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FACULTY OF SOCIAL AND HUMAN SCIENCES

School of Psychology

**Cognitive Biases in Social Anxiety
A Cross - Cultural Investigation**

By

Ghada Abdullah Al-Khodair

Thesis for the degree of Doctor of Philosophy

April 2014

"O mankind! We created you from a single (pair) of a male and a female, and made you into nations and tribes, that ye may know each other"

The Holy Quran
Surah al-Hujurat (49:13)

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<u>Abstract</u>

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COGNITIVE BIASES IN SOCIAL ANXIETY- A CROSS-
CULTURAL INVESTIGATION

By Ghada Abdullah Al-Khodair

Social anxiety disorder is defined as fear of others' negative evaluation, and is directly associated with social norms and others' social expectations. In order to fully understand the maintenance of social anxiety as outline by cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997), the role of culture must be examined.

The current thesis examines social anxiety, social anxiety cognitive biases, fear of negative evaluation (FNE), fear of positive evaluation (FPE), post- event processing (PEP) and negative interpretation bias (NIB) with two culturally different groups of participants: British participants assumed to be individualists and Saudi Arabian participants, assumed to be collectivists.

Study 1 constitutes the translation of the research questionnaires from English into Arabic language using Vallerand's (1989) Cross-Cultural Translation Methodology. The results suggested that all the research instruments were psychometrically appropriate for application in the remaining three experiments.

Study 2 explored social anxiety across groups, the underlying premise being that social anxiety will occur in collectivistic cultures and not individualistic because collectivist cultures are those where strict social norms are expected. Three findings from **Study 2** revealed that the British group had higher levels of social anxiety than the Saudi group but that no significant differences were observed between groups in collectivism and individualism. This evidence suggests that, irrespective of culture, social anxiety is more likely to be found in groups with high level of individualism.

Studies 3 and **4** examined differences in social anxiety cognitive biases across groups. In **Study 3** the prediction was that FNE, FPE and PEP, not depression would be significant predictors of social anxiety. The result revealed that these three cognitive elements significantly predicted social anxiety and contributed to the maintenance of the disorder for the British group. For the Saudi group, only FNE significantly predicted this disorder. **Study 4** was designed to investigate if NIB mediates the relationship between social anxiety and culture. The results provided more evidence for the role of negative interpretation bias regarding the British group but were inconclusive for the Saudi group. However, **Study 4** support the content specificity for the interpretation bias to be more related to the social situations rather non- social situations.

The current findings provide evidence explaining for the maintenance of social anxiety and that culture has plays a role in this continuance.

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DECLARATION OF AUTHORSHIP

I, Ghada Abdullah Al-Khodair declare that the thesis entitled: **Cognitive Biases in Social Anxiety- A Cross - cultural Investigation**, and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University;

- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

- Where I have consulted the published work of others, this is always clearly attributed;

- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;

- I have acknowledged all main sources of help.

- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

- None of this work has been published before submission.

Signed: ……………………

Date: …………………...

Acknowledgment

Thanks are due first to **Allah.** Without your unlimited help and generous enlightenment this work could not have been accomplished.

This thesis is dedicated to the soul of my Dad, may Allah forgive him and grant him the highest place in paradise. I want to express my sincere love to my family: my **Mom** for her warm heart, her prayers and patience and my **Sisters and Brothers** for their unlimited love, compassion, care and encouragement. Their kindheartedness has made this work easier and possible.

I would like to express my sincere appreciation to my supervisors as this project would not have developed or been achievable without their assistance. To **Dr. Nick Maguire**, his advice and explicit support have had the greatest impact on my personal academic development. His depth of thought and acceptance, his belief in responsibility and independence has been invaluable. To **Dr. Lusia Stopa** for her valuable and insightful suggestions especially when my mind was screaming: " I don't want to work any more! Leave me alone!"

Thanks are also due to all my lovely **friends** who spice up my life and have helped pave the way to success. My warmest thanks go to my lovely friend **Afaf Al-ktheery** who shared the ups and downs of this thesis with me and who brings fun and enjoyment into my life.

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I want to express my thanks for every moment I spent in the **UK.** Being in a different culture and meeting people from many different cultures was a great gift. This 'people experience' is one of the wonderful open books that I have ever read in my life. My warm thanks are also offered for the **Trees**, **Birds**, **Rain** and **Green colour** around us**,** as **Nature** has always been my greatest and wisest **Guru**.

Finally, this modest work has with no doubt some errors to be expected in the course of any human endeavour! For these I do apologize and promise to use this work – errors included - as a stepping-stone for future work.

Warmest regards to you all…

Ghada …

Chapter 1
Cognitive Biases in Social Anxiety and Culture: a Theoretical Review

"What would it be like to have not only colour vision, but culture
vision? The ability to see the multiple worlds of others?"

