Research Paper

Exploring the Relationship between State, Trait Anger and Anxiety in Anxiety Disorders

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ABSTRACT

The purpose of this research was to explore the relationship between state-trait anger and anxiety in anxiety disorders. Anxiety was measured using State-Trait Anxiety Inventory (Spielberger, Gorscush & Laushane, 1970; Hindi translation) and anger was measured using State-Trait Anger Expression Inventory-2 (Saini & Sovani, 2008; Hindi translation), in 35 (21 female) participants diagnosed with an anxiety disorder. The sample consisted of patients with GAD (40%), OCD (48.57%) and social anxiety (11.43%). Data analysis included t test and spearman's correlation. Significant associations were found between (1) state anxiety and state anger; (2) trait anxiety and trait anger; and (3) anxiety (state and trait) and anger suppression. No gender differences were found in the experience of anger and anxiety. Results are discussed along with strengths and limitations of the study and some future recommendation.

Keywords: *State Anger, Trait Anger, Anxiety Disorders, Relationship*

Anger is an emotion that is both frequent and universal. People of all ages, backgrounds and cultures experience it. Although the concept of anger is presumed to be simple and understood by all, when viewed critically, it has complex causes, manifestations and consequences (DiGiuseppe & Tafrate, 2007). Sometimes it is short-lived, moderate in intensity, and, perhaps, even helpful. Other times, it can be persistent, severe, and highly disruptive. Overt anger can lead to negative evaluations by others, a negative self-concept, low self-esteem, interpersonal and family conflict, verbal and physical assault, property destruction, and occupational maladjustment (Kassinove, 2013). Various negative physical, interpersonal and social consequences associated with intense and frequent anger experiences have been recognized throughout the history of philosophy and psychology by scholars and practitioners (DiGiuseppe & Tafrate, 2007).

In addition to links with aggression and violence, intense anger has been associated with other negative behavioural and medical problems such as aversive verbal responding (Tafrate, Kassinove, & Dundin, 2002), disruption of interpersonal and workplace relationships (Tafrate & Kassinove, 2002), poor decision making and increased risk taking

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(Kassinove, Roth, Owens, & Fuller, 2002), substance use (Awalt et al., 1997), and long-term health problems such as cardiovascular heart disease (Williams et al., 2000), stroke (Everson et al., 1999) and cancer (Butow et al., 2000).

The stage for our understanding of anger, its control and the major debates that remain was set in the second century through the work of Aristotle, Seneca and Plutarch (Schimmel, 1979). Anger was defined by these early writers as *"a strong emotion or passion provoked when people suffer or perceive that they suffer a pain, slight, or injury that motivates the desire for vengeance or direct actions to punish or gain restitution from the offender."* While Seneca and Plutarch advised people to *"avoid anger at all costs,"* Aristotle may have been the first to suggest anger management. Many ideas and techniques of cognitive behavioural therapies were also first suggested by this ancient trio (DiGiuseppe & Tafrate, 2007).

Bright (1586) and Burton (1621), two early physicians who wrote about anger, proposed that anger was a sub condition of melancholia (now considered mood disorders) (Hunter & Macalpine, 1963). At the beginning of twentieth century, both Kraeplin and Freud considered anger to be a part of melancholia. One of the first people to identify anger as a form of psychopathology was John Nowname in his 1609 *Treatise on Anger*.

Darwin's (1872/1965) evolutionary theory of emotions was one of the many works that offered an explanation of anger and also remains the basis of much work in the area today. Through this theory, he linked the emotion of anger to the expressive behaviours labelled as aggressive. *"...Since one of the greatest minds in Western science made the connection between anger and aggression, most assumed that the two constructs were always linked and this conclusion was readily accepted."*

Freud (1920), a major influential theorist at that time, expanded on the presupposed biological relationship between anger and aggression portraying anger as a weak expression of aggressive drive and behaviour. He also proposed the notion that all humans possess an aggression instinct or drive. Behaviourists, during most of the twentieth century, failed to distinguish between anger and aggression and considered anger a covert, diminished response of aggression (DiGiuseppe & Tafrate, 2007).

Anger was not considered an independent, clinical emotional construct and has been subsumed under the general rubric of *"aggression"* (Rothenberg, 1971). Perhaps the conceptualization of anger as an emotional response that can interfere with the functioning has been prevented by this linkage between anger and aggression. In the twentieth century, as a strictly clinical concept, anger has been excluded in psychiatry and abnormal and clinical psychology. Early works of Kraeplin and Freud defined hostility as a part of melancholia and depression. However, their *"views were interpreted by most clinicians as relegating anger to the status of a secondary emotion, part of depression."* Because these two were major figures in abnormal psychology during that time, their idea that anger was part of depression was given more importance and still remains unchallenged.

Although clinical sciences have ignored anger and considered it a secondary emotion, modern emotion theorists such as Ekman (1984), Izard (1977), Johnson-Laird and Oats (1989), etc, consider anger as a basic human emotion (DiGiuseppe & Tafrate, 2007).

Anger is an emotion that has been deprived of its rightful importance in understanding human behaviour (DiGiuseppe & Tafrate, 2007). Clinically, it is well known that anger is commonly

encountered in the office of practitioners (Lachmund & DiGiuseppe, 1997). However, it is rarely regarded as a debilitating emotion to the same extent as anxiety and depression. Of the negative emotions, anger has not received much attention in research literature or in clinical practice.

With regards to the definition of anger, there is much confusion. It has often been confused with related constructs such as hostility and aggression. Because they often co-occur, Spielberger suggested that they are all components of an anger, hostility and aggression (AHA) syndrome. He has made many contributions to the analysis of anger. Spielberger (1999) refers to anger as a *"psychobiological emotional state or condition that consists of feelings that vary in intensity from mild irritation or annoyance to intense fury and rage, accompanied by activation of neuroendocrine processes and arousal of the autonomic nervous system."* His model refers to anger as experienced subjective feelings and bodily arousal. Hostility refers to experienced feelings and bodily arousal and behaviour, and aggression refers to negative attitudes and behaviour. These definitions, with so much overlap, do not provide a clear picture (Feindler, 2006). However, in the book *Anger-Related Disorders: A Practitioner's Guide to Comparative Treatments* edited by Feindler (2006), in order to understand the targets of treatment the following definitions seems to be the best to use:

> *"Anger refers to an experienced negative feeling state that varies in intensity (labelled from annoyance, through anger, and then to fury) and duration (fleeting states to enduring grudges). It may occur frequently or infrequently and is associated with negative images and thoughts about the trigger, cognitive misinterpretations, and desires to warn, intimidate, control, attack, or gain retribution. Angry states may or may not be associated with physiological and motor reactions."*
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> *"Hostility refers to a set of negative attitudes that set the stage for anger and aggression. Such attitudes or cognitive sets will often lead to increase in anger."*
> *"Aggression refers to gross motor behaviour, with an accompanying intent to harm. Aggression that follows anger is typically labelled as emotional aggression, whereas aggression that occurs in the relative absence of anger is labelled as instrumental aggression...Anger may appear in the absence of aggression, and aggression may appear in the absence of anger."*

One of the most important ideas in the psychology of emotions has been Spielberger's (1972a) distinction between emotional states and traits. States are individual episodes of an emotion, whereas trait refers to the tendency to experience that emotion frequently and intensely. Spielberger (1988) applied this distinction to anger and developed a measure to assess anger as both state and trait. Trait anger would therefore be defined as the *"propensity to experience intense states of anger frequently."* State of anger is elicited by many stimuli (DiGiuseppe & Tafrate, 2007).

