensations caused by ideas that these sensations have detrimental effects on the body, society, or mind. It

emphasizes on the interconnectedness of cognitive, physiological, and affective processes in the development and maintenance of anxiety sensitivity; *Cognitive system*: individuals with high anxiety sensitivity tend to interpret bodily sensations associated with anxiety (e.g., increased heart rate, shortness of breath) in a catastrophic manner; *Physiological system*: individuals may have heightened physiological reactivity to anxiety-related sensations. This heightened reactivity can amplify the experience of anxiety and reinforce beliefs about the dangerousness of these sensations. *Affective system*: The affective system involves emotions and emotional responses to anxiety-provoking situations. Individuals with high anxiety sensitivity may experience intense negative emotions (e.g., fear, worry, distress) in response to anxiety-related sensations (Reiss., 1991; McNally 2002).

Individuals with higher levels of anxiety sensitivity results in more maladaptive responses to anxiety and stress (Olatunji&Wolitzky-Taylor, 2009). Similarly, students with high anxiety sensitivity are more likely to experience panic attacks and generalized anxiety, which has a negative impact on their academic performance and engagement (Smith et al., 2023).

According to Peterson and Heilbron (2023), anxiety sensitivity is associated with avoidance behaviors as well as elevated anxiety. These actions can obstruct social and academic pursuits, worsening feelings of stress and isolation. Furthermore Thompson and Green (2022) found that anxiety sensitivity exacerbates the impacts of academic stress and creates a vicious cycle of increasing anxiety and lowering academic performance. It has also been demonstrated that interventions like cognitive-behavioral therapy, greatly lessen symptoms of anxiety sensitivity and enhance general student wellbeing (Brown & Lee, 2021).

These anxiety sensitive people may experience anxiety even before they arrive at the social event they are afraid of or when faced with the prospect of relocating to a new place. This

heightened anxiety can stem from their fear of negative evaluation and scrutiny from others, which is a core feature of social interaction anxiety (Schmidt et al., 2011). Many physical and psychological signs of anxiety are experienced by socially anxious people in social circumstances, which they interpret as additional proof of their social inadequacy. As a result, they take to closely supervising these internal physical and psychological changes, inevitably worsening their ability to attend to and appropriately respond to social signs (Musa & Lépine, 2000).

Though, Anxiety sensitivity was initially discussed with regard to panic disorder, transdiagnostic approaches have accumulated that it is an important transdiagnostic factor in etiology, assessment, and treatment of multiple emotional disorders including social anxiety disorder (Panayiotou et al., 2014), obsessive-compulsive disorder (Timpano et al., 2016), depression (Capron et al., 2015), post-traumatic stress disorder (Wald & Taylor, 2008) and generalized anxiety disorder (Schmidt et al., 2008). The anxiety sensitivity, fear of somatic sensations dimensions strongly associated with panic disorder (McNally, 2002), whereas the anxiety sensitivity, fear of cognitive dyscontrol dimension is moderately associated with depression and generalized anxiety disorder (Rector et al., 2007). Additionally, the anxiety sensitivity, social concerns dimension is most strongly related to the fear of negative evaluation (Allan et al., 2018).

Earlier literature have indicated that anxiety sensitivity is frequently accompanied by extreme anticipatory worry. In fact, anxiety sensitive individuals often reported that they are more nervous about what they are afraid to do than they are about the actual situation (Crozier & Lang, 2000).

Anticipatory Anxiety

Anticipatory anxiety is the feeling of worry or anxiety experienced before anything that is perceived as threatening (Baird et al., 2009). Anxiety sensitivity and social interaction anxiety are frequently accompanied by extreme anticipatory worry. In fact, socially anxious people often say that they are more nervous about what they are afraid to do than they are about the actual social contact (Shean & Eckman, 1997).

The fear and discomfort felt in advance of future events is known as anticipatory anxiety (Sullivan et al., 2010). This type of anxiety frequently comes on before actual events that people think are dangerous, such as social interactions, medical procedures, or public speaking. Elevated arousal, ruminating about possible bad consequences, and bodily sensations like tense muscles and an elevated heart rate are all indicators of anticipatory anxiety (Keogh & Reidy, 2000). Researches have indicated that it can negatively affect a person's ability to operate on a daily basis, impairing social interactions, cognitive function, and general quality of life (Lundqvist & Dimberg, 1995). Additionally, anticipatory anxiety has been connected to the aggravation of pre-existing mental health issues (Mohlman, 2008). Individuals who experience anticipatory anxiety are uneasy, worried, or afraid about what lies ahead and it's possible for people to linger on the worst-case scenarios of what might happen in the future (Golden, 2021).

According to Cholenko and Stacey (2002), anticipatory anxiety, similar to anxiety sensitivity, has three main components: a cognitive component that represents mental processes related to potential outcomes; an affective component that typically involves feelings of fear, worry, or panic; and a physiological component that results from the activation of the nervous system as a result of potential outcomes (Rapee & Heimberg, 1997; Leary & Kowalski, 1995; Clark & Wells, 1995).

Several studies have looked at the connection between anxiety sensitivity and anticipatory anxiety, highlighting how these two phenomena reinforce one another (Crozier & Lang, 2000). Those with high anxiety sensitivity are more susceptible to anticipatory worry because they misinterpret bodily indications of concern (e.g., raised heart rate) as signs of impending danger in the imagined scenario (Schmidt & Zvolensky, 2004). This fear may increase physiological arousal and heighten anticipatory anxiety, (Rodebaugh et al., 2004). High anxiety sensitivity individuals are more likely to imagine catastrophically, which is the process of projecting the worst-case scenarios of future events and exacerbates anticipatory anxiety (Kim et al., 2022; Jones & Smith, 2023). Additionally, the role that safety behavior avoidance or ritualistic acts intended to halt or reduce worry play in anxiety sensitivity's contribution to anticipatory anxiety has been highlighted by Thompson and Garcia's (2023), when people rely on safety behaviors to deal with anticipated anxiety-provoking circumstances, they unintentionally reinforce their belief that such situations are threatening, which perpetuates the cycle of anticipatory concern.

Furthermore, studies using neuroimaging measures have provided insight into the brain processes underlying the relationship between anticipatory anxiety and anxiety sensitivity. It has been found in previous research that activation in the prefrontal cortex and amygdala, two brain regions related to processing threats and emotions, respectively. The findings demonstrated the intricate relationships between behavioral, cognitive, and neurobiological components that play a role in the development and maintenance of anticipatory concern in those who are very sensitive towards anxiety (Wang et al., 2022).

To control and keep track of the information they store, search, and retrieve from their own memory. He acknowledged that metacognition included aspects of both regulation and awareness of their cognitive capacities and strategies, which gives them the ability to monitor, regulate, and control their thought processes. Metacognitive knowledge and metacognitive control are the two aspects of metacognition as they relate to cognitive psychology. A person's awareness of their own cognitive processes, including their advantages and disadvantages as well as the methods they can use to improve their ability to learn or solve problems, is referred to as metacognitive knowledge. Planning, observing, and assessing one's own thought processes are examples of cognitive processes that are actively controlled and managed by metacognitive regulation (Flavell, 1979).

Metacognitions closely associated with various psychological issues. Research on how these attitudes about thinking can affect anxiety sensitivity has led to a greater focus on the function of metacognitions in social anxiety in the recent years (Wells & Mathews, 2023). Anxiety is mostly caused and maintained by dysfunctional beliefs and illogical thinking (Beck & Clark, 1997; Beck, Emery & Greenberg, 2005; Musa & Lépine, 2000). In a study by Wells and Mathews (2022), it has been demonstrated that negative metacognitive beliefs (worrying is uncontrollable) is highly correlated with elevated anxiety levels. Additionally, Spada et al., (2023) discovered that metacognitive therapy which focuses on these maladaptive metacognitive beliefs significantly lessens feelings of anxiety and sadness. Similarly, positive metacognitive beliefs help students in educational environment to perform better academically and manage stress effectively (Efklides & Misailidi, 2023). Garcia and Fisher (2023) claimed that students with higher levels of metacognitive awareness are better at managing their time and using effective study strategies, which boosts their academic performance and lowers stress.

Connor and Wells (2022) explained that treatments targeting metacognitive processes may be particularly beneficial for individuals who are at risk, implying that positive metacognitive awareness could be a helpful strategy in educational interventions. Metacognitive beliefs are positively correlated with depression (Papageorgiou & Wells, 2001), psychosis symptoms like hallucinations (Morrison, Wells, & Nothard, 2002), health anxiety (Bailey & Wells, 2015), alcohol abuse (Spada & Wells, 2010), and obsessions and compulsions (Solem et al., 2010). In relation to anxiety sensitivity preliminary findings suggest a positive relationship between negative metacognitive beliefs and anxiety sensitivity (Fisak & Hammond, 2013; Vassilopoulos et al., 2015; Wong & Moulds, 2010).

Similarly, (Henrik et al., 2022), in his most recent study stated that metacognitive beliefs prospectively predicts social interaction anxiety (The findings did not mention any positive or negative metacognitions). The findings of a different study indicate that metacognition plays a key mediating role in the association between state anxiety and the three representative of temperament traits (RTT) characteristics which refers to the common ways a person behaves and reacts emotionally. These traits, such as being sociable, impulsive, or adaptable, are consistent over time and help describe how a person handles different situations (Dragan, 2013), which is further supported by a study that examined a clinical sample and discovered that negative metacognitions completely mediated the association between neuroticism and anxiety symptoms (Van der Heiden et al., 2010). Another study indicates that the association between bad social experiences and social anxiety may be mediated by metacognitions. Anxiety in future social circumstances might be exacerbated by unpleasant social interactions, for example, as they can give rise to the notion that negative thoughts are harmful and uncontrollable (Hakamata et al., 2010).

Coping strategies

Determining the function of coping mechanisms in anxiety is as important as identifying the anticipations and metacognitions. In the past, coping was thought of as a reaction to stressful situations that could happen at any time or in the past. However, avoiding stressful situations or stopping them from happening is another method of lowering stress and controlling emotion (Gross & Thompson, 2007). The distinction between problem-focused and emotion-focused coping, made by Lazarus and Folkman (1984), was later questioned despite being a significant step in the conceptualization of coping because it was too simple. Critics mentioned that people usually use a mix of both types of coping. Also, how well these strategies work can depend on the situation and the person, so the simple classification doesn't cover all the ways people cope (Compas, 2001). Carver et al (1997), significantly advanced coping research by developing the COPE inventory.

Problem-focused coping is a kind of coping in which the stressor or underlying issue that is upsetting the person is actively addressed. When someone uses problem-focused coping, they usually try to change the circumstances in order to affect them differently. This could entail gathering data, formulating a strategy, or addressing the issue head-on. One way to deal with a deadline at work, for instance, would be to divide the chores into smaller, more manageable chunks and approach them methodically (Lazarus & Folkman, 1984).

Similarly, *Emotion-focused coping* focuses on controlling one's emotional reaction to the stressful situation. This can entail strategies like seeking out emotional support from others, finding a way to pass the time, or practicing relaxation techniques to help oneself de-stress. To manage their grief, someone who has lost a loved one could decide to approach friends for support or engage in mindfulness exercises (Folkman & Moskowitz, 2004). Avoidant coping is a kind of coping in which the stressor is avoided as much as possible. Examples of this include

social disengagement, substance abuse, and denial. *Avoidant coping* may momentarily lessen stress if the underlying issues are not addressed, but it may ultimately result in more distress and negative outcomes. Financially distressed people, for instance, may learn to cope by avoiding to look at their bills or acknowledge their situation, which might ultimately exacerbate their problems (Carver & Smith, 2010).