Mary Bateson (1995, p.53)

1. Introduction: general overview and goal of the thesis

Social anxiety is classified as an intense fear of social performance as described in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, text revision (DSM-IV-TR) (American Psychiatric Association, 2000). This disorder is one of the most prevalent among all anxiety disorders. Lifetime prevalence rates are 12% (Pilling, Mayo-Wilson, Mavranezouli, Kew, Taylor, & Clark, 2013) a substantial 6.65% occurring in Europe, ranging from 3.9 to13.7% of the population affected by the condition (Fehm, Pelissolo, Furmark, & Wittchen, 2005). Individuals with social anxiety disorders experience undue fear of speaking or interacting in public in a way that will cause them embarrassment or humiliation. This makes them more likely to avoid putting themselves at risk of scrutiny by others or by unfamiliar people (APA, 2000). This results in persistent anxiety because of the threat of exposure to the feared situation (APA, 2000).

With this context, it is necessary to draw attention to the criteria for social anxiety according to the new publication of the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (2013). Despite the fact that there have not been many changes to the criteria for social anxiety disorder in this publication, some critical reviews are available. In a new review, which refers to social anxiety disorders as defined by the DSM-5, Heimberg and his colleagues (2014) review a number of points bearing in mind the changes that have been made to re-define social anxiety disorder.

Five areas were examined as necessary to consider in order to re-define social anxiety. These are: 1) the name of the disorder, 2) fear of negative evaluation as a key element used in diagnosis, 3) the role of cultural context, 4) diagnosis of the disorder in the context of a medical condition (i.e., obesity and facial disfigurement), conditions which may influence diagnosis 5) and the 'specifier' issue, which refers to variations in the presentation of social anxiety disorders.

In this explanation, focus is on the first three points presented by Heimberg et al. (2014) as they are related to the context of this project. Regarding the first, with the publication of DSM-5, 'social anxiety disorder' has become the primary name for the condition – a shift from

when this was only used as an alternative name in DSM-IV. This move, making social anxiety the primary name: "…more strongly conveys the sense of pervasiveness and impairment than social phobia" (Heimberg et al., 2014, p. 3). This move has increased an awareness of the disorder for both clinicians in terms of diagnosis and treatment, and clients in terms of their concerns about suffering from social anxiety disorders. Secondly, in DSM-IV, social anxiety was defined as: "…the individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing" (DSM-IV, 2000, p.215). This definition has been changed to: "…the individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others" (DSM-5, 2013, p. 202). It is obvious from the definition of social anxiety in DSM-5 that including fear of negative evaluation creates the possibility of further developing the understanding of social anxiety in comparison to the limited definition presented in the DSM-IV, which was restricted to humiliation and embarrassment that could be absent in some situations. Finally, in the DSM-5, one of the criteria of social anxiety is that: "…the fear or anxiety is out of proportion to the actual threat posed by the social situation and the sociocultural context" (DSM-5, 2013, p. 203). The criterion here emphasizes the notion that consideration of cultural context is needed when diagnosing social anxiety. This means that social anxiety must be evaluated in light of the individual's sociocultural context as some emotional responses will evaluated as an appropriate response according to cultural context, and will not be diagnosed as a mental disorder or require any intervention as we will describe through this work. These changes to the definition of social anxiety disorders have important empirical and clinical implications, which may allow an increase in awareness of them.

Recently, much thought has been given to the factors suggested to fuel the persistence of social anxiety (i.e., cognitive models of social anxiety, Clark & Wells, 1995 and Rapee & Heimberg, 1997). Broadly speaking, these investigations suggest that starting with unrealistic assumptions about social standards and social expectations, socially anxious individuals, in the midst of social situations, observe themselves negatively because of the negative assumptions that they hold about themselves; they overestimate the negative outcomes of social interactions and view themselves as inadequate when facing or engaging in any social event (Hofmann, 2007). Such models provide a detailed understanding of the cognitive factors that underlie social anxiety. However, although attention has been paid to social anxiety and social anxiety cognitive biases, little attention has been paid to the relationships between culture and persistence of social anxiety.

The philosophy surrounding the relationship between social anxiety and culture comes from the broad notion that norms and values in any social context in any culture may influence the extent to which individuals express psychological symptoms (Al- Ruwaitea, 2007). Culture affects not only the presentation or occurrence of psychological symptoms for any disorder (e.g., social anxiety), but also how people cope with these symptoms and the challenges they may face when they are looking for help with them (Eshun & Gurung, 2009). Despite this, there is still a question of whether or not a diagnosis of social anxiety disorder (mainly by Western criteria) can be applied cross-culturally. Despite renewed attention given by the DSM-5 based on previous research recommendations (e.g., Lewis-Fernandez et al., 2009; Bo̎gels et al., 2010) which reviewed the somewhat restricted criteria for social anxiety included in the previous publication (DSM-IV), research to test the modified criteria of the fifth edition is limited. Therefore it is not easy to address this question. However, generally speaking, social anxiety disorder criteria are dependent on a Western, theoretically oriented understanding of social anxiety, which is considered universal and as such applied universally. This can lead to the misdiagnosis of social anxiety if considered from within a different culture. Even if the concept of culture is taken into account in DSM publications, the criteria are still very different, failing to include cultural considerations meaning that no significant shift will appear with regard to social anxiety disorders.