Anxiety and Its Disorders
Fear is a normal, healthy part of the human experience. It is an appropriate response to threats, challenges and potential loss. Every day fear encourages us to study harder for tests, reminds us to get college application on time, and makes us take reasonable safety precautions. When fear is excessive, out of proportion to the threats, and causes excessive worry about future events that are not likely to happen, the result is anxiety (Hyman & Pedrick, 2012). Anxiety, fear and panic have helped us to survive by mobilizing us to respond to and defend ourselves against threats. When seen in this light, anxiety is a gift, the presence

of which can enhance our ability to not only survive, but thrive on this planet. However, when anxiety crops up at inopportune times, it can also be a hindrance (Daitch, 2011). As a diffuse state of mood, anxiety has been considered to be an unpleasant affective experience marked by a significant degree of apprehensiveness about the potential appearance of future aversive or harmful events (Barlow & Cerny, 1988).When anxiety persists and interferes with daily life, an anxiety disorder may be diagnosed (Hyman & Pedrick, 2012). However, anxiety can also refer to a symptom of underlying general medical condition such as the nervousness and apprehension of hyperthyroidism, or a substance-induced symptom experienced from ingesting substances such as excessive caffeine. Withdrawal from substances such as alcohol and other drugs can also cause anxiety symptoms. It is, therefore, very important for the practitioners to rule out underlying organic causes of anxiety (Vanin & Helsley, 2008).

The topic of anxiety has captured the attention of clinical psychologists, psychiatrists and the lay public worldwide. Although anxiety was first recognized in the writings of Hippocrates, it was only about 40 years ago that interest in this topic began to surge. Among many possible influences was Wolpe's 1958 classic book, *Psychotherapy by Reciprocal Inhibition*. He essentially challenged the professional community to develop and apply efficacious treatments for anxiety, based upon experimentally derived laboratory paradigms (DiTomasso & Gosch, 2002).

Latin Stoic philosophical writings, such as the treatises of Cicero and Seneca, prefigure many modern views concerning the clinical features and the cognitive treatment of anxiety. In the Tusculan Disputations (TD), Cicero offers a clinical description of the various abnormal affects and also makes an interesting distinction between *anxietas* that designates trait anxiety or the fact of being prone to anxiousness, and *angor* that refers to state anxiety or current anxiety (Crocq, 2015). This anticipates the works of Cattell and Schleier, who are often credited with having introduced the terms "state" and "trait" anxiety (Cattell & Schleier, 1960).

Greek and Latin literature indicate means to identify pathological anxiety and to free oneself from its effects. Seneca (4 BC to 65 AD), another Stoic philosopher, taught his contemporaries how to achieve freedom from anxiety in his book *Of Peace of Mind.* According to Seneca, fear of death is the main cognition preventing us from enjoying a carefree life. This thought anticipates the future developments by Kierkegaard, Heidegger, and existentialist philosophers about the fundamental anxiety caused by man's realization that his existence is finite. One way to escape from the clutch of anxiety is to devote one's attention to the present instead of worrying about the future. Today, this focus on the present moment is one of the key objectives in techniques such as mindfulness meditation. Epicureans, a competing philosophical school, offered similar advice about the means to get rid of anxiety.

Between classical antiquity and modem psychiatry, there was an interval of centuries when the concept of anxiety as an illness seems to have disappeared from written records. Patients with anxiety did exist, but they were diagnosed with other diagnostic terms.

In 1621, Robert Burton published his treatise *The Anatomy of Melancholy.* At that time, the meaning of melancholia was not limited to depression but encompassed anxiety. In the 18th century, medical authors published clinical descriptions of panic attacks, but they did not label them as a separate illness. Rather, symptoms of panic attacks were often considered to be symptoms of melancholia. In the first significant French medical nosology, the disorder

mainly concerned with anxiety was *Panophobia,* defined as a panic terror, a fright that is experienced at night in the absence of any obvious cause. The first form of panophobia is little more than nocturnal terror. However, other subtypes of panophobia are reminiscent of modem anxiety disorders.

In the late 19th and early 20th century, anxiety was a key component of various new diagnostic categories, from neurasthenia to neuroses. George Miller Beard, the first successful American author in the field of psychiatry, first described neurasthenia in 1869. Neurasthenia had a long life: it survived by being retained as a category in *ICD-10.* Sigmund Freud and Emil Kraepelin were contemporaries, both born in 1856. Pierre Janet was born 3 years later, in 1859. Janet developed the idea that anxious manifestations could be triggered by "subconscious" fixed ideas. He coined the term "psychasthenia" for what was supposed to be one of the two major neuroses, along with hysteria. Freud separated anxiety neurosis from neurasthenia. He coined many of the terms that are used today for various anxiety disorders, even though these terms have by now largely shaken off their psychoanalytical connotations. A major contribution of Kraepelin was his description of the possible presence of significant anxiety in manic-depressive illness, in a way that anticipates the "anxious distress" specifier for bipolar disorders that appeared in *DSM-5.* One of the criteria for the anxious distress specifier in *DSM-5* is the feeling that the individual might lose control of him- or herself, and a note in *DSM-5* states that high levels of anxiety have been associated with higher suicide risks. Major contributions of *DSM-5* in this area are (i) a grouping of the anxiety disorders into three spectra (anxiety, OCD, and trauma- and stressor-related disorders) based on the sharing of common features, and (ii) the grouping of developmentally connected disorders in the same chapters (Crocq, 2015).

According to American Psychiatric Association (APA; 2013), fear occurs in the presence of perceived imminent threat but anxiety results from the anticipation of future threat. Anxiety can be broken down into state anxiety and trait anxiety. Although similar features (e.g., muscle tension, increased heart rate) characterize state and trait anxiety, state anxiety is experienced in the moment, whereas trait anxiety refers to the general disposition to experience state anxiety (Spielberger et al., 1983).

Pathological fear and anxiety are the defining features of the anxiety disorders (APA, 2013), which include social anxiety disorder (SAD), specific phobias, panic disorder (PD), and GAD, and until recently also included obsessive compulsive disorder (OCD) and post-traumatic stress disorder (PTSD; APA, 2000). The anxiety disorders share the common characteristics of excessive fear or anxiety, but differ in the nature of the fear or anxiety-provoking stimulus and associated symptoms. For instance, PD is associated with fear of arousal-related bodily sensations, SAD with fear of social situations and negative evaluation, specific phobias with fears about specific animals, objects or situations, OCD with anxiety triggered by intrusive thoughts or images and their respective situational cues, PTSD with anxiety triggered by the memories of a traumatic event, and GAD with anxiety triggered by the possibility of negative future events (Abramowitz, Deacon, & Whiteside, 2011; APA, 2013).

ANGER AND ANXIETY DISORDERS: A REVIEW

Anger and anxiety, both has been conceptualized as state (state anxiety; state anger) and trait (trait anxiety; trait anger). DSM 5 includes a variety of disorders for excessive anxiety and until recently also included Obsessive Compulsive Disorder (OCD) and Post Traumatic Stress Disorder (PTSD). However, it does not include many diagnostic categories for

excessive anger. In terms of literature, there is less empirical research on anger than anxiety and little empirical research examining the co-occurrence of both anger and anxiety. The prevalence (weighted percent) of neurotic or stress related disorders (according to the National Mental Health Survey of India, 2015-16), is 3.5 percent. Neurosis and stress related disorders were also reported to be higher among females (nearly twice as much as males) and commonly encountered in primary care settings where they are usually missed or misdiagnosed. Common mental disorders (CMDs), including depression, anxiety disorders and substance use disorders are a huge burden affecting nearly 10.0% of the population (NIMHANS, 2016).

When discussing anger, it is important to distinguish between feeling anger and expressing anger. Indeed, these two aspects of anger are not always concordant. Some may experience intense anger but never express it, whereas others express anger (verbally or physically) whenever they experience it. Both of these patterns can have negative ramifications for the individual, and there is evidence that different anxiety disorders may have different patterns of anger experience and expression (Moscovitch et al., 2008).

Frequent anger outbursts have been reported in more than half of a sample of individuals with anxiety disorders (Lee & Cameron, 1986). Gould et al. (1996) found that anger attacks were not unique to panic disorders, with similar rates for patients with other anxiety disorders. Furthermore, patients with depressive diagnoses had twice the prevalence of anger attacks than did anxiety patients.