Recent research has emphasized the connection between anxiety sensitivity in hostelites and coping strategies. Higher levels of anxiety sensitivity were linked to more complaints of interpersonal problems, academic stress, and homesickness (Thompson and Clark.,2023). According to these results, living in hostels can make anxiety sensitivity worse as there are unfamiliar stress in addition to a dearth of coping mechanisms because of the presence of inadequate resources and support system to cope with the stressors. According to the previous researches, individuals with anxiety sensitivity develop various strategies for coping and the positive relationship between anxiety sensitivity and coping has been a growing area of research in understanding anxiety disorders (Moser & Simons, 2009).

Coping may be used as a mediator in the association between anxiety sensitivity and the intensity of anxiety symptoms (McEvoy et al., 2013). For instance, people with high anxiety sensitivity who heavily rely on avoidance behaviors for example, skipping social events out of fear of physical sensations may be more negatively impacted by anxiety than people with higher anxiety sensitivity who use more adaptive strategies (Kashdan & McNally, 2008), which is further supported by another research which says that dysfunctional coping strategies involve ways of getting away from the circumstances and the thoughts and emotions that go along with it (Carver et al., 1989). Anyhow, these techniques probably lessen anxiety

momentarily, but they also affect the person's anxiety in subsequent situations that are comparable (Thwaites & Freestone, 2005; Wells & Clark, 1997).

On the other hand, evidence indicates that emotion-regulation coping strategies, including mindfulness practices or cognitive restructuring, can assist people with anxiety sensitivity in reframing their physical experiences and lowering their levels of anxiety in general (Zetsche et al., 2015). While emotion-focused coping focuses on and manages the emotions that a problem causes by examining one's own perception of the issue and regulating the ensuing emotional tension, problem-focused coping involves understanding what causes a problem and taking concrete steps to prepare and evaluate alternative solutions as well as decide and carry out a course of action (Monat & Lazarus, 1985). In the targeted population, some researches have been determined that the use of adaptive coping methods is essential to reducing the impact of anxiety sensitivity in hostelites. The usefulness of cognitive behavioral interventions (CBIs) created especially for dorm students was shown by a recent study which showed that anxiety sensitivity levels were much reduced after using these therapies, which assisted students in reframing their negative views regarding anxiety symptoms (Martinez et al, 2023).

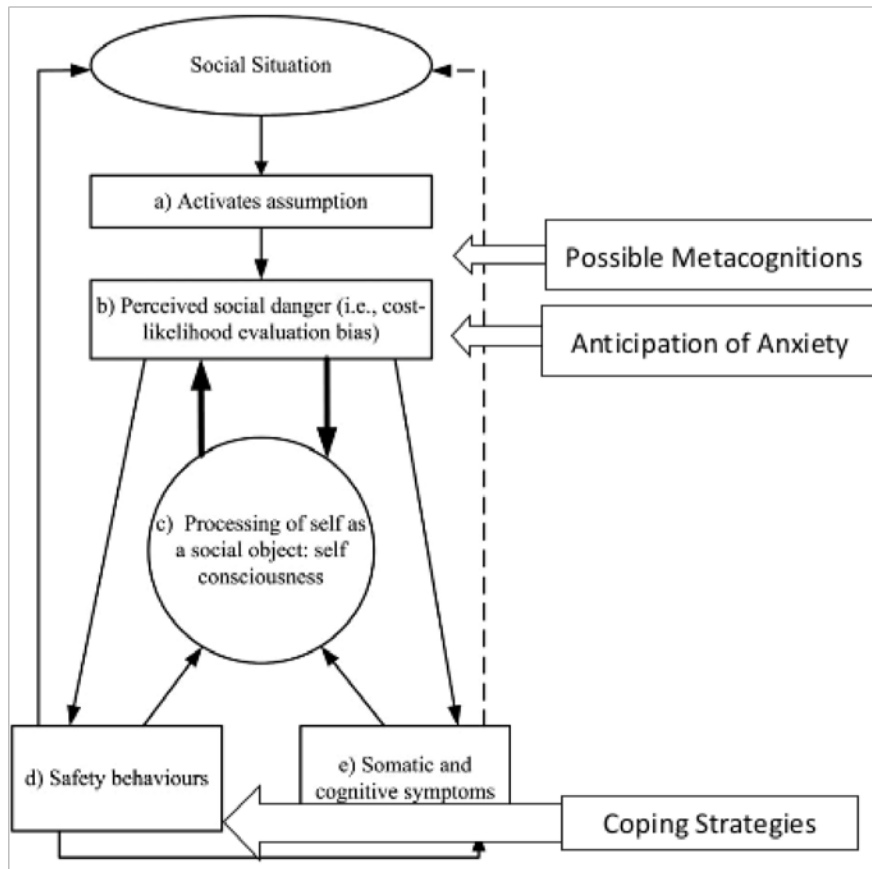
The study also emphasized the importance of teaching students cognitive restructuring techniques because these skills helped them perceive anxiety symptoms as more manageable and less harmful (Martinez et al., 2023). Furthermore, mindfulness-based therapies have also shown. A randomized controlled experiment by Gupta and Sharma (2023) revealed that dorm-specific mindfulness meditation programs significantly reduced symptoms of anxiety sensitivity. These programs lessened the fear and avoidance behaviors that are commonly associated with anxiety sensitivity by encouraging students to observe their anxiety-related symptoms without passing judgment and improvements in general wellbeing and emotional regulation were noted by the

participants. Another recent work by Patel and Nguyen (2023) examined the function of emotion regulation techniques as moderators in the relationship between anxiety sensitivity and anticipatory anxiety. It found that people with high anxiety sensitivity who use adaptive techniques for emotion regulation, like cognitive reappraisal, may have reduced anticipatory anxiety. These results imply that improving emotion control abilities may act as a buffer against anticipatory anxiety in those with high anxiety sensitivity becoming worse. Furthermore, proactive participation in physical activities was also discovered to be advantageous. According to a study by Brown et al. (2023), hostelites who engaged in regular physical activity had reduced anxiety sensitivity levels. It has been suggested that physical activity lessens general anxiety and elevates mood, which indirectly addresses sensitivity to anxiety-related experiences and a sense of sufficient control over a situation is decisive for engaging in problem-focused coping, which could be summoned as support that socially anxious individuals who lack self-efficacy and a limited sense of control in social settings, are unlikely to adopt problem-focused coping techniques (Antonovsky, 1991).

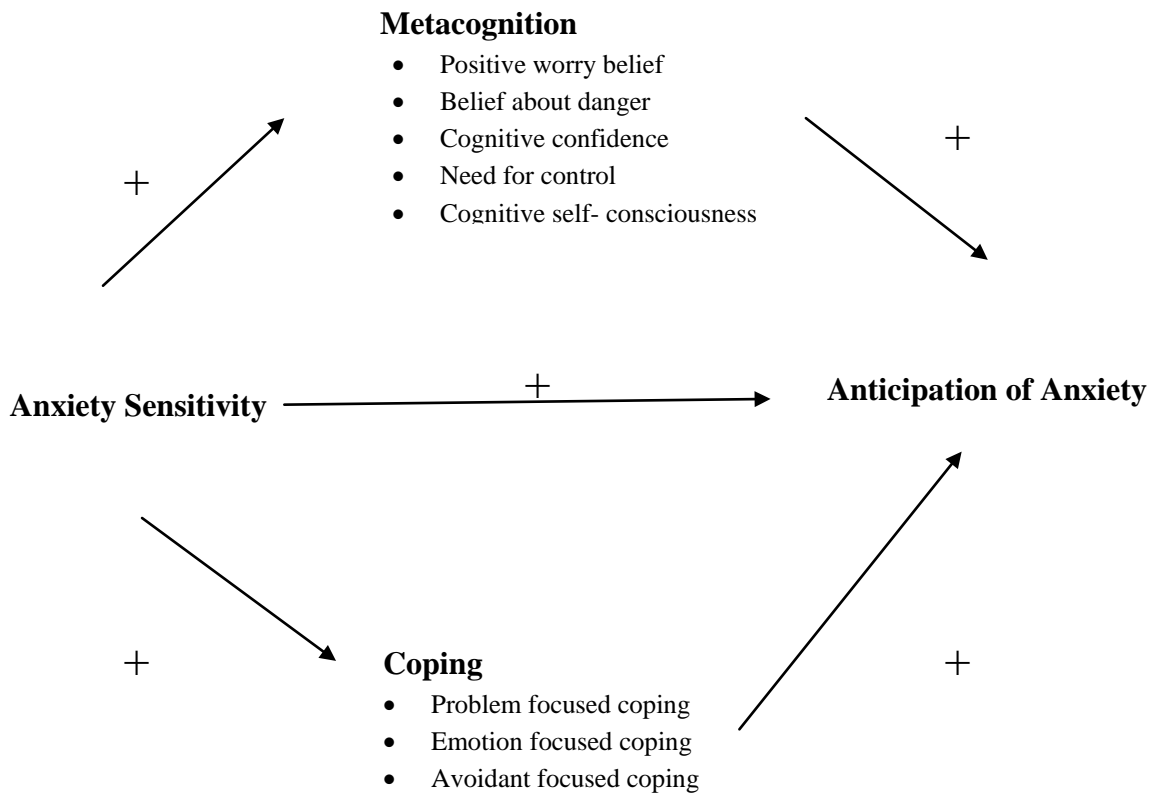
Theoretical Background

Clark & Wells (1995) model of social phobia, provides a cognitive behavioral formulation of social anxiety. According to the model, stressful situations activates negative assumptions and type I worry. However, the individual underwent cost evaluative bias regarding type I worry that result into production of type II worry which is also known as metacognitive worry. As a result of type II worry, the individual practices safety and coping behaviors resulting into maintenance of anxiety. In line with this model, the current study conceptualized that before an individual experiences and maintain social anxiety, he/she anticipate about it (assumptions) and this anticipation is more pronounced among those who scored high on anxiety sensitivity. Further, the anticipatory anxiety (in the current case) may be maintained by the metacognitive

beliefs (Type II worry) and coping strategies (safety behaviors) before actual implementation of social anxiety.



Conceptual Framework



Rationale

People from different parts of the world often move to new cities or countries for better study or job opportunities. This decision and the transition can be tough, as they face challenges in adjusting to their new surroundings. Some people naturally feel scared of new places. For those with higher anxiety sensitivity, this fear can lead to struggling more with anxiety and stress (Olatunji & Wolitzky-Taylor, 2009). The current study was aimed to better understand the mental health challenges faced by hostel population. Aside from being away from home, living in a hostel presents its own set of obstacles, including adjusting to social situations, managing academic demands, and maybe being more sensitive to anxiety. Therefore, it was aimed to investigate the anxiety sensitivity among such people and relationship it shares with anticipatory anxiety, as anxiety sensitivity is a personality trait characteristic which can make people more vulnerable in anticipating anxiety in multiple situations. Similarly, it may also be highlighted from the study that if the anticipation of anxiety among individuals treated on time, it may prevent to lead towards the progression of social anxiety.

The study also aimed to better understand the student's conceptions of anxiety (metacognitions) and coping strategies impact the link between anxiety sensitivity and anticipation of anxiety. In order to help individuals better manage their anxiety, this may lead to the implementation of focused mental health programs and interventions. Furthermore, our understanding in this study examines the distinct cultural and environmental elements that influence anxiety and coping in Pakistani university students.

Objectives

The objectives of the current study was

1. To explore the relationships among anxiety sensitivity, metacognitions, coping and anticipatory anxiety among university hostilities.
2. To predict the roles of metacognitions and coping strategies as mediators between anxiety sensitivity and anticipatory anxiety among the universityhostilites.
3. To observe group differences (semester 1, 4 & 8) in terms of anxiety sensitivity, anticipatory anxiety, use of metacognitions and coping mechanisms.