Internalized anger, followed by lack of anger control, was found to play an important role in predicting both depressive and anxious symptoms (Bridewell & Chang, 1997). Elevated levels of anger and hostility, the cognitive component of anger, have also been reported in individuals with different anxiety disorders, including PD (Moscovitch et al., 2008), OCD (Moscovitch et al., 2008; Radomsky, Ashbaugh, & Gelfand, 2007), and SAD (Erwin et al., 2003; Moscovitch et al., 2008).

Baker et al. (2004) found that patients with Panic Disorder with or without agoraphobia demonstrated increased frequency and intensity of anger experience relative to controls, as well as increased control and decreased expression of emotional experiences (i.e., "bottling up of feelings"). Similarly, Whiteside and Abramowitz (2005) found increased levels of anger in patients with OCD as compared to control participants. However, these differences could be attributed to between-group differences in general distress. Along the same vein, Moscovitch et al. (2008) also found that patients with OCD, SAD and Panic Disorder experience higher levels of anger than non anxious controls and that people with Panic Disorder are more likely than people with OCD to lose their temper and express anger aggressively.

Of the anxiety disorders, PTSD and GAD include certain components of anger as part of their diagnostic criteria. Specifically, PTSD includes irritability or outbursts of anger as diagnostic symptoms (APA, 2013); consequently, several studies and meta-analyses suggest that anger is elevated and problematic in individuals with PTSD (e.g., Hawkins & Cougle, 2011; Meffert et al., 2008; Novaco, 2010; Olatunji et al., 2010; Orth et al., 2008; Orth & Wieland 2006). Olatunji et al. (2010), in their meta-analysis, compared anger across anxiety disorders and found that anger was significantly associated with all anxiety disorders except SAD and SP, and it was more highly associated with PTSD than other anxiety disorders.

In a series of studies by Deschenes et al. (2014), GAD analogues (individuals who meet diagnostic criteria for GAD) reported higher levels of trait anger, anger suppression and hostility than less anxious participants. Participants in the anger condition experienced a greater increase in negative interpretive style and in the belief that uncertainty is unfair and spoils everything, relative to people in the control condition. This finding is consistent with previous research and suggests that when individuals are angry, their interpretive style resembles that of anxious individuals. Their study also focuses on cognitive mechanisms behind anger and anxiety. On the basis of review, Owen (2011) found evidence that high trait anger is associated with selective attention to hostile cues, the tendency to interpret the behaviour of others as indicating potential hostility and the tendency to ruminate over past anger-provoking experiences.

In accordance with Lazarus's (1991) theory of emotion (that cognitions influence emotional responses), Clark and Beck (2010) propose that biases in interpretive processing (i.e. consistently negative regardless of the event) are involved in the development and maintenance of anxiety disorders. Using this explanation, Deschenes et al. (2014) also found that individuals with GAD not only interpret ambiguous situations as threatening, but also interpret ambiguous intent as hostile.

Versella et al. (2015), in an investigation sought to empirically define anger profiles among individuals with Social Anxiety Disorder (SAD), found four distinct anger profiles revealing heterogeneity in anger experience and expression across classes of individuals with SAD and differential association with indices of distress and impairment. Despite high levels of anger experience, individuals with SAD have also been shown to suppress the expression of anger more frequently than their non-anxious peers (Erwin et al., 2003; Moscovitch et al., 2008). Their angry response may be related to the perception that rejection is an obstacle to belonging. However, in a study by Butler et al. (2003), suppression alone disrupted communication and magnified blood pressure responses in the suppressors' partners. It also reduced rapport and inhibited relationship formation.

Supporting the emerging literature, Hawkins & Cougle (2011) found unique relationships between multiple anxiety disorders and various indices of anger experience and expression that are not better accounted for by psychiatric co-morbidity. Contrary to this research, Moscovitch et al. (2008) reported that anger experience in the anxiety disorders is related primarily to symptoms of depression.

Findings by Versella et al. (2015) suggest that assessing anger experience and expression in SAD may help improve diagnostic assessment and may prove useful in treatment planning.

In a study by Carre et al. (2012), trait anxiety was positively correlated with trait anger in their sample of 103 participants($r = 0.44, P < 0.05$).They reported the novel finding that individual differences in trait anger are positively correlated with bilateral dorsal amygdala reactivity to angry facial expressions, but only among men with high trait anxiety scores.

Review of Indian literature

In a literature review by Trivedi and Gupta (2010), status of anxiety disorder research from India in relation to epidemiology, phenomenology, course, outcome and management have been found to be lacking. Most of the research that is found is done by tertiary centers involving limited sample which may not provide the real picture. Indian studies on the co-occurrence of anger and anxiety are next to none.

Painuly et al. (2011) found that anger attacks were associated with more anxiety, irritability and poorer quality of life. Frequency of anger attacks had a positive correlation with depression, irritability and aggression and a negative correlation with education, income and quality of life. In another study by Painuly et al. in the same year, anger attacks were found to be present in half (21) of the patients with OCD and they correlated with the presence of co-morbid depression. Individuals with anger attacks had significantly higher prevalence of panic attacks and co-morbid depression and exhibited aggressive acts towards spouse, parents, children and other relatives in the form of yelling and threatening to hurt, trying to hurt and threatening to leave.

To summarize, previous research suggests a relationship between anxiety disorders and anger problems. Elevated levels of anger and hostility (the cognitive component of anger), have been reported in individuals with different anxiety disorders. There is heterogeneity in the experience and expression of anger across the various forms of anxiety disorders. However, there is limited research on the relation between specific dimensions of anger and forms of anxiety disorders. Is there any relationship between state-trait anger and state-trait anxiety? Do patients with anxiety disorder suppress or express their anger? Is there any difference in the experience and expression of anger in males and females suffering from an anxiety disorder? The present study sought to explore the relationship between and co-occurrence of anger and anxiety among patients clinically diagnosed with an anxiety disorder (as per DSM 5 or ICD-10 criteria).

Objective
- The purpose of the current research was to explore the relationship between state and trait anger and anxiety in anxiety disorder patients.

Hypotheses
1. There will be gender differences within anger (state and trait) and anxiety (state and trait) scores.
2. There will be a positive correlation between state anger and state anxiety.
3. There will be a positive correlation between trait anxiety and trait anger.
4. There will be a positive correlation between anxiety (state and trait) and anger suppression.
5. There will be a negative correlation between anxiety (state and trait) and anger expression.
6. There will be a negative correlation between anxiety (state and trait) and outward anger control (i.e. controlling the expression of anger towards other persons/objects in the environment).

METHODOLOGY
Design
This was an ex post facto correlational research as the variables under study were not manipulated but were studied, as they existed in the target population. When it is not practical or ethical to apply a true experimental, or even a quasi-experimental design, ex post factor research is used as a substitute to test hypotheses about cause-and- effect or correlational relationships. Ex post facto literally means *from what is done afterwards*. In the context of social and educational research, the phrase means 'retrospectively.' Ex post facto research can be viewed as an experimental research in reverse. Cohen, Manion, and Morrison (2000) noted that instead of taking groups that are equivalent and subjecting them to different treatments to determine differences in the dependent variables, an ex post facto experiment

begins with groups that are already different in some respect and searches in retrospect for factors that brought about those differences. Thus, a non- experimental research design is transformed into a pseudo-experimental study through ex post facto research. Ex post facto research, then, is a method of testing out possible antecedents of events that have happened but cannot, be manipulated or controlled by the researcher. Researcher can only report what has happened or what is happening, by trying to hold factors constant by careful attention to sampling. Hence, the researcher is in the realms of probabilistic causation, inferring causes tentatively rather than being able to demonstrate causality unequivocally (Cohen, Manion & Morrison, 2013).

Participants

The ethical considerations were reviewed and written permission was sought from hospitals before recruiting the participants for the study. Informed consent was taken from all the participants. In all, 43 patients having diagnostic impression of an anxiety disorder were contacted. The sampling technique was purposive due to the nature of the sample. There were missing data for 8 participants. The final sample comprised of 35 patients who had been clinically diagnosed with an anxiety disorder. The mean age of the patients was 36.28 years with standard deviation of 11.89. Of the 35 respondents, 21 were female (60%). Patients who attended the outpatient facility of Shanti Home, a Private Psychiatric Practice, Perfect Mind Clinic, Columbia Asia Hospital and IHBAS in Delhi NCR region, during the period of 31 March 2017 to 26 April 2017 and during 1-15 July 2017 were approached to participate in the study. Although the hospitals were located in Delhi NCR, the patients came from several different geographical areas. The sample consisted of patients with generalized anxiety disorder (40%), OCD (48.57%) and social anxiety (11.43%).

Exclusion criteria

Individuals who had any other primary psychiatric diagnosis, brain injury, terminal medical condition or any serious medical condition, minors and individuals above 60 years of age, decisionally impaired, and not having knowledge of either Hindi or English as a primary language.

Measures

The measures used in this study include the Demographic Profile Sheet, structured questionnaires of State-Trait Anxiety Inventory (Spielberger, Gorscush & Laushane, 1970; Hindi translation) which included 40 items and the Hindi translation of State-Trait Anger Expression Inventory-2 (Saini & Sovani, 2008) which included 57 items.

1. **Demographic Profile Sheet.** A Demographic Profile Sheet was created to gather important background details of the participants excluding name and contact information so as to assure them of confidentiality of their responses. It allows one to study the nature of the population and make sense of the results (APPENDIX A).
2. **The State-Trait Anxiety Inventory (STAI; Spielberger, Gorscush & Laushane, 1970)** is comprised of separate self-report scales for measuring two distinct anxiety concepts: state anxiety (A-state) and trait anxiety (A-Trait). It has been found useful in measurement of anxiety in junior and senior high school students, and in neuropsychiatric, medical, and surgical patients. The original version of STAI was developed by Spielberger, Gorscush and Laushane in 1970. The STAI has more than 50 language version all over the world and therefore is an excellent tool for research on anxiety across cultures. In this study, state and trait anxiety was measured using the Hindi version of Form X of STAI translated with the help of Hindi Professors as

per the guidelines of the International Test Commission (International Test Commission, 2010).

The STAI A-Trait scale consists of 20 statements that ask people to describe how they *generally* feel. The A-State scale also consists of 20 statements, but the instructions require participants to indicate how they feel *at a particular moment* in time. The participants rate themselves on a 4-point Likert scale. The range of possible scores for Form X of STAI varies from a minimum score of 20 to a maximum score of 80 on both A-Trait and A-State subscales (APPENDIX B).

Test-retest correlations (STAI FORM X; English) for the A-Trait scale were reasonably high, ranging from .73 to .86 while those for A-State scale were relatively low, ranging from .16 to .54, with a median r of only .32 for the six subgroups. Alpha coefficients ranged from .83 to .92 for A-State and from .86 to .92 for A-Trait scale. Thus, the internal consistency of both STAI subscales is reasonably good. Evidence of concurrent validity of STAI is presented in the manual.

Correlation between Hindi and English A-Trait scale was .88 and A-State scale was .85. High test-retest correlation for Hindi STAI A-State and A-Trait scales attested the reliability of both the scales. For A-State scale, correlations were consistently lower varying from .37 to .66 over a period of 30 and 90 days. In contrast, the Hindi STAI A-Trait scale was stable over time as indicated by high test-retest correlation for this scale which ranged from .77 to .83 over the same period of days and these correlations were comparable with the English STAI A-Trait scale.

3. **The State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999).** Aspects of anger were measured with STAXI-2. The State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988) has been revised and expanded from 44 to 57 items on the basis of extensive research over the past 10 years. The new version, STAXI-2 is designed to provide easily administered and objectively scored measures of the experience, expression and control of anger for adolescents and adults. Norms by gender for both normal adults and psychiatric patients is available. Alpha coefficient measures of internal consistency were uniformly high across all scales and subscales (.84 or higher, median r = .88). Therefore, the internal consistency reliabilities of the scales and subscales are satisfactory and were not influenced by either gender or psychopathology. Alpha coefficient for AX Index, ranging from .75 to .82 indicated satisfactory internal consistency for this measure, which is based on scores of the anger expression and control scales rather than computed directly from item ratings. Evidence for concurrent, convergent and divergent validity is provided in the manual.

The revised 57-item STAXI-2 consists of six scales, five subscales and an Anger Expression Index, which provides an overall measure of expression and control of anger. The component of anger assessed by each STAXI-2 scale and subscale and the number of items and range of scores for these measures are reported in Table 1 (APPENDIX C).

In this study, the Hindi version of STAXI-2 (Saini & Sovani, 2008) was used to measure the different aspects of anger.

Procedure

Questionnaires including the State-Trait Anxiety Inventory (Spielberger, Gorscush & Laushane, 1970; Hindi translation) and State-trait Anger Expression Inventory-2 (Spielberger, 1999; Hindi translation) were used to measure anger and anxiety. The measures used in this study were not readily available in Hindi language. Since neither the author nor the publisher responded to the request for the Hindi version of STAI, it was translated in Hindi language with the help of language experts (Hindi Professors of Gargi College, Delhi University) and International Test Commission (2010). However, after trying hard to contact authors of the Hindi version of STAXI-2 without any luck, we were fortunately able to connect with Psychological Assessment Resources (PAR, USA) who provided us the Hindi translation of STAXI-2 complete with the manual and the permission to use it on a sample of 30. A form including the socio-demographic details (minus any contact details), STAI (Hindi) and STAXI-2 (Hindi) was created. Data was collected at more than one facility under supervision of a professional in the field. Data was collected in a single session from one individual.

The psychiatrist/psychologist asked the consent of the clients diagnosed with any form of anxiety disorder for becoming a participant in the study. Thereafter, the clients were briefed about the study and asked to follow the instructions given and in some cases, were explained to them by the author. Data was collected individually, as and when the clients visited the facility and consented to become a participant. Scoring was done manually and thereafter compiled in an excel sheet.

Data Analyses

The data collection and scoring was done manually. The analysis was done with the help of Excel, SPSS version 23 (IBM, 2015) and VassarStats (Lowry, 1998). The compiled data was on an ordinal scale, therefore, Spearman's correlation was used to measure the relationship between the two ordinal variables that are related, but not linearly. t test was done to measure gender differences within the scales. To calculate the effect size, Cohen's *d* was used. Cohen's *d* is a standardized effect size that is used to measure the practical significance of the results obtained on comparing two variables. The common practice in interpreting effect sizes is to use the benchmarks for *small (0.2)*, *medium (0.5)* and *large (0.8)* effects offered by Cohen (1988).

RESULT

Table 1 gives the demographic distribution of the sample. Table 2 shows the means of all the various subscales across gender.

Table 1. Demographic characteristics of study participants (n = 35)

Variables	Value
Gender	
Female	60%
Male	40%
Marital Status	
Married	71.4%
Unmarried	28.5%
Family Type	
Nuclear	45.7%
Joint	54.2%
Age	
Mean	36.28
SD	11.89
Range	18-60

Variables	Value
Religion	
Hindu	91.4%
Others	8.5%
Occupation	
Housewife	31.4%
Business	17.1%
Service	25.7%
Other	25.8%
Diagnosis	
GAD	40%
OCD	48.57%
Social Anxiety	11.43%

Note. GAD = Generalized Anxiety Disorder; OCD = Obsessive Compulsive Disorder

To test hypothesis 1 that, *"There will be gender differences in anger (state and trait) and anxiety scores,"* t test was conducted between males and females within each scale/subscale (See Table 2). No significant difference was found. Therefore, this hypothesis is *not accepted.*

Table 2. Means, SDs and t-test values for gender differences

Scales/ Subscales	Females (n = 21)		Males		
	M	SD	M	SD	t test
A-State	54.48	12.94	49.50	14.04	1.08
A-Trait	59.33	10.68	53.28	12.16	1.55
S-Ang	24.24	11.07	20.07	8.45	1.19
T-Ang	20.57	6.57	20.50	8.50	0.03
AX-O	16.19	4.47	14.78	4.96	0.87
AX-I	15.09	3.37	15	3.78	0.08
AC-O	19.71	3.93	20.57	4.16	-0.62
AC-I	20.05	3.87	19	4.42	0.74
AX Index	39.52	11.61	38.21	12.84	0.31