Hypothesis

Following hypothesis of the current study were proposed and analyzed,

1. Higher the anxiety sensitivity greater will be the anticipatory anxiety, negative metacognitions and use of negative coping strategies.
2. The relationship between anxiety sensitivity and anticipatory anxiety will be mediated by negative metacognitions.
3. The relationship between anxiety sensitivity and anticipatory anxiety will be mediated by negative coping mechanisms.
4. There will be group differences (semester 1, 4 & 8) in terms of anxiety sensitivity, anticipatory anxiety, metacognitions and coping strategies.

Chapter 2

Method

Research Design

For the current study, a cross-sectional survey research design was used. The cross-sectional research design investigated the relation between the independent (anxiety sensitivity) and dependent variable (anticipatory anxiety), without manipulating the independent variable. Self-report measures were used to carry out the survey.

Sample

The current study included the sample of hostilities ($N=250$) as participants of the study. The participants, for the current study, were selected from different hostels (both public and private) of Rawalpindi and Islamabad. Purposive sampling was used to collect study sample.

Inclusion Criteria

Those participants were included who were enrolled in the BS and MS programs in the university. They must be studying in the first, fourth and eighth semesters.

Exclusion Criteria

All international hostilities were excluded from the study because our main purpose was to see the anticipatory anxiety while living in a city different from their home town within Pakistan.

Operational definitions

Anxiety Sensitivity

The evaluation of a person's response to events or stimuli that cause anxiety, as well as their perceptions of the effects of anxiety-related feelings (Reiss et al., 1986).

Anticipatory anxiety

The sensation of dread or anxiety that develops before a circumstance or event in the future. It is characterized by worry, anxiety, or anxiousness about what might occur, and it often occurs before a particular encounter or event (American Psychiatric Association, 2013).

Metacognitions

The mental processes associated with thinking back on one's own ideas. It comprises the ability to plan, organize, assess, and manage one's own cognitive activity in addition to being conscious of, in charge of, and in control of one's own mental processes (Flavell, 1979).

Coping strategies

People's actions and attempts to control, lessen, or put up with pressures, difficulties, or challenging circumstances (Lazarus & Folkman, 1984).

Instruments

A demographic sheet with questions about gender, age, socioeconomic status, educational attainment, semester level, birth order, marital status, and place of residence was given to the participants. In addition, the following psychological measures were administered on the participants.

Anxiety sensitivity index

The Anxiety Sensitivity Index (ASI-1) was developed in 1986 by Steven Reiss and McNally to support the idea of anxiety sensitivity. There are 16 items which rated on a Likert scale ranging from 0-4 that list potential drawbacks of anxiety. In the previous literatures the internal consistency coefficients for the ASI typically range from 0.80-0.95 across a variety of populations which indicates a good reliability. In the current study the internal consistency of ASI is 0.92 (Reiss et al., 1986).

Metacognitions Questionnaire

Metacognitions Questionnaire was constructed in 1997 by Sam Cartwright and Adrian Wells. The beliefs people hold about their thought processes are the focus of this questionnaire. It contains 5 factor-derived subscales that make up the questionnaire. Positive beliefs about worry (items 1,9,12,22,26,27,30,32,35,38,44,46,52,54,56,60,62,63,65) negative beliefs about uncontrollability and danger (items 2,5,8,11,13,21,31,33,36,40,45,48,53,64) cognitive confidence (items 3,10,16,24,28,43,47,51,57,58) need for control (items 7,15,17,19,29,34,37,39,41,49,50,55,59) and cognitive self-consciousness (items 4,6,14,20,23,25,61). Four-point ratings, from 1 (do not agree) to 4 (agree very much), are needed for responses; higher scores indicate more stated issues with the given item. It contains good internal consistency reliability for its subscales and a good construct validity. In the previous literatures the internal consistency of all these subscales lies in between 0.7-0.9. In the current study the internal consistency of MCQ-65 is found to be 0.94 which shows a high reliability. MCQ-65 also contains 3 reverse coded items that are 41,44 and 20 (Wells, 1997).

Brief Cope

Brief-COPE is a self-report questionnaire consist of 28 items which was developed by Carver and his colleagues in 1989 to evaluate successful and unsuccessful coping mechanisms in the face of a stressful life experience. It consist of 3 main subscales which was categorized as problem-focused coping, emotion-focused coping and avoidant-focused coping. The problem-focused coping subscale (items 2, 7, 10, 12, 14, 17, 23, 25), emotion-focused coping (items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28), and avoidant coping (items 1, 3, 4, 6, 8, 11, 16, 19, 20) scores on the subscale can be used to assess an individual's primary coping methods. In previous literature a good internal consistency range from 0.70-0.90 was found along with good validity.

In the current study the internal consistency of the scale is 0.87. Each item is rated on a Likert scale ranging from 1 to 4 (Carver et al., 1989).

Anticipatory Social Behavior Questionnaire

The Anticipatory Social Behaviors Questionnaire (ASBQ) was created in 2003 by Hinrichsen and Clark. The 12-item ASBQ assesses a number of trait features of anticipatory processing. The reliability of the ASBQ according to previous literature is strong (.88) and in the current study it is found to be 0.873 which shows a high internal consistency. Every item has a rating between 1 (never) and 4 (always), with higher scores indicating greater use of maladaptive cognitive strategies (Hinrichsen & Clark, 2003).

Procedure

The participants were selected from different hostels of Rawalpindi and Islamabad through purposive sampling technique. They were adequately briefed about the purpose of study. Informed Consent was obtained from the participants before distribution of questionnaires among them. All the ethical etiquettes were kept in mind during the research. The study was approved by the local ethics commission of the Bahria School of Professional Psychology, Bahria University, Islamabad. The participants had the right to leave the study at any point without any reason and they were not forced to take part in the study.

Ethical Considerations

The sample was approached after the permission from the institute. The permission to use the questionnaire in the study was also granted by the respective authors. Obtaining informed consent from participants and maintaining confidentiality was made sure following set principles.

Chapter 3

Results

The study was aimed to investigate the relationship among anxiety sensitivity, metacognitions, coping and anticipatory anxiety in the university hostilites. The Statistical Package for Social Sciences (SPSS) was used to analyze the data collected from the participants. Descriptive statistics were determined for demographic variables of the study. Reliability analysis was carried out for the self-report measures used. Pearson product moment correlations were obtained to examine the nature of relationship among the variables of interest. Group comparisons were carried out using independent sample t-test and one-way independent measure ANOVA to see any differences in terms of hostel type and semester levels. Moreover, mediation analysis was conducted to see if metacognitions and coping strategies serve as mediators for the relationship between anxiety sensitivity and anticipatory anxiety.

Table 1*Demographic description of the sample (N=250)*

Characteristics of participants		<i>f</i>	%	<i>M</i>	<i>SD</i>
Gender					
	Male	69	27.6%		
	Female	181	72.45%		
Age				22.7	2.75
Education					
	Undergrad	146	58.4%		
	Post grad	104	40.1%		
Semester					
	1	47	18.8%		
	4	138	55.2%		
	8	65	26%		
Socio-Economic status					
	Middle class	235	94%		
	Upper class	15	6%		
Hostel type					
	Private hostel	115	46%		
	University hostel	135	54%		

Table 1 represents demographic characteristics of participants, which consists of a data of a total of 250 university hostelites individuals of Islamabad/Rawalpindi. Based on gender, there was a total of 69 (27.6%) male participants and 181 (72.45) female participants. Average age of the participants was 22.7 years. Separating participants based on education, we can identify there were 113 (37.7%) hostelites who have undergraduate level of education, 146 (58.4%) had graduate level of education and 104 (41.1%) hostelites with postgraduate level of education.

Data on semester basis was found in three slabs. The first one shows there are a total of 47 (18.8%) hostelites currently enrolled in semester 1. 138 participants (55.2%) are enrolled in semester 4 and 65 (26%) participants are enrolled in semester 8. When we segregate on the basis of socio economic status, 235 (94%) participants belonged to middle class family and 15 (6%) participants belonged to upper class family. Whereas, when we look into hostel type, 115 participants (46%) are living in private hostel and 135 participants (54%) are living in university hostel.

Table 2*Alpha reliability for all self-report measures (N=250)*

Variables	<i>K</i>	<i>a</i>	Range		Skewness	Kurtosis
			AR	PT		
ASI	16	.902	0-64	4-59	-.059	-.080
ASBQ	12	.873	12-48	17-48	-.080	-.647
MCQ-65	65	.941	–	–	–	–
Positive worry belief	19	.875	19-76	21-70	.254	-.269
Belief about danger	16	.876	16-64	18-64	-.020	-.626
Cognitive confidence	10	.858	10-40	10-40	.085	-.481
Need for control	12	.804	12-48	14-49	-.002	-.478
Cognitive self-consciousness	7	.531	7-28	12-27	.096	-.642
Brief cope-28	28	.873	–	–	–	–
Problem focused	8	.768	8-32	8-32	-.046	-.300
Emotion focused	12	.677	12-48	15-46	.098	.437
Avoidant focused	8	.654	8-32	8-32	2.58	0.23

Note: ASI= Anxiety Sensitivity Index (16), ASBQ= Anticipatory Social behavior Questionnaire (12), MCQ= Metacognitions Questionnaire (65), AR= Alpha if item removed, PT, Total correlation of correlated items.

Table 2 represents the alpha reliability, skewness and kurtosis of the psychological variables. Anxiety sensitivity, metacognitions, brief-cope and anticipatory anxiety indicated a high reliability (.902, .873, .941, .873) respectively. All the data was normally distributed.

Table 3*Pearson Product Moment Correlation among different groups (N=250)*

	1	2	3	4	5	6	7	8	9	10	
	Positive worry beliefs	Beliefs about danger	Cognitive Confidence	Need for control	Cognitive Self consciousness	ASI	ASBQ	Problem-focused coping	Emotion-focused coping	Avoidant-focused Coping	
1	<i>Semester 1</i>	1									
	<i>Semester 4</i>	1									
	<i>Semester 8</i>	1									
2	<i>Semester 1</i>	.593**	1								
	<i>Semester 4</i>	.418**	1								
	<i>Semester 8</i>	.490**	1								
3	<i>Semester 1</i>	.774**	.819**	1							
	<i>Semester 4</i>	.603**	.503**	1							
	<i>Semester 8</i>	.606**	.691**	1							
4	<i>Semester 1</i>	.743**	.924**	.848**	1						
	<i>Semester 4</i>	.603**	.732**	.553**	1						
	<i>Semester 8</i>	.606**	.615**	.676**	1						
5	<i>Semester 1</i>	.328*	.329*	.377**	.385**	1					
	<i>Semester 4</i>	.444**	.166	-.025	.232**	1					
	<i>Semester 8</i>	.273*	.261*	.045	.316*	1					
6	<i>Semester 1</i>	.577**	.599**	.560**	.573**	.620**	1				
	<i>Semester 4</i>	.282**	.448**	.294**	.463**	.091	1				
	<i>Semester 8</i>	.350**	.579**	.517**	.613**	-.102**	1				
7	<i>Semester 1</i>	.631**	.744**	.788**	.720**	.570**	.695**	1			
	<i>Semester 4</i>	.326**	.579**	.328**	.447**	.408**	.296**	1			
	<i>Semester 8</i>	.511*	.604**	.587**	.484**	.364	.339**	1			
8	<i>Semester 1</i>	.493**	.148	.263	.171	.516**	.396**	.412**	1		
	<i>Semester 4</i>	.412**	.333**	.133	.353**	.394**	.160	.340**	1		
	<i>Semester 8</i>	.158	.350**	.220	-.037	.130	-.080	.383**	1		
9	<i>Semester 1</i>	.578**	.598**	.612**	.508**	.157	.307*	.478**	.613**	1	
	<i>Semester 4</i>	.178*	.409**	.397**	.379**	.194*	.175*	.608**	.597**	1	
	<i>Semester 8</i>	.459**	.642**	.543**	.315*	.109	.323**	.586**	.661**	1	
10	<i>Semester 1</i>	.624**	.621**	.461**	.629**	.225	.776**	.483**	.296*	.453**	1
	<i>Semester 4</i>	.229**	.375**	.439**	.321**	-.096	.474**	.326**	.414**	.533**	1
	<i>Semester 8</i>	.444**	.242**	.612**	.395**	-.137	.261*	.470**	.519**	.628**	1

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, ASI= Anxiety Sensitivity Index (16), ASBQ= Anticipatory Social behavior Questionnaire (12), MSQ= Metacognitions Questionnaire (65).

The correlation analysis revealed a significant positive correlation between anxiety sensitivity and anticipatory anxiety among all the groups in the sample of 250 participants

($p < 0.01$). This indicates that individuals with higher level of anxiety sensitivity tend to report higher level of anticipatory anxiety. Therefore that appears to be a direct relationship between anxiety sensitivity and anticipatory anxiety.

The correlation analysis between anxiety sensitivity and metacognitions such as, positive worry beliefs, beliefs about danger, cognitive confidence, need for control and cognitive self-consciousness also revealed a significant positive relationship with anxiety sensitivity and anticipatory anxiety among all the groups ($p < 0.01$).

Moreover, emotion focused and avoidant focused coping revealed a significant positive relation with anxiety sensitivity and anticipatory anxiety among all the groups ($p < 0.01$). Likewise, Problem focused coping showed a non-significant relationship with anxiety sensitivity among group 2 and a negative non-significant relationship among group 3.

Table 4

Independent Sample t-test comparing the effect of educational level on Anxiety Sensitivity, Metacognition, Coping and Anticipatory Anxiety. (N=250)

Variables	Undergrad (n=146)		Postgrad (n=104)		<i>t</i>	<i>p</i>	95% Confidence interval		Cohen's <i>d</i>
	<i>M</i>	<i>S.D</i>	<i>M</i>	<i>S.D</i>			LL	UL	
Anxiety Sensitivity	31.40	12.57	29.97	13.84	.849	.39	-1.88	4.74	0.11
ASBQ	33.66	7.06	32.22	7.14	1.58	.11	-.350	3.23	0.20
MCQ-65									
Positive worry belief	40.00	9.58	43.44	12.52	-2.46	.01	-6.19	-.69	0.32
Belief about danger	42.05	9.81	41.07	10.76	.75	.45	-1.60	3.56	0.09
Cognitive confidence	23.02	6.09	24.58	7.87	-1.77	.07	-3.30	.18	0.23
Need for control	31.39	7.15	30.50	8.18	.91	.36	-1.03	2.80	0.12
Cognitive self-consciousness	19.14	3.38	19.41	3.48	-.63	.52	-1.14	.59	0.09
Brief cope -28									
Problem focused	20.81	4.48	21.74	4.53	-1.60	.11	-2.06	.213	0.19
Emotion focused	29.66	6.03	30.31	5.08	-.89	.36	-2.08	.78	0.12
Avoidant focused	17.08	6.14	18.14	5.20	-1.43	.15	-2.52	.40	0.18

*Note: Cohen's d = Effect size. * $p < .05$, ** $p < .01$, *** $p < .001$, ASI= Anxiety Sensitivity Index (16), ASBQ= Anticipatory Social behavior Questionnaire (12), MSQ= Metacognitions Questionnaire (65), LL= Lower limit, UL= Upper limit*

Table 4 shows that there is no significant difference in anxiety sensitivity, beliefs about danger, cognitive confidence, need for control, cognitive self-consciousness, problem-focused coping, emotion-focused coping, avoidant focused coping and anticipatory anxiety between undergrad and postgrad students, as indicated by the non-significant p-value of (.397, .114, .456, .078, .365, .528, .111.369, .153). There is significant difference in positive worry belief between

undergrad and postgrad hostelite students, as indicated by the p-value, which is less than the typical p-value of 0.05. Therefore, it is to conclude that there is a significant difference in positive worry belief between undergrad and postgrad students, with postgrad students having higher positive worry belief score than undergrad students.

Table 5

Independent Sample t-test comparing the effect of hostel type on Anxiety Sensitivity, Metacognition, Coping and Anticipatory Anxiety.

(N=250)

Variables	Private hostel (n=115)		University hostel (n=135)		<i>t</i>	<i>p</i>	95% Confidence interval		Cohen's <i>d</i>
	<i>M</i>	<i>S.D</i>	<i>M</i>	<i>S.D</i>			LL	UL	
Anxiety Sensitivity	31.75	12.69	30.01	13.46	1.05	.30	-1.53	5.00	0.13
ASBQ	33.83	7.17	32.42	7.04	1.57	.118	-.362	3.18	0.19
MCQ-65									
Positive worry belief	39.92	10.85	42.74	11.02	-2.03	0.04	-5.55	-.087	0.23
Belief about danger	41.03	11.22	42.17	9.24	-.883	.32	-3.69	1.40	0.11
Cognitive confidence	23.58	6.64	23.75	7.17	-.194	.85	-1.90	1.56	0.03
Need for control	31.18	7.62	30.90	7.61	.291	.77	-1.62	2.18	0.04
Cognitive self-consciousness	18.93	3.48	19.53	3.36	-1.39	.17	-1.45	.250	0.17
Brief cope -28									
Problem focused	20.79	4.63	21.54	4.40	-1.32	1.88	-1.88	.371	0.16
Emotion focused	30.16	6.30	29.74	5.06	.59	.55	-.99	1.84	0.08
Avoidant focused	17.19	6.53	17.80	5.08	-.84	.40	-2.06	.831	0.10

*Note: Cohen's d = Effect size. *p<.05, **p<.01, ***p<.001, ASI= Anxiety Sensitivity Index (16), ASBQ= Anticipatory Social behavior Questionnaire (12), MSQ= Metacognitions Questionnaire (65), LL= Lower limit, UL= Upper limit*

Table 5 shows there is no significant difference in anxiety sensitivity, beliefs about danger, cognitive confidence, negative beliefs, cognitive self-consciousness, problem-focused coping, emotion-focused coping, avoidant focused coping and anticipatory anxiety between private hostel and university hostel students, as indicated by the non-significant p-value of (.295,

.118, .318, .846, .771, .165, 1.88, .555, .403). There is significant difference in positive worry belief between private and university hostel students, as indicated by the p-value, which is less than the typical p-value of 0.05. Therefore, it is to conclude that there is a significant difference in positive worry belief between private and university hostel students, with university hostel students having higher positive worry belief score than private hostel students.

Table 6

Mean, Standard Deviation and One-Way Analysis of Variance of Anxiety Sensitivity, Metacognitions, Coping and Anticipatory Anxiety across different semester (N=250)

Variable	Sem 1(47)		Sem 4(138)		Sem8(65)		F (2-247)	η^2	Post hoc
	M	SD	M	SD	M	SD			
ASI	31.16	13.57	30.59	12.16	31.03	14.81	.040	0.018	_
MCQ									
Positive worry belief	40.0	12.14	42.4	10.84	40.40	10.34	1.23	0.09	_
Belief about danger	42.4	11.04	41.0	9.51	42.2	11.05	.451	0.060	_
Cognitive confidence	23.97	7.27	23.71	6.53	23.36	7.52	.113	0.03	_
Need for control	30.93	8.560	31.20	7.27	30.70	7.64	.100	0.03	_
Cognitive self-consciousness	18.76	3.05	18.8	3.55	20.30	3.18	4.817**	0.19	8>1,8 >4
Brief scope									
Problem focused	21.53	4.17	21.07	4.92	21.23	3.87	.182	0.04	-
Emotion focused	30.65	5.53	30.30	5.61	28.63	5.70	2.43*	0.14	1>4, 1>8, 4>8
Avoidant focused	15.78	3.94	18.28	6.47	17.2	5.06	3.4**	0.17	4>1and 8,
ASBQ	33.61	7.47	33.09	6.53	32.60	8.06	.280	0.05	8>1

*Note: Cohen's d = Effect size. *p<.05, **p<.01, ***p<.001, ASI= Anxiety Sensitivity Index (16), ASBQ= Anticipatory Social behavior Questionnaire (12), MSQ= Metacognitions Questionnaire (65).*

The results of one-way independent measure ANOVA depicted that there were significant differences among cognitive self-consciousness of hostelites students across different semester groups, the mean depicted that students in 8th semester have higher level of cognitive-self-consciousness than the other two groups, with a small effect size. For Further pair wise

comparisons, a Post Hoc test (Gabriel) showed that semester 8th students have higher level of cognitive self-consciousness than the other two semester groups.

For avoidant-focused coping, the results showed significant difference with regard to semester levels, that students of 4th semester have higher level of avoidant focused coping than the students of semester 1, with the small effect size. For Further pair wise comparisons, a Post Hoc test (Gabriel) showed that semester 4th students have higher level of avoidant focused coping than the 1st semester group and the students of semester 1 have higher level of emotion focused coping than the students of semester 4th and 8th. Likewise, Students of semester 4th has high level of emotion-focused coping than 8th semester students.

Moreover, the results of anxiety sensitivity, Positive worry belief, Belief about danger, Cognitive confidence and negative beliefs of metacognitions do not show significant differences with respect to semester levels. Similarly, the results of Problem focused and Emotion focused of coping along with anticipatory anxiety do not show significant differences with respect to semester levels.

Table 7*Multiple Regression Predicting Anticipatory Anxiety (N=250)*

Variables	<i>B</i>	95% CI		<i>SE</i>	β	<i>R</i> ²	ΔR^2
		<i>LL</i>	<i>UL</i>				
Constant	-2.521	-6.951	1.909	2.25			
Negative beliefs about danger	.212	.155	.308	.049	.303	.571	.571***
Cognitive confidence	.112	-.018	.243	.066	.109		
Cognitive self-consciousness	.658	.450	.866	.106	.316		
Problem-focused	-.183	-.373	.006	.096	-.116		
Emotion-focused	.456	.297	.615	.081	.362		

Note. CI=Confidence Interval, LL=Lower Limit, UL= Upper Limit, $p^*<0.05$, $p^{**}<0.01$, $p^{***}<0.001$

Anticipatory Anxiety = dependent variable.

Table 7 shows the results of multiple regression that was conducted to explore the predictive relationship of anxiety sensitivity, positive worry beliefs, beliefs about danger, cognitive confidence, need for control, cognitive self-consciousness, problem-focused, emotion-focused and avoidant focused coping with anticipatory anxiety. Among all, Negative beliefs, cognitive confidence, cognitive self-consciousness, problem focused and emotion-focused coping were found to have a significant regression equation with a combined effect ($R^2=.571$) which shows that these variables have a total of 57% variance which is significant $p<0.001$.