Note. A-State = State-Trait Anxiety Inventory – State Scale; A-Trait = State-Trait Anxiety Inventory –Trait Scale; S-ANG = State-Trait Anger Expression Inventory II – State Scale; T-ANG = State-Trait Anger Expression Inventory II – Trait Scale; AX-O = State-Trait Anger Expression Inventory II – Anger Expression-Out subscale; AX-I = State-Trait Anger Expression Inventory II – Anger Expression-In subscale; AC-O = State-Trait Anger Expression Inventory II – Anger Control-Out subscale; AC-I = State-Trait Anger Expression Inventory II – Anger Control-In subscale; AX Index = State-Trait Anger Expression Inventory II – Anger Expression Index

Table 3. Descriptive Statistics, (Spearman) Correlations between the STAXI-2 and STAI (n=30) and Cohen's d (in the bracket)

| Subscales	1	2	3	4	5	6	7	8	9
1. A-State	-								
2. A-Trait	.63*** (1.62)	-							
3. S-Ang	.77*** (2.41)	.50** (1.15)	-						
4. T-Ang	.20	.39* (.84)	.36*	-					
5. AX-O	.28	.31	.50**	.67***	-				

Subscales	1	2	3	4	5	6	7	8	9
	(.58)	(.65)							
6. AX-I	.43* (.95)	.40* (.87)	.58***	.52**	.62***	-			
7. AC-O	-.17 (-.34)	-.24 (-.49)	-.19	-.55**	-.49**	-.28	-		
8 AC-I	.03	-.09	.03	-.16	-.09	.006	.65***	-	
9 AX Index	.33	.34*	.42*	.67***	.79***	.63***	-.85***	-.55**	-
M	52.49	56.91	22.57	20.54	15.63	15.06	20.06	19.63	39
SD	13.41	11.52	10.18	7.28	4.66	3.48	3.98	4.06	11.95
Range	25-74	34-74	15-49	10-38	9-28	9-22	11-29	8-28	18-70
Standard Error	2.26	1.94	1.72	1.23	0.78	0.58	0.67	0.68	2.02

$*p < .05.$ $**p < .01.$ $***p < .001.$ $d=$ Cohen's effect size

Note. STAI = State-Trait Anxiety Inventory; A-State = State-Trait Anxiety Inventory – State Scale; A-Trait = State-Trait Anxiety Inventory –Trait Scale; STAXI-2 = State-Trait Anger Expression Inventory, second edition; S-ANG = State-Trait Anger Expression Inventory II – State Scale; T-ANG = State-Trait Anger Expression Inventory II – Trait Scale; AX-O = State-Trait Anger Expression Inventory II – Anger Expression-Out subscale; AX-I = State-Trait Anger Expression Inventory II – Anger Expression-In subscale; AC-O = State-Trait Anger Expression Inventory II – Anger Control-Out subscale; AC-I = State-Trait Anger Expression Inventory II – Anger Control-In subscale; AX Index = State-Trait Anger Expression Inventory II – Anger Expression Index
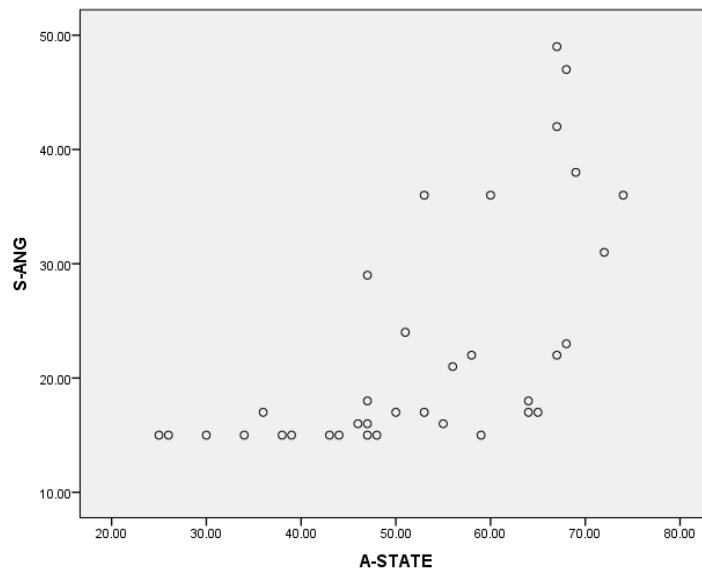
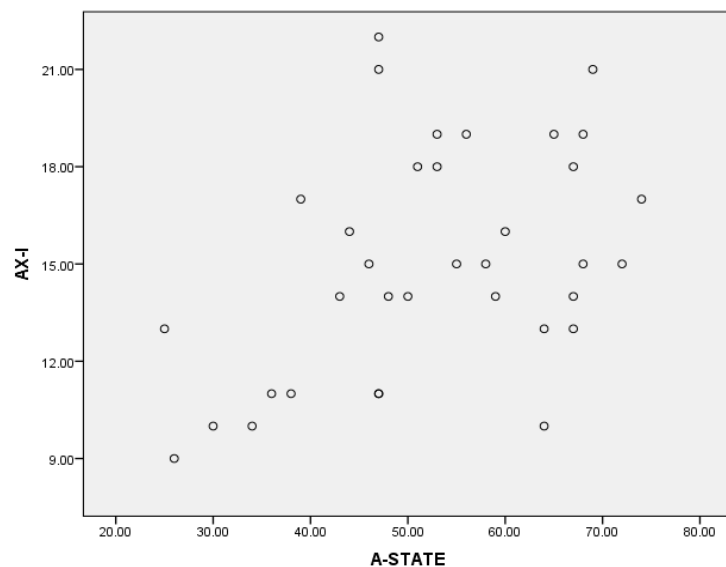*Figure 1. Scatterplot showing the relationship between state anxiety and state anger.*