Table 8

Direct effect of Anxiety Sensitivity and Anticipatory Anxiety through Positive Beliefs, Negative Beliefs about danger, Cognitive Confidence, Need for Control and Cognitive Self-Consciousness(N=250)

	Predictors	Positive belief		ASBQ	
		β	SE	β	SE
1-	Anxiety Sensitivity	.301***	0.050	0.145**	.032
	Positive belief	-	-	.221**	.038
	R ²	.12		.254	
	F	36.5		42.04	
2-		Negative belief		ASBQ	
	Anxiety sensitivity	.405***	1.41	.050**	.032
	Negative beliefs	-	-	.398***	.041
	R ²	.271		.390	
	F	92.05		79.06	
3-		Cognitive confidence		ASBQ	
	Anxiety sensitivity	.22***	.034	.11***	.031
	Cognitive confidence	-	-	.42***	.06
	R ²	.174		.294	
	F	52.32		51.42	
4-		Need for control		ASBQ	
	Anxiety sensitivity	.306***	.031	.088	0.34
	Need for control	-	-	.40***	.08
	R ²	.174		.294	
	F	52.32		51.42	
5-		Cognitive self-consciousness		ASBQ	
	Anxiety sensitivity	.033	.016	.18***	.02
	Cognitive self-consciousness	-	-	.74***	.11
	R ²	.016		.27	
	F	4.13		47.9	

*Note: *p<.05*, **p<.01, Coeff=standardized regression coefficient*

The results of direct effect shows that Anxiety sensitivity is found to be significant positive predictor of Anticipatory Anxiety and all the metacognitions. Similarly, Metacognitions such As, positive beliefs, negative beliefs, cognitive confidence, need for control and cognitive self-consciousness are also found to be significant positive predictor of anticipatory anxiety.

Figure1

Indicating the mediating effect of positive beliefs on the relationship between anxiety sensitivity and anticipatory anxiety.

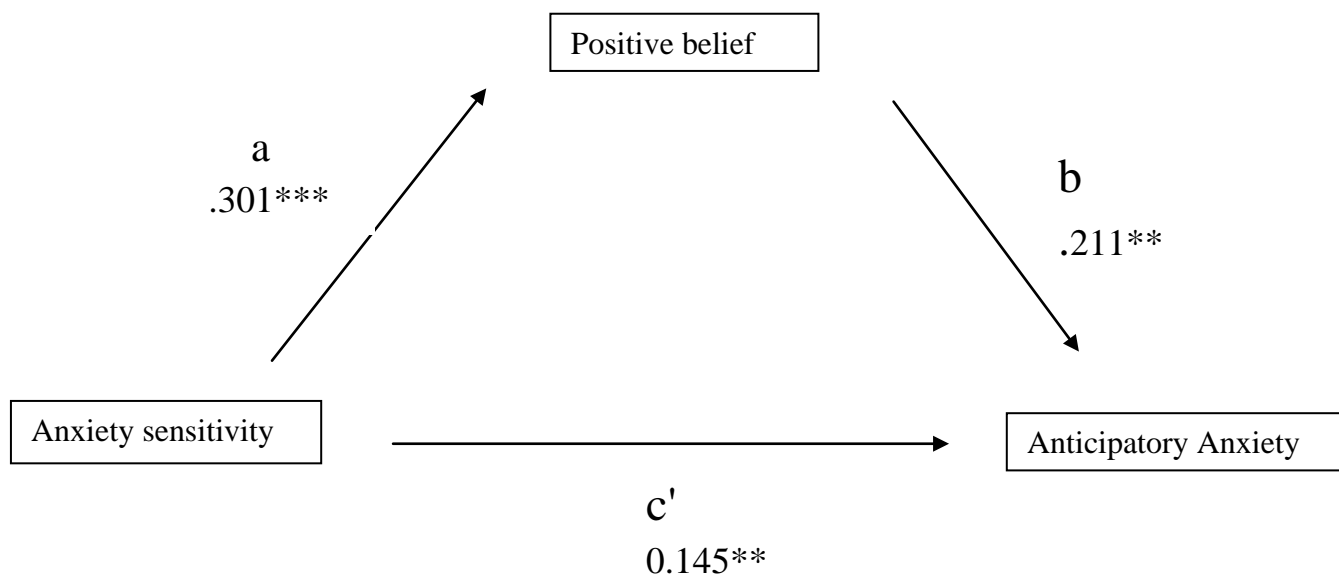


Figure 2

Indicating the mediating effect of negative beliefs about danger on the relationship between anxiety sensitivity and anticipatory anxiety.

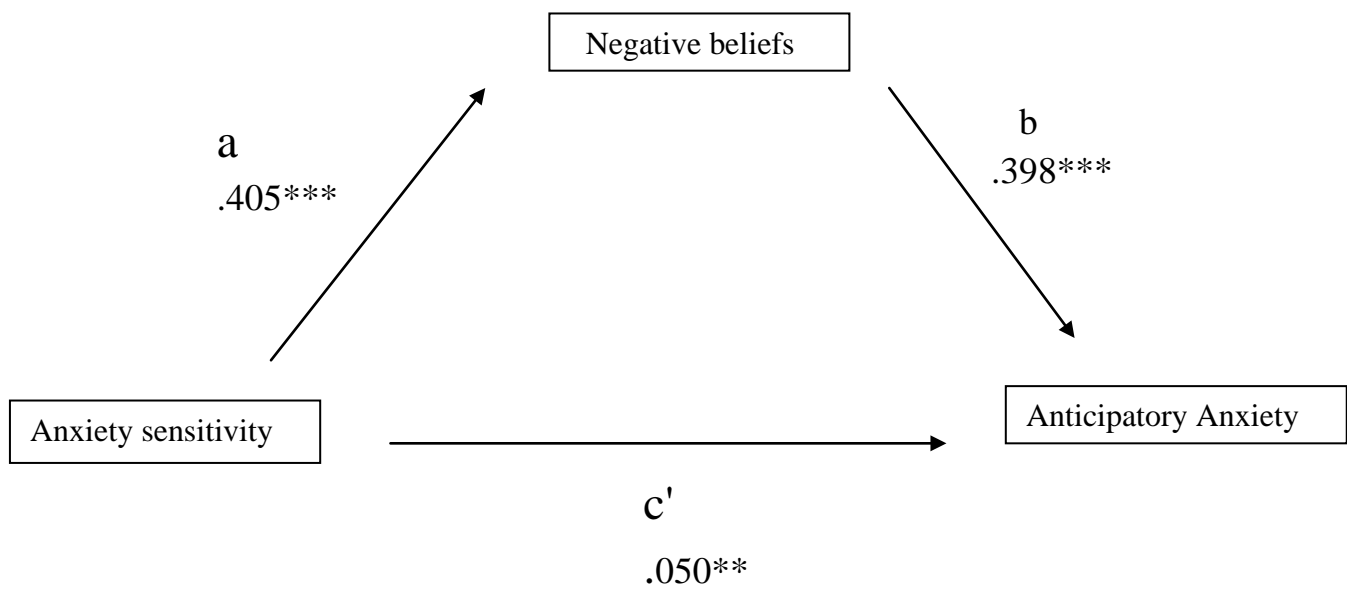


Figure 3

Indicating the mediating effect of cognitive confidence on the relationship between anxiety sensitivity and anticipatory anxiety.

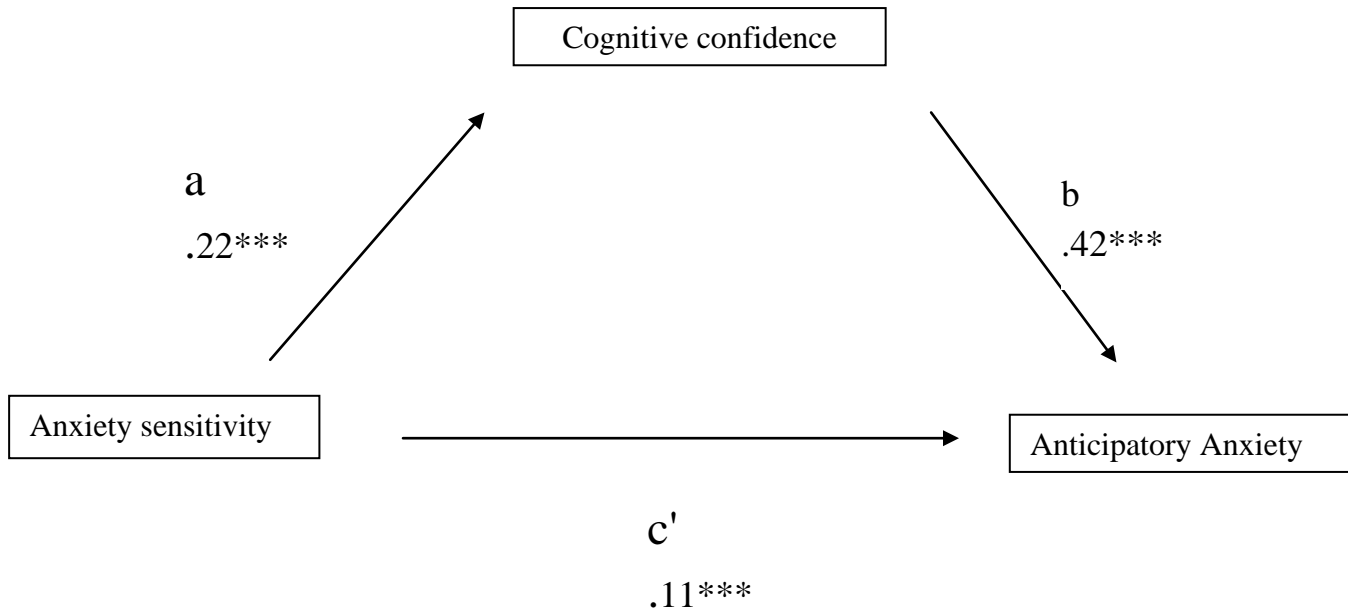


Figure 4

Indicating the mediating effect of need for control about danger on the relationship between anxiety sensitivity and anticipatory anxiety.

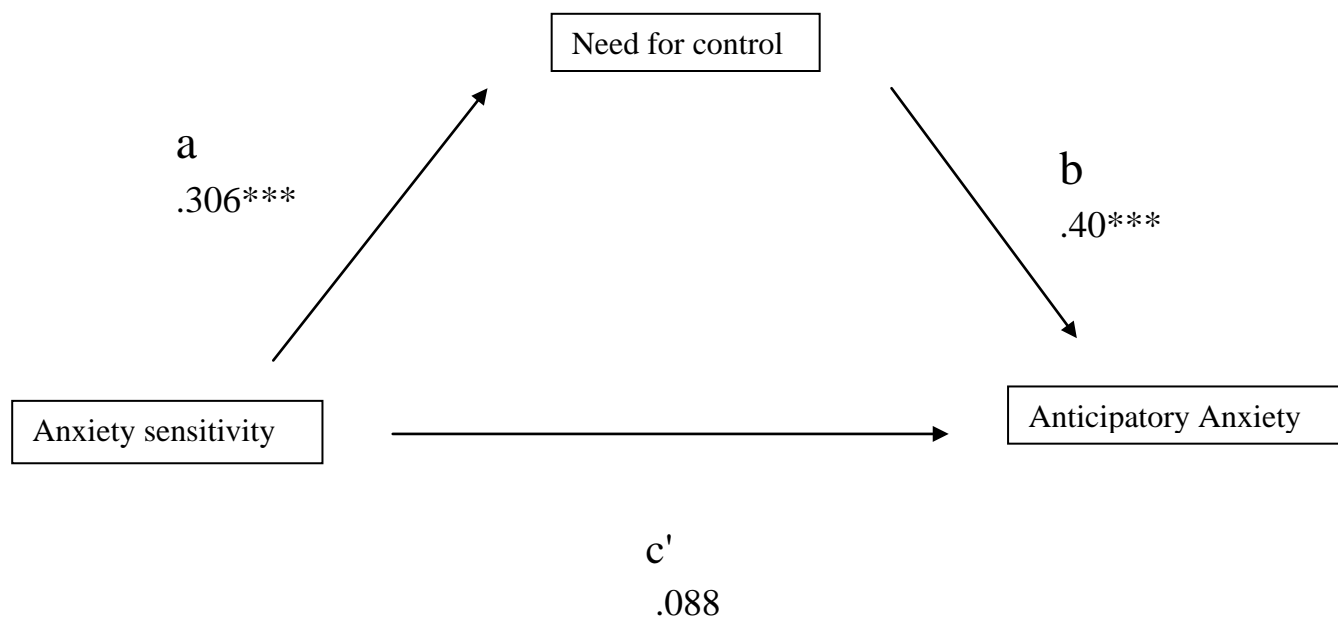


Figure 5

Indicating the mediating effect of cognitive self-consciousness on the relationship between anxiety sensitivity and anticipatory anxiety.

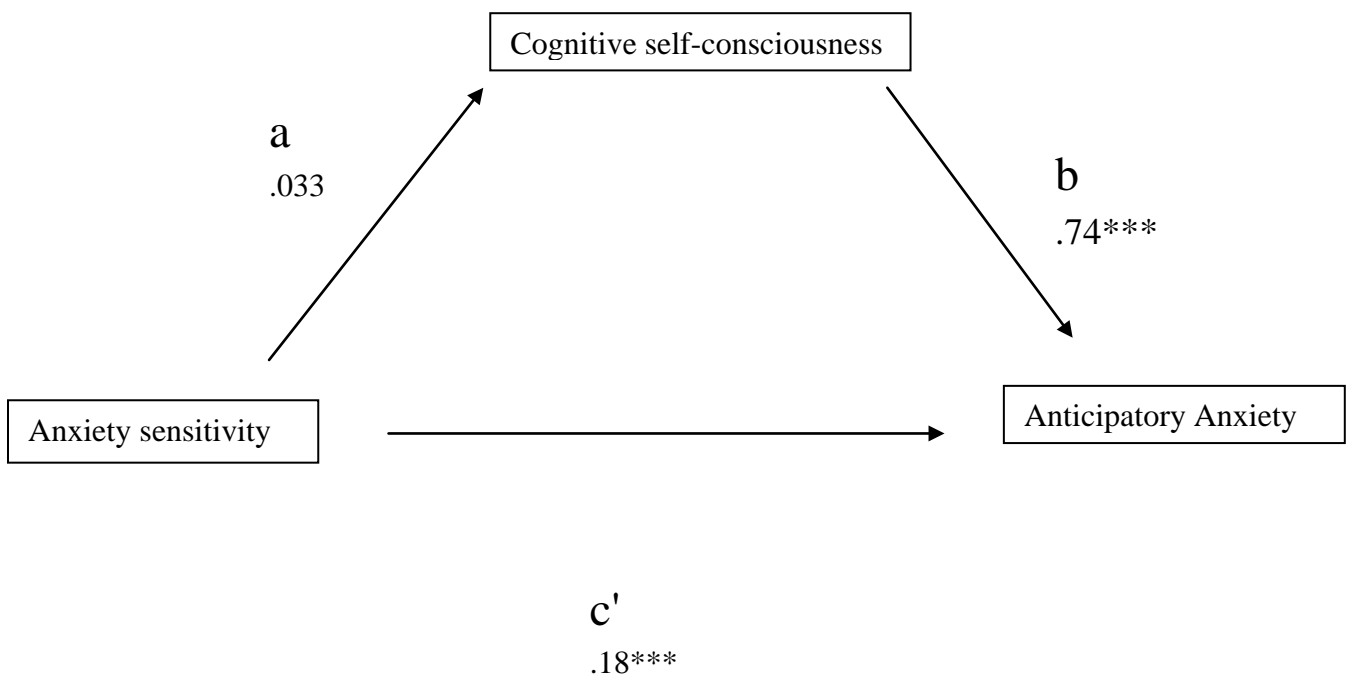


Table 9

Indirect effect of Metacognitions between the relationship of Anxiety Sensitivity and Anticipatory Anxiety (N=250)

Mediator	β	Boot SE	Boot CL 95%	
			LL	UL
Positive belief	.066	.026	.041	.09
Negative belief	.16	.023	-0.12	.11
Cognitive Confidence	.093	.017	.061	.13
Need for control	.12	.019	.085	.16
Cognitive self-consciousness	.02	.013	-.001	.05

*Note: *p<.05*, **p<.01, Coeff=standardized regression coefficient*

The results of indirect effect showed that Metacognitions such As, positive beliefs, cognitive confidence and need for control were found to be significant mediator between the relationship of anxiety sensitivity and anticipatory anxiety which indicates that increase in anxiety sensitivity tends to increase in positive beliefs, cognitive confidence and need for control and increase in these metacognitions tend to increase in anticipatory anxiety.

Table 10

Direct effect of Anxiety Sensitivity and Anticipatory Anxiety through Problem-focused, Emotion-focused and Avoidant-focused coping (N=250)

Predictors	Problem focused		ASBQ	
	β	SE	B	SE
1- Anxiety Sensitivity	.048	.021	.188***	.030
Problem Focused	-	-	.486***	.087
R ²	.019		.24	
F	4.91		40.2	
	Emotion focused		ASBQ	
2- Anxiety sensitivity	.10***	.890	.145***	.02
Emotion focused	-	-	.64***	.064
R ²	.05		.39	
F	15.09		81.2	
	Avoidant focused		ASBQ	
3- Anxiety sensitivity	.19***	.03	.15***	0.34
Avoidant focused	-	-	.29***	.077
R ²	.19		.152	
F	58.1		44.5	

*Note: *p<.05*, **p<.01, Coeff=standardized regression coefficient*

The results of direct effect showed that anxiety sensitivity was found to be significant positive predictor of emotion focused and avoidant focused coping. Similarly, Emotion focused and avoidant focused coping were found to be significant positive predictor of anticipatory anxiety. Likewise, Anxiety sensitivity was found to be a non-significant predictor of problem focused coping where problem focused coping was found to be a significant predictor of anticipatory anxiety.

Figure 6

Indicating the mediating effect of problem-focused coping on the relationship between anxiety sensitivity and anticipatory anxiety.

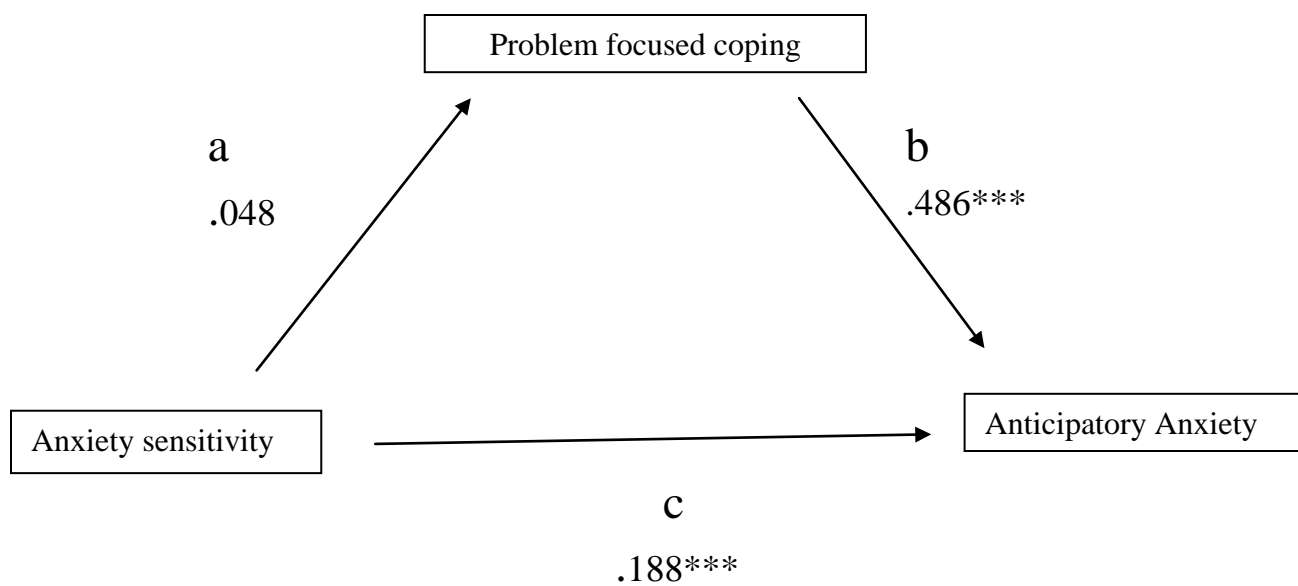


Figure 7

Indicating the mediating effect of emotion-focused coping on the relationship between anxiety sensitivity and anticipatory anxiety.

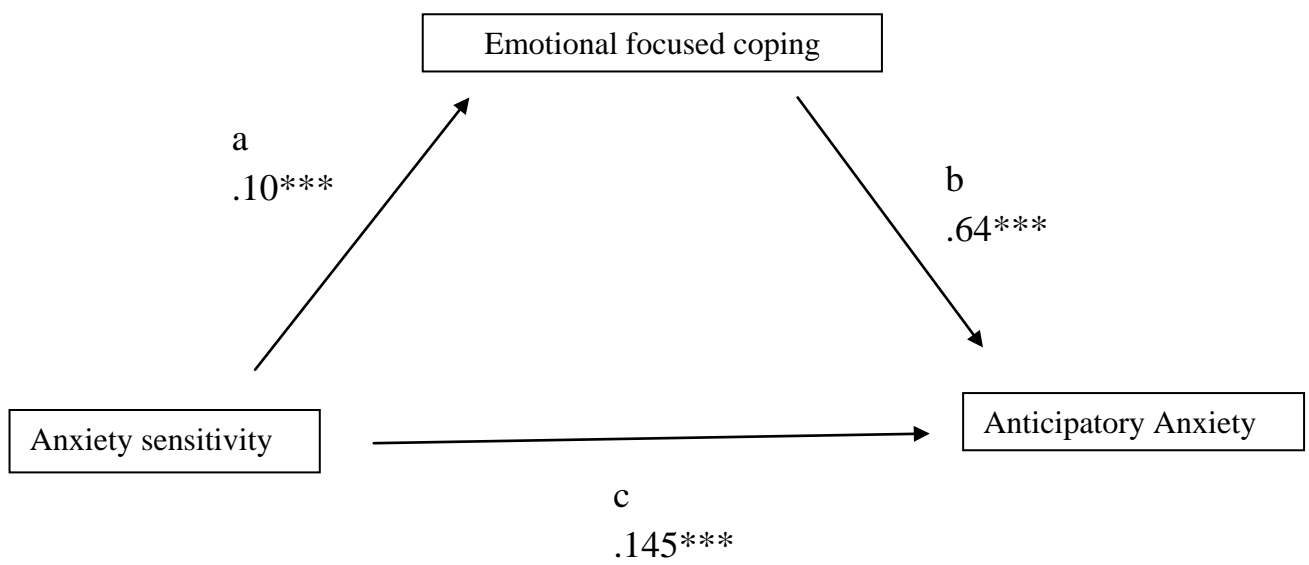


Figure 8

Indicating the mediating effect of avoidant-focused coping on the relationship between anxiety sensitivity and anticipatory anxiety.