A Spearman correlation coefficient was computed to assess the relationship between State anxiety and State anger. According to Table 3, the correlation between A-State (State Anxiety) and S-Ang (State Anger) was 0.77 with a p-value which was much less than 0.001. A scatterplot summarizes the result (Figure 1). Overall, there was a strong positive correlation between the two. Thus, it can be inferred that the *hypothesis 2,* that *"There will be a positive correlation between state anxiety and state anger."* is *accepted.* Further, Cohen's effect size value ($d=2.41$) suggested high practical significance.
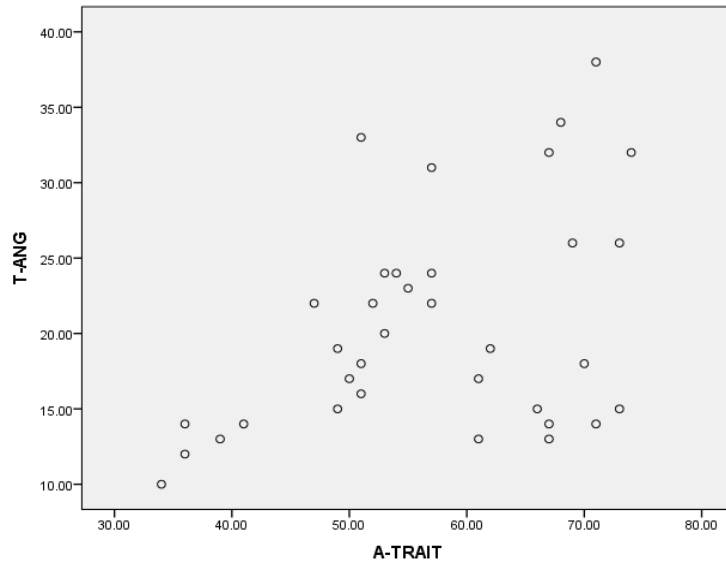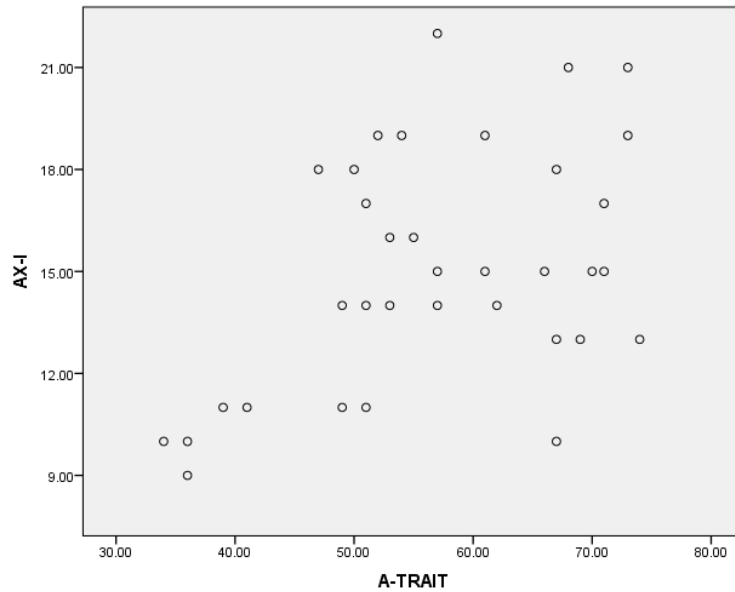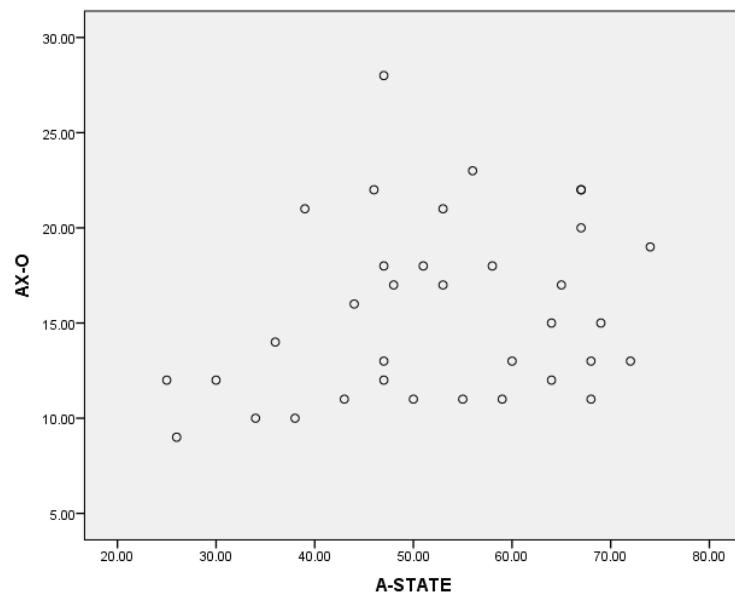
Figure 2. Scatterplot showing relationship between trait anxiety and trait anger

According to Table 3, the correlation between A-Trait (Trait Anxiety) and T-Ang (Trait Anger) was 0.39 with a p-value which was less than 0.05. A scatterplot summarizes the result (Figure 2). Overall, there was a low positive correlation between the trait anxiety and trait anger. Thus, it can be inferred that the *hypothesis 3*, that *"There will be a positive correlation between trait anxiety and trait anger."* is *accepted.* Further, Cohen's effect size value (*d=0.*84) suggested high practical significance.

Figure 3. Scatterplot showing the relationship between AX-I and State Anxiety.

Figure 4. Scatterplot showing the correlation between AX-I and Trait Anxiety.

According to Table 3, a significant moderate positive correlation was found between A-State and AX-I (r = .43, p < 0.05, *d* = 0.95) and between A-Trait and AX-I (r = .40, p < 0.05, *d* = 0.87). Figure 3 and Figure 4 summarized the results for this hypothesis. The hypothesis 4, that *"There will be a positive correlation between anxiety and anger suppression."* is, therefore, *accepted.* Cohen's effect size values suggested high practical significance.

Figure 5. Scatterplot showing the relation between AX-O and State Anxiety
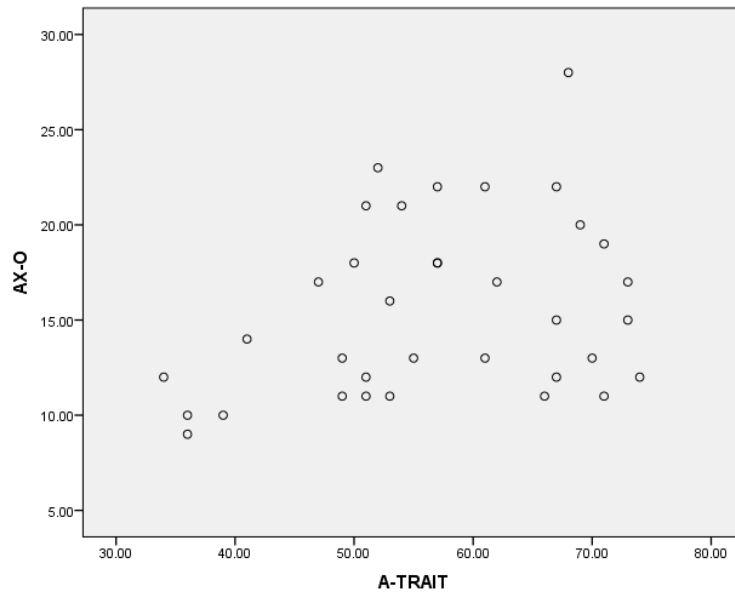
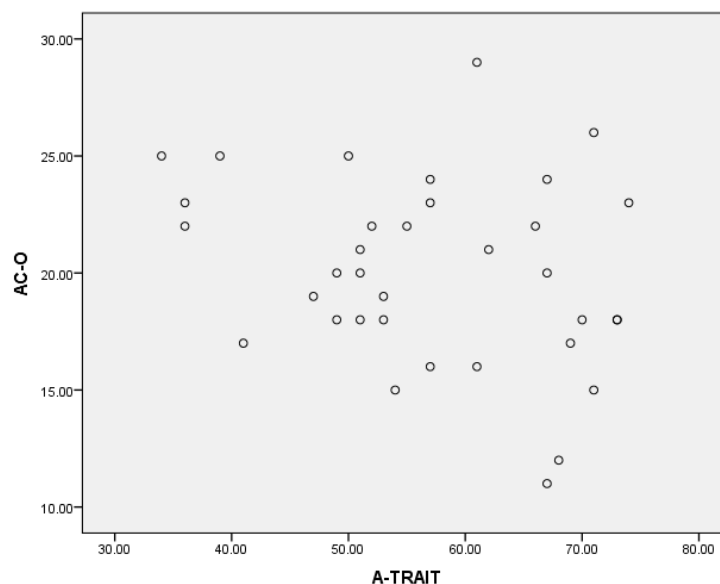*Figure 6. Scatterplot showing the relation between AX-O and Trait Anxiety*

There does not exist a significant correlation (See Table 3) between A-State and AX-O (r = .28) and between A-Trait and AX-O (r = .31). The results are summarized in figure 5 and Figure 6. Hypothesis 5, that *"There will be a negative correlation between anxiety and anger expression,"* is, therefore, *not accepted.*
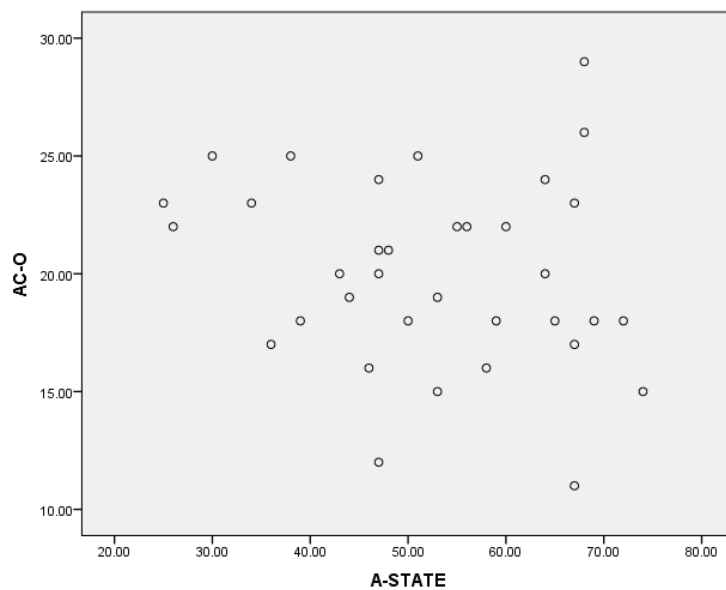
Figure 7.Scatterplot showing the relation between AC-O and State Anxiety

Figure 8.Scatterplot showing the relation between AC-O and Trait Anxiety

According to Table 3, no significant correlations were found between A-State and AC-O and between A-Trait and AC-O. The hypothesis 6, that *"There will be a negative correlation between anxiety and outward anger control (i.e. controlling the expression of anger towards other persons/objects in the environment)."* is, therefore, *not accepted*.