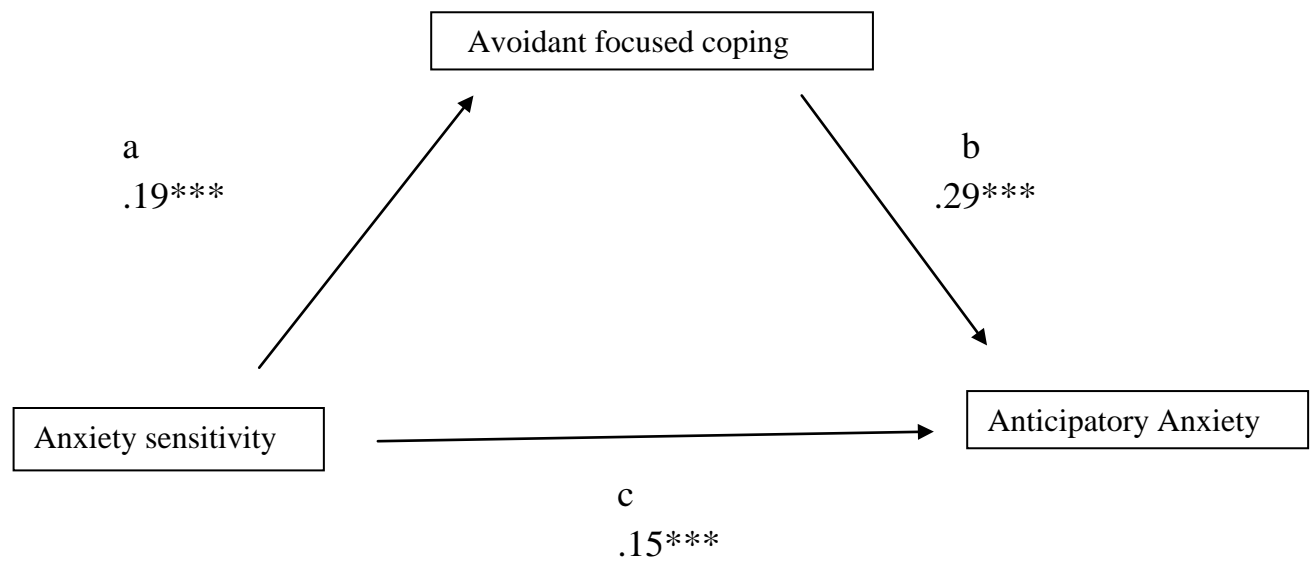


Table 11

Indirect effect of Coping between the relationship of Anxiety Sensitivity and Anticipatory Anxiety (N=250)

Mediator	β	Boot SE	Boot CL 95%	
			LL	UL
Problem focused	.02	.012	.002	.049
Emotion focused	.06	.018	.032	.103
Avoidant focused	.05	.018	.02	.101

*Note: *p<.05*, **p<.01, Coeff=standardized regression coefficient*

The results of indirect effect showed that coping styles such As, problem focused, emotion focused and avoidant focused coping were found to be significant mediator between the relationship of anxiety sensitivity and anticipatory anxiety which indicates that increase in anxiety sensitivity tends to increase in coping styles and increase in coping styles tend to increase in anticipatory anxiety.

Chapter 4

Discussion

This study was conducted to investigate the relation between anxiety sensitivity and anticipation of anxiety. Moreover the mediating role of metacognitions and coping were assessed. The targeted population was hostelites living in twin cities. It was hypothesized that anxiety sensitivity was positively related with the anticipatory anxiety among the university hostelite students. Moreover, it was also assumed that the positive relationship will be mediated by metacognitions and coping. With the presence of high anxiety sensitivity, more negative metacognitions and negative coping strategies would be used by hostelites individuals.

The findings of the study showed that anxiety sensitivity has a significant positive correlation with anticipatory anxiety which implies that hostelites who were highly anxiety sensitive experienced increased levels of anticipatory anxiety. In one recent study that was conducted by Crasken (2023), it has been investigated that individuals with high anxiety sensitivity are more likely to suffer anticipatory anxiety, especially in situations when they anticipate feeling anxious. The relationship between these two variables are mostly driven by the bodily sensations and catastrophic misinterpretations. When individual shows attentional biases towards bodily sensations due to increase anxiety they misinterpret it and that leads towards anticipatory anxiety (Wheaton et al., 2018). It could be a possibility that all those university students who has been living in hostels for completion of their studies may have fear and uncertainties related to their work and future. It is when combined with anxiety sensitivity may manifest into higher anticipation anxiety.

The current study also indicate that metacognitive beliefs were significantly positively related with anxiety sensitivity which indicated that higher the anxiety sensitivity,

greater will be the chances to have metacognitive beliefs (both positive and negative). Anxiety in itself have the capacity to keep the individual concerned and worried about any situation. Having metacognitive beliefs in the presence of anxiety sensitivity indicates that the individual reevaluate the situation, may it be positive or negative. For instance, Fergus and Bardeen (2020) explained that the person with more negative metacognitions holds negative beliefs about the ability they have to control their anxiety (Fergus & Bardeen, 2020). Similarly, the positive correlation between anxiety sensitivity and positive metacognitive beliefs highlighted that these affirmative metacognitive beliefs may enhance the attention towards anxiety related sensations which may result in increased anxiety sensitivity (BMC Psychology, 2023). Moreover, it has also been indicated that anxiety sensitivity and anticipatory anxiety is significantly positively among all the groups (Semester 1, 4 and 8). Likewise, Metacognitions (all positive and negative) and negative coping such as, emotion-focused and avoidant-focused coping also found to have a significant positive correlation with anxiety sensitivity and anticipatory anxiety among different groups. Problem-focused coping is found to have non-significant and negative correlation with anxiety sensitivity and anticipatory anxiety.

Furthermore, as hypothesized, it was found that higher the anxiety sensitivity, greater will be the use of coping strategies among university hostilities. Use of negative coping strategies such as avoidant-focused and emotion-focused coping would increase with the increase of anxiety sensitivity which is supported by a study by Kraiss et al., (2020), who found that the people who use avoidant focused coping have more anxiety issues which leads them towards high anxiety sensitivity. The mechanism of this relation is cleared by another study stated that people who involves in managing emotions uses avoidance and suppression (which do not address the root cause) rather than solving their problems also tend to have high anxiety

sensitivity and also a poor mental health(Chacon et al., 2023). As individuals choose temporary and immediate relief in the form of avoidance and suppression, it might exacerbate the anxiety instead of completely coping with the anxiety.

It has been established that emotional disorders (anxiety, depression) are maintained by the catastrophic appraisal of negative thoughts. Wells and Matthews (1994) have explained that feelings provide metacognitive information to those who have been suffering from any psychological disorder. More explicitly, those who have any emotional problem may use the feelings based information to appraise a situation and hence plan the coping strategies accordingly. Referring to our results saying that higher anxiety sensitivity has been associated with greater use of metacognitive thoughts and coping mechanisms (avoidance and emotion focused), it could be a possibility that students living in university hostels may appraise any situation (threatening or anxious) on the basis of their feelings which further result into escalating anticipation of anxiety.

The current findings also indicated that negative beliefs about danger, cognitive confidence, cognitive self-consciousness, problem-focused and emotion-focused coping significantly predicted anticipation of anxiety. Moreover, the mediation analysis was carried out to examine the mediating role of metacognitions and coping in the relationship of anxiety sensitivity and anticipatory anxiety. The results revealed that metacognitions mediates the relationship between anxiety sensitivity and anticipatory anxiety. According to a recent study, individuals with high anxiety sensitivity tend to hold more negative metacognitions about their bodily sensations (such as, sweating and increased heart rate etc.) which results in increasing of anticipatory anxiety (Fergus & Bardeen, 2020).Coping strategies such as, problem-focused, emotion-focused and avoidant-focused coping also facilitate the relationship between anxiety

sensitivity and anticipatory anxiety. In support of this finding, a recent study indicated that individuals with high anxiety sensitivity uses more negative coping styles because they are not able to deal with their issues and bodily sensations effectively which tend to increase the anticipatory anxiety (Schmidt & Keough, 2020). Also, it can be assumed that highly anxiety sensitive people use problem-focused strategies as a safety behavior to overcome their anxiety. This coping strategy could be a proactive approach while dealing with performance activity. According to Clark and Wells model of social anxiety, individuals with social anxiety use multiple safety behaviors to maintain their anxiety in social situations. Although these techniques could help in the short run but ultimately these safety behaviors reinforce the individual's perception that they lack the ability to manage social situations without relying on them (Clark & Wells, 1995). Moreover, the strategy eliminate the possible threat thus reducing anxiety but repeated attempts and sustained efforts are required to deal with the threat. In this way it becomes a vicious cycle to continue with the negative metacognitions and negative coping mechanisms.

Conclusion

The relation between anxiety sensitivity and anticipation of anxiety is significant in terms of correlation. Similarly, all positive and negative metacognitions such as; positive worry beliefs, negative beliefs about danger, cognitive confidence, need for control, cognitive self-consciousness also have a significant positive relationship with anxiety sensitivity and anticipation of anxiety. Moreover negative coping strategies such as; emotion-focused coping and avoidant focused coping have a significant positive correlation with anxiety sensitivity and anticipation of anxiety but the positive coping strategy such as; problem-focused coping has a non-significant relationship with anxiety sensitivity and anticipation of anxiety.

Metacognitions such as; positive beliefs, cognitive confidence and need for control mediates the relationship between anxiety sensitivity and anticipation of anxiety. Similarly coping strategies such as; problem-focused, emotion-focused and avoidant-focused coping also mediates the relationship between anxiety sensitivity and anticipation of anxiety.

Furthermore, semester 8 students has higher level of cognitive self-consciousness. Similarly, 1stsemester students has more emotion-focused-coping and 4thsemester students has more avoidant-focused coping.

Limitations

This study faced some limitations in its process of conduction. Firstly, the study's cross-sectional design restricts the ability to determine the causal linkages between anticipatory anxiety, anxiety sensitivity, metacognitions, and coping. Studies with a longitudinal design would be required to prove causality and temporal precedent. Second, the sample may not be representative of the general community because it is restricted to hostelites with particular cultural and demographic backgrounds. This restricts the findings' applicability to other cultural contexts and groups. Thirdly, the accuracy of reported levels of anxiety sensitivity and coping techniques may be impacted by the use of self-report measures, which can introduce biases such social desirability. Furthermore, the study might not have taken into consideration other confounding factors that could have an impact on the associations revealed, like pre-existing mental health issues and academic stress. A more thorough understanding of the dynamics between anxiety sensitivity and anticipatory anxiety may be possible if other potential mediating or moderating variables, such as personality traits or environmental stressors were taken into consideration. This is particularly true even though the study emphasizes the role that coping and

metacognitions play as mediators. Therefore, by addressing these constraints, future research could increase the validity and use of the findings.

Additional research showing that anxiety sensitivity targeting therapies can successfully lower anticipatory anxiety lends credence to this conclusion (Norton & Philipp, 2008), which shows that if we treat anxiety sensitivity then it will cause a direct improvement in anticipatory anxiety. These results highlight the part anxiety sensitivity plays in increasing anticipatory anxiety in many contexts.

Future Recommendations

The results of this recent study showed some intriguing relationships, and there is no doubt that metacognitions and coping are related. However, more research is needed to establish causality and look into the long-term interactions between anxiety sensitivity, metacognitions, and coping mechanisms. Furthermore, a mixed-methods approach that incorporates both qualitative interviews and quantitative measurements may provide deeper insights into the unique experiences and cultural contexts that influence anxiety sensitivity and coping strategies. Understanding the dynamics at play may be improved by looking at additional potential moderators and mediators, such as personality traits, social support, and environmental stresses. Lastly, studies focusing on interventions may assess how well certain treatment strategies that target coping and metacognitions work to lower anxiety. These findings may have a direct impact on clinical procedures and support services offered in academic contexts. Addressing these areas in future research could significantly contribute to developing more effective, culturally sensitive interventions to support the mental health of university hostelites.

Implications

First of all, it draws attention to the necessity of providing mental health services in higher education to address anxiety sensitivity and how it affects anticipatory anxiety. Mental health practitioners can help students manage their anxiety more effectively by implementing techniques that change maladaptive metacognitive beliefs and strengthen useful coping mechanisms. Targeted workshops and support groups that teach stress management skills and encourage healthy coping mechanisms can be implemented by educational institutions to boost students' mental health and academic performance. Additionally, educating resident advisors and hostel staff to identify and support students who are experiencing high levels of anxiety can promote a more inclusive and friendly living environment. The research highlights the significance of creating culturally appropriate interventions for Pakistani students in order to lessen stigma and motivate them to seek assistance. These all-encompassing strategies can greatly improve the general well-being and academic achievement of college students residing in residence halls. Moreover, for further researches this study between unique combination of variables and among distinctive population can offer a clear direction and referral source to conduct their findings, as this combination of variables and this population is limited investigated in the past.

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Information of Participants

The purpose of the study is to examine the relationship between anxiety sensitivity and anticipatory anxiety with the mediating roles of metacognitions. Moreover it will be analyzed that which coping strategies would be implemented in coping with the anticipatory anxiety among university hostilities of Islamabad/Rawalpindi (currently enrolled in 1st, 4th and 8th semester).

In the planned study, different questionnaires will be used to analyze how anxiety sensitivity leads to anticipatory anxiety among the students and how they cope up with it. Moreover, different questions related to your personal information will be asked such as age, marital status, education etc. The information collected will not cause any psychological or physical harm to you. It will take around half an hour to fill the questionnaire.

Your valuable participation in this research along with provision of information will be helpful in understanding the phenomenon of anxiety and problems related to adjusting in a new place i.e., hostel. The data provided by you will be kept confidential. Moreover, it will be used only for scientific purposes.

If you have any question, you can ask from the researcher. We are thankful for your cooperation.

Ms. Maham Aslam

MS-CP-IV

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Consent Form

I, _____ confirm that the researcher (Ms. Maham Aslam) has informed me about the main aims and objectives of her research. The main purpose of this research is to examine the relationship of anxiety sensitivity and anticipatory anxiety along with the mediating roles of metacognitions and coping among students living in hostels of Islamabad/Rawalpindi.

This research is being supervised by Dr. Phil. Hina Ghafoor (Sr. Assistant professor, Bahria School of Professional Psychology, Bahria University, Islamabad). It has been clarified that the information obtained will be kept confidential and will be used only for educational and research purposes. Moreover, I can withdraw from this research without any reason. Therefore, after knowing all this, I give my consent to participate in the research.

Participant's Signatures

Researcher's Signatures

Demographic Variables

Gender: Male _____ / Female _____

Age: _____

Marital Status: Single _____ / Married _____ / divorced _____ / widower _____ / separated _____

Education Level: _____

Semester: _____

No. of Siblings: _____

Birth Order: _____

Religion: Muslim ----- Non-Muslim -----

Number of Family Members: _____

Number of Earning Members: _____

What is your Family System: Nuclear ----- Joint -----

Relationship among family members: Pleasant/ Normal/ Bad

Does someone in your family have a psychological problem: Yes/ No

If yes then what was his/her diagnosis: _____

Does someone in your family have a physical problem: Yes/ No

If yes then what was his/her diagnosis: _____

Area of living (before hostel life): Rural/ Urban

Socio-Economic status: Lower class/ Middle class / Upper class

Living in hostel: Yes/No

If yes, Private hostel _____ **or University Hostel** _____

Annexure

Questionnaire 1

Select the one that is similar to your situation.

	very little	a little	some	much	very much
1. It is important not to appear nervous.	0	1	2	3	4
2. When I cannot keep my mind on a task, I worry that I might be going crazy.	0	1	2	3	4
3. It scares me when I feel shaky.	0	1	2	3	4
4. It scares me when I feel faint.	0	1	2	3	4
5. It is important to me to stay in control of my emotions.	0	1	2	3	4
6. It scares me when I my heart beat rapidly.	0	1	2	3	4
7. It embarrasses me when my stomach growls.	0	1	2	3	4
8. It scares me when I am nauseous (sick stomach).	0	1	2	3	4
9. When I notice my heart beating rapidly, I worry that I might be having a heart attack.	0	1	2	3	4
10. It scares me when I become short of breath.	0	1	2	3	4
11. When my stomach is upset, I worry that I might be seriously ill.	0	1	2	3	4
12. It scares me when I am unable to keep my mind on a task.	0	1	2	3	4
13. Other people notice when I feel shaky.	0	1	2	3	4
14. Unusual body sensations scare me.	0	1	2	3	4
15. When I am nervous, I worry that I might be mentally ill.	0	1	2	3	4
16. It scares me when I am nervous.	0	1	2	3	4

Questionnaire 2

CHOOSE THE BEST OPTION AGAINST EACH ITEM.

		Do not agree	Agree slightly	Agree moderately	Agree very much
1	Worrying helps me to avoid problems in the future	1	2	3	4
2	My worrying is dangerous for me	1	2	3	4
3	I have difficulty knowing if I have actually done something or just imagined it.	1	2	3	4
4	I think a lot about my thoughts	1	2	3	4
5	I could make myself sick with worrying	1	2	3	4
6	I am aware of the way my mind works when I am thinking through a problem	1	2	3	4
7	If I did not control a worrying thought, and then it happened, it would be my fault.	1	2	3	4
8	If I let my worrying thoughts get out of control, they will end up controlling me	1	2	3	4
9	I need to worry in order to remain organized.	1	2	3	4
10	I have little confidence in my memory for words and names	1	2	3	4
11	My worrying thoughts persist, no matter how I try to stop them.	1	2	3	4
12	Worrying helps me to get things sorted out in my mind	1	2	3	4

		Do not agree	Agree slightly	Agree moderately	Agree very much
13	I cannot ignore my worrying thoughts.	1	2	3	4
14	I monitor my thoughts	1	2	3	4
15	I should be in control of my thoughts all of the time.	1	2	3	4
16	My memory can mislead me at times	1	2	3	4
17	I could be punished for not having certain thoughts	1	2	3	4
18	My worrying could make me go mad	1	2	3	4
19	If I do not stop my worrying thoughts, they could come true....	1	2	3	4
20	I rarely question my thoughts	1	2	3	4
21	Worrying puts my body under a lot of stress	1	2	3	4
22	Worrying helps me to avoid disastrous situations	1	2	3	4
23	I am constantly aware of my thinking	1	2	3	4
24	I have a poor memory	1	2	3	4
25	I pay close attention to the way my mind works	1	2	3	4
26	People who do not worry, have no depth	1	2	3	4
27	Worrying helps me cope	1	2	3	4
28	I imagine having not done things and then doubt my memory for doing them.	1	2	3	4
29	Not being able to control my thoughts is a sign of weakness	1	2	3	4
30	If I did not worry, I would make more mistakes	1	2	3	

		Do not agree	Agree slightly	Agree moderately	Agree very much
31	I find it difficult to control my thoughts	1	2	3	4
32	Worrying is a sign of a good person	1	2	3	4
33	Worrying thoughts enter my head against my will	1	2	3	
34	If I could not control my thoughts I would go crazy	1	2	3	4
35	I will lose out in life if I do not worry	1	2	3	4
36	When I start worrying I cannot stop	1	2	3	4
37	Some thoughts will always need to be controlled	1	2	3	4
38	I need to worry, in order to get things done.	1	2	3	4
39	I will be punished for not controlling certain thoughts	1	2	3	4
40	My thoughts interfere with my concentration	1	2	3	4
41	It is alright to let my thoughts roam free	1	2	3	4
42	I worry about my thoughts.	1	2	3	4
43	I am easily distracted.	1	2	3	4
44	My worrying thoughts are not productive.	1	2	3	4
45	Worry can stop me from seeing a situation clearly	1	2	3	4
46	Worrying helps me to solve problems.	1	2	3	4
47	I have little confidence in my memory for places	1	2	3	4
48	My worrying thoughts are uncontrollable.	1	2	3	4
49	It is bad to think certain thoughts.	1	2	3	4
50	If I do not control my thoughts, I may end up embarrassing myself	1	2	3	4

		Do not agree	Agree slightly	Agree moderately	Agree very much
51	I do not trust my memory	1	2	3	4
52	I do my clearest thinking when I am worrying	1	2	3	4
53	My worrying thoughts appear automatically	1	2	3	4
54	I would be selfish if I never worried	1	2	3	4
55	If I could not control my thoughts, I would not be able to function	1	2	3	4
56	I need to worry, in order to work well.	1	2	3	4
57	I have little confidence in my memory for actions	1	2	3	4
58	I have difficulty keeping my mind focused on one thing for a long time	1	2	3	4
59	If a bad thing happens which I have not worried about, I feel responsible	1	2	3	4
60	It would not be normal, if I did not worry	1	2	3	4
61	I constantly examine my thoughts	1	2	3	4
62	If I stopped worrying, I would become glib, arrogant and offensive	1	2	3	4
63	Worrying helps me to plan the future more effectively	1	2	3	4
64	I would be a stronger person if I could worry less	1	2	3	4
65	It would be stupid and complacent not to worry	1	2	3	4

Questionnaire 3

Kindly read the below statement and mark accordingly.

		I haven't been doing this at all	I've been doing this a little	I've been doing this a medium amount	I've been doing this a lot
1	I've been turning to work or other activities to take my mind off things.	1	2	3	4
2	I've been concentrating my efforts on doing something about the situation I'm in.	1	2	3	4
3	I've been saying to myself "this isn't real."	1	2	3	4
4	I've been using addictive behaviors or substances to make myself feel better.	1	2	3	4
5	I've been getting emotional support from others.	1	2	3	4
6	I've been giving up trying to deal with it.	1	2	3	4
7	I've been taking action to try to make the situation better.	1	2	3	4
8	I've been refusing to believe that it has happened.	1		3	4
9	I've been saying things to let my unpleasant feelings escape.	1	2	3	4
10	I've been getting help and advice from other people.	1	2	3	4

		I haven't been doing this at all	I've been doing this a little	I've been doing this a medium amount	I've been doing this a lot
11	I've been using alcohol or other drugs to help me get through it.	1	2	3	4
12	I've been trying to see it in a different light, to make it seem more positive.	1	2	3	4
13	I've been criticizing myself.	1	2	3	4
14	I've been trying to come up with a strategy about what to do.	1	2	3	4
15	I've been getting comfort and understanding from someone.	1	2	3	4
16	I've been giving up the attempt to cope.	1	2	3	4
17	I've been looking for something good in what is happening.	1	2	3	4
18	I've been making jokes about it.	1	2	3	4
19	I've been doing something to think about it less, such as going to movies, watching TV, reading, day dreaming, sleeping or shopping.	1	2	3	4
20	I've been accepting the reality of the fact that it has happened.	1	2	3	4
21	I've been expressing my negative feelings.	1	2	3	
22	I've been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4

		I haven't been doing this at all	I've been doing this a little	I've been doing this a medium amount	I've been doing this a lot
23	I've been trying to get advice or help from other people about what to do.	1	2	3	4
24	I've been learning to live with it.	1	2	3	4
25	I've been thinking hard about what steps to take.	1	2	3	
26	I've been blaming myself for things that happened.	1	2	3	4
27	I've been praying or meditating.	1	2	3	4
28	I've been making fun of the situation.	1	2	3	4

Questionnaire 4

		Never	Sometimes	Most of the time	Always
1	I think about similar situations in which I have failed in the past	1	2	3	4
2	I try to think of everything that could happen	1	2	3	4
3	I imagine the worst that could happen	1	2	3	4
4	I go over in detail what might happen	1	2	3	4
5	I try to picture how I will appear to others	1	2	3	4
6	I try to plan what I am going to say	1	2	3	4
7	I rehearse conversations in my mind	1	2	3	4
8	I remind myself of things I should not do	1	2		4
9	I think about ways in which I could put things right if I make a fool of myself	1	2	3	4
10	I think about ways in which I could avoid having to face the situation	1	2	3	4
11	I think about ways in which I could escape from the situation if it gets too embarrassing	1	2	3	4
12	In make a conscious effort not to think about the situation.	1	2	3	4