The obtained sample mean of Trait anger for females (M=20.57, SD = 6.57) is higher than the normative mean for female psychiatric patients (M=19.79, SD=6.23), although the difference between sample and normative means is not statistically significant.

According to Table 3, it can also been seen that there is a significantly moderate positive correlation between state anger and trait anxiety (r = .50, p < .01, d=1.15). Cohen's effect size suggests a high practical significance of this relationship. State anxiety and Trait anxiety have a significant moderate positive correlation (r = .63, d=1.62) with a p value less than 0.001. Cohen's d suggests a high practical significance of this relationship.

DISCUSSION

The objective of the study is to explore the relationship between state and trait anger and anxiety in anxiety disorder patients. To assess anger and anxiety in patients with anxiety disorder, a demographic profile sheet, Hindi translations of State-Trait Anxiety Inventory and State-Trait Anger Expression Inventory-2 were used. After successfully obtaining a sample of 35 patients using purposive sampling technique, the scales were scored and the data compiled manually. Excel, VassarStats and SPSS version 23 were used for application of statistical techniques and creation of tables and graphs. Spearman's correlation, t test and Cohen's d were calculated. Since 91.4% of the sample comes from the same religious background, the sample is also high in homogeneity.

The first hypothesis predicts gender differences within anger (state and trait) and anxiety scores. However, no significant difference was found. Contrary to the findings in this study, researchers have found that gender socialization can affect how men and women handle their anger. Psychologist Sandra Thomas, a leading researcher in women's anger who has also begun studying men's experiences with anger says, *"Men have been encouraged to be more*

overt with their anger. If [boys] have a conflict on the playground, they act it out with their fists. Girls have been encouraged to keep their anger down" (Thomas, 1993). In the normative group, males (normal as well as psychiatric patients) have lower *AC-I* scores than females. These findings are consistent with gender expectations that males are less likely to control their suppressed anger by reducing its intensity (Spielberger, 1999). Although, there exists small gender differences in state anxiety, trait anxiety and within other aspects of anger, the differences were not found to be statistically significant in this study. Therefore, the hypothesis is *not accepted.* There is a need for further research in this regard.

The second hypothesis predicts a positive correlation between state anxiety and state anger. It is *supported*, with highly significant and strong positive correlation between the two. Cohen's *d* suggested a high practical significance which means that the strength of the relationship between state anger and state anxiety is practically high. Both state anger and state anxiety scales measure the experience of anger or anxiety at the present moment and cannot be used to predict general or future behaviour. This hypothesis, however, was not developed on the basis of any research or theory since there is a lack of both in this regard. The novelty in this finding is that there is clinical significance in the co-occurrence of state anger and state anxiety in patients suffering from an anxiety disorder. If the presence of state anger in a patient of anxiety disorder becomes known to the therapist, s/he can and should take the presence of anger into account and change/plan the session/treatment accordingly. Although significant, state anger and anxiety scales would yield more useful results in a controlled study in which the circumstances of administration are same for the entire sample. Future research in this area can look into whether knowing the presence of anger with anxiety and altering the treatment strategies can lead to a more effective treatment of anxiety disorders.

The third hypothesis predicts a positive correlation between trait anxiety and trait anger. Trait anxiety and trait anger scales measure how often a person experiences anxiety and anger respectively, over time. A significant positive correlation was found between trait anxiety and trait anger in patients with an anxiety disorder, leading to the *acceptance* of this hypothesis. Support for this finding comes from the study by Carre et al. (2012) in which trait anxiety was positively correlated with trait anger in a sample of 103 participants ($r = 0.44$, $P < 0.05$). Further, Cohen's *d* suggested a high practical significance emphasizing the strength (high) of the relationship between trait anger and trait anxiety. Therefore, the clinical importance of this finding can be inferred.

"When people are anxious for an extended period of time, they may not be sleeping well, eating right, or enjoying the activities that help them stay calm and happy. As a result, they may be particularly sensitive to small problems that normally wouldn't make them angry," says anxiety specialist Jerilyn Ross in her book *One Less Thing to Worry About* (Ross, 2009). Although causation is outside the scope of this study, future researcher can design studies to establish causation between anxiety and anger.

The fourth hypothesis predicts a positive correlation between state anxiety and anger suppression and between trait anxiety and anger suppression. A significant moderate positive correlation was found between both state anxiety and anger suppression and between trait anxiety and anger suppression, leading to the *acceptance* of the hypothesis. Further, Cohen's effect size suggested a high practical significance of the relationship between state-trait anxiety and anger suppression.

The two aspects of anger, feeling anger and expressing anger, are not always concordant. Some may experience intense anger but never express it, whereas others express anger

(verbally or physically) whenever they experience it. Both of these patterns can have negative ramifications for the individual, and there is evidence that different anxiety disorders may have different patterns of anger experience and expression (Moscovitch et al., 2008). For example, studies by Erwin et al. (2003) and Moscovitch et al. (2008) revealed that despite high levels of anger experience, individuals with Social Anxiety Disorder suppress the expression of anger more frequently than their non-anxious peers. Baker et al. (2004) found that patients with Panic Disorder with or without agoraphobia demonstrated decreased expression of emotional experiences (i.e., "bottling up of feelings") despite increased frequency and intensity of anger experience relative to controls. In a series of studies by Deschenes et al. (2014), GAD analogues (individuals who meet diagnostic criteria for GAD) reported higher levels of trait anger, anger suppression and hostility than less anxious participants. Therefore, this finding is consistent with previous research and suggests that individuals with anxiety disorder are more likely to suppress their anger.

Michael Cohen, a hypnotherapist, in his book *The Power of Accepting Yourself* talks about anxiety caused by suppression of emotions. People may suppress their emotions due to various reasons. Sometimes people hold back their emotions out of fear, and this can then lead them to feel anxious. One common belief is: *"In order to be accepted, I have to be liked and get along with everyone all the time."* Another related self-defeating belief is: *"I must be happy and cheerful all the time."* To achieve these unrealistic expectations, a person will try to please others, often ignoring their own feelings and needs. They also avoid conflict at all costs for fear of upsetting other people. Rather than express these feelings, they suppress them. However, powerful emotions such as anger often find a way of being expressed indirectly as anxiety and panic (Cohen, 2011). As Turk et al. (2005) also observed, *"If persons with social anxiety disorder are angry at how they are being treated but do not show their anger, they decrease their likelihood of receiving either reparations or better treatment in the future."*

There is also evidence that points to the negative consequences of anger suppression. Results in a study by Quartana & Burns (2007) suggest that attempts to suppress anger may amplify pain sensitivity by ironically augmenting perception of the irritating and frustrating qualities of pain. A study by Butler et al. (2003) also found that suppression reduced rapport and inhibited relationship formation.

The fifth hypothesis predicts negative correlation between anxiety (state and trait) and anger expression. The correlations between state anxiety and outward anger expression and between trait anxiety and outward anger expression were not found to be significant. Therefore, it is *rejected*. However, there is evidence that different anxiety disorders may have different patterns of anger experience and expression (Moscovitch et al., 2008). Frequent anger outbursts have been reported in more than half of a sample of individuals with anxiety disorders (Lee & Cameron, 1986). Gould et al. (1996) found that anger attacks were not unique to panic disorders, with similar rates for patients with other anxiety disorders. Support for a positive association between anxiety and anger expression also comes from an Indian research of Painuly et al.(2011) in which anger attacks were found to be present in half of the patients with OCD and they correlated with the presence of co-morbid depression. Individuals with anger attacks had significantly higher prevalence of panic attacks and co-morbid depression and exhibited aggressive acts towards significant others. Although most research studies suggest decrease in anger expression despite increased anger experience, they do not support the fact that there would be a total lack of anger expression in patients with an anxiety disorder. The rejection of this hypothesis can also be attributed to the fact that

the patients in this study were at different levels of treatment. It is possible that treatment has led to an increase in emotional expression including anger. However, this speculation may be disregarded in light of the moderate to high Cohen's effect size between state-trait anxiety and anger expression. The effect size leads us to infer a moderate to highly strong relationship between state-trait anxiety and anger expression in the practical sense.

The sixth hypothesis predicts a negative correlation between anxiety (state and trait) and outward anger control (i.e. controlling the expression of anger towards other persons/objects in the environment). A significant relationship between anxiety and outward anger control (AC-O) was not found. Therefore, this hypothesis is *not accepted*. Contrary to this finding, Erdem and colleagues (2008) reported that anger control (i.e. self-regulation of anger) was greater in the less anxious individuals than in those with GAD. Previous research findings also suggest emotional dysregulation in patients with an anxiety disorder. There is a lack of research in the area of anger control in anxiety disorders and therefore, it needs more theoretical support and future consideration.

Researches in the past have suggested a relationship between anxiety disorders and anger problems. Although, a cause-and-effect relationship has not been found, the co-occurrence of anger and anxiety in anxiety disorders has been established. Olatunji et al. (2010), in their meta-analysis, compared anger across anxiety disorders and found that anger was significantly associated with all anxiety disorders except SAD and SP, and it was more highly associated with PTSD than other anxiety disorders. Supporting the emerging literature, Hawkins & Cougle (2011) found unique relationships between multiple anxiety disorders and various indices of anger experience and expression that are not better accounted for by psychiatric co-morbidity. Researches contrary to the literature that supports the co-occurrence of anger and anxiety also exist. For example, Moscovitch et al. (2008) reported that anger experience in the anxiety disorders is related primarily to symptoms of depression. In support to the existing literature, the results of the current study suggest a co-occurrence of anger and anxiety in patients diagnosed with an anxiety disorder. Not only are the results statistically significant, moderate to high practical significance has also been found. Specifically, a significantly high positive association between state anger and state anxiety and a significantly moderate positive association between trait anger and trait anxiety has been found, reiterating the possibility of co-occurrence of anger and anxiety in patients suffering from an anxiety disorder. Owen (2011) has found evidence that high trait anger is associated with selective attention to hostile cues. Clark and Beck (2010) propose that biases in interpretive processing (i.e. consistently negative regardless of the event) are involved in the development and maintenance of anxiety disorders. Therefore, significant positive association between trait anger and trait anxiety in anxiety disorders reveal that they can not only occur together but can also lead to the maintenance of anxiety disorders because as Deschenes et al. (2014) reported, when individuals are angry, their interpretive style resembles that of anxious individuals. Undoubtedly, state anxiety and trait anxiety have also been found to be significantly associated. The correlation between the STAI A-State and A-Trait scales depend on the type and amount of stress that characterize the conditions under which the A-State scale is given. In general, larger correlations are obtained between state anxiety and trait anxiety scales under conditions that invoke stress. Therefore, moderate association between the two in this study suggest that state anxiety scale was administered under some conditions of stress that were not controlled by the author. Unexpectedly, a significant moderate positive relation was found between state anger and trait anxiety. As noted by Jerilyn Ross (2009), an anxiety specialist, when people are anxious for an extended period of time, they may become particularly sensitive to small problems that normally would

not make them angry. A strong and practically significant relationship was also found between state anger and trait anxiety in patients diagnosed with an anxiety disorder.

Evidence from previous researches also suggests that different anxiety disorders may have different patterns of anger experience and expression. The results of the current study are consistent with previous findings that individuals with an anxiety disorder are more likely to suppress their anger. This anger response may be related to the perception that rejection is an obstacle to belonging. Not only does suppression of emotions lead to poor relationship formation (Butler et al., 2003) and amplified pain sensitivity (Quartana & Burns, 2007), it can also reduce the effectiveness of treatment (Turk et al., 2005).

No significant differences were found between males and females in state-trait anxiety, state-trait anger and other indices of anger. It is not suggested that men and women do not differ in the experience or expression of anger, for they certainly may which is why there is a need for more research in this regard.

On the whole, patients diagnosed with an anxiety disorder were found to experience anger along with anxiety both as a general disposition (trait) as well as in particular situations (state). They were also more likely to suppress their anger than express it in a verbally or physically aggressive manner. No significant gender differences were found. However, individual differences need to be kept in mind while understanding these findings.

Strengths and Limitations
This research addresses a gap in research that has been largely untouched in India. Hindi translations of the measures were used to increase the reliability and applicability of the scales and the research findings in the Indian context. High levels of confidentiality and anonymity were maintained. There was no incentive for participation. The sample is by and large homogenous. An important part of this research is reporting of the standarized effect size for greater practical significance of the finding.

A possible caveat to empirically investigating anger is the lack of a consistent definition of anger and its related constructs (Eckhardt et al., 2004). There is currently little agreement on definitions for the dimensions of anger, and this likely affects the development of self-report anger assessments. Thus, the reliance on such self-report measures in the present study is a limitation. Future studies could improve on this by using multi-method assessments of anger. A clinical sample is not easy to procure. Obtaining a representative clinical sample is next to impossible due to lack of any form of list of diagnosed patients suffering from a mental illness in a particular geographical area or in India as a whole. The results of this study cannot be generalized due to lack of a representative sample. The sample includes participants at various levels of treatment. In retrospect, including only those participants who had been recently diagnosed and were in early stages of their treatment would have revealed more significant results. The author also could not control for psychiatric comorbidity due to the nature of the sample.

Future Recommendations
There is a lack of a theoretical basis for the relationship between anger and anxiety in the literature. Formation of a theoretical model was far from the scope of the present study. However, given the significant relationship we found between anger and anxiety, there is a high possibility and even requirement for a theoretical model on the interaction and relationship between anger and anxiety, especially among patients suffering from anxiety

disorders. It may also be imperative to know how anger plays a role in various forms of anxiety disorders and how this relationship can be best understood and used to the patient's advantage during therapy. Not only that, it may also be helpful to know how and to what extent this relationship may interfere with psychotherapy. With the help of such a model, professionals would be better able to deal with not only the issues presented in anxiety disorders but also the overt or covert anger that may also be present in the patient. A theoretical ground would also provide fertile soil for the development or combination of appropriate interventions for the patients.

Future studies should look into the limitations of the present study before proceeding with data collection. Future researchers can use measures that give an overall anger and anxiety score, so that a holistic picture of their relationship can be provided. A similar study can be conducted between patients at different levels of treatment or at a particular level of treatment. They can also look into controlling co-morbidity, if at all possible.

There is evidence that different anxiety disorders may have different patterns of anger experience and expression (Moscovitch et al., 2008). However, there is a dearth of such researches in the Indian context. Therefore, researchers interested in this area can also compare the different anxiety disorders and study the pattern of anger and anxiety. Anger is not only limited to anxiety disorders, it can also be studied in relation to other disorders. Another line of studies can focus on studying how anger can be dealt with in the practitioner's office when it co-occurs with anxiety and how the presence of anger (along with a disorder)can be used in a constructive manner to help the person move towards a faster recovery.

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