There is no doubt that the individual and their broader cultural self are intrinsically related; thus, to broaden our understanding concerning social anxiety and social anxiety cognitive biases, the role of culture must be taken into account. Therefore, the principal aim of this chapter is to review the theoretical models, which focus on social anxiety cognitive biases and their relationship with culture. Accordingly, there are a number of points we aim to cover in this section located under main three headings: 1) cognitive biases in social anxiety, 2) social anxiety and culture, and 3) social anxiety and Saudi Arabian culture.

1. 1. Cognitive biases and the maintenance of social anxiety

Current cognitive theories of anxiety disorders underline not only the nature and content of individual cognition and social information but also the manner of processing this information in specific social situations (Quero, Banos, & Botella, 2001). The most important question in this context is why social anxiety perseveres despite regular exposure to the feared social situation (Clark, 2005). Recent cognitive models of social anxiety, for example, Clark and Wells (1995) and Rapee and Heimberg (1997) attempt to answer this question outlining a

variety of cognitive biases thought to be responsible for said perseverance. The following review will introduce the principles behind these models.

1.1.1. Cognitive models of social anxiety

In this section, the most influential models of social anxiety, which help to understand the underling processes behind the maintenance of this disorder, will be introduced. These are the cognitive model of social anxiety introduced by Clark and Wells (1995) and Rapee and Heimberg's (1997) cognitive behavioural model. In addition, the cognitive behavioural model of social anxiety updated and extended by Heimberg, Brozovich, and Rapee (2010) will be discussed.

1.1.1.1. A cognitive model of social anxiety: Clark and Wells (1995)

Clark and Wells' (1995; see Figure 1) model illustrates that when people with social anxiety enter a feared social situation, they carry with them a series of assumptions about themselves and the world around them based on their prior experiences of similar social situations. These assumptions can be divided into three main categories (Clark, 2005, pp. 193-194): high standards for social performance ('I must not show any sign of weakness'); conditional beliefs about the consequences of their performance ('If I disagree with someone, they will think I'm stupid/will reject me') and unconditional negative beliefs about the self ('I'm different/odd'). Such problematic assumptions lead individuals to negatively interpret social situations, convincing themselves that their contributions will result in failure because for them, the social situation represents a threat. As a result of these negative interpretations, they will regard others' reactions as signs of negative evaluation. These negative evaluations add to the vicious circle already created. When the socially anxious individual feels threatened by others' negative evaluations, they initially shift their attention towards themselves, feeling as if they are the centre of attention. They use internal information (i.e., feeling anxious is equal to looking anxious and/or negative self images about the self) to infer how they appear to the audience and to judge what the audience thinks about them. They then engage in various types of 'safety behaviours'. This refers to the broad range of behaviours that the socially anxious individual uses in order to protect themselves from others' negative evaluations, behaviours such as memorising words or grasping things tightly to reduce the risk of shaking (Clark & Wells, 1995). According to Clark and Wells' (1995), the consequence of these safety behaviours is that socially anxious people are prevented from recognising the unrealistic beliefs that they hold about their social behaviours, this making the feared behaviour more likely to happen and, to some extent, worse than it actually is. As well as this, socially anxious

individuals are concerned about somatic and cognitive symptoms. They think that others may observe these indicators (i.e., blushing, sweating and hand trembling) and interpret them as catastrophic signs of the failure to meet social expectations.

Clark and Wells (1995) believe that by using internal information to monitor themselves, socially anxious individuals prevent themselves from gaining any benefit from regular exposure to social interactions as they occupy themselves with these negative interpretations of social cues. In addition to this, they suggest that socially anxious individuals review the negative things that may happen before they engage in a social event in some detail. These ruminations are dominated by their last negative social experience, a negative image of their social performance and the possibility of others' negative judgments. These details will continue to be reviewed by socially anxious people in such a way that makes the evaluation of their social interactions worse and more negative than they actually are.

Being in this vicious circle of negative appraisal can lead to the maintenance of social anxiety which eventually precludes socially anxious people from noticing any available positive cues.

Figure 1. A model of the processes that occur when socially anxious individuals enter a feared social situation (adapted from Clark and Wells, 1995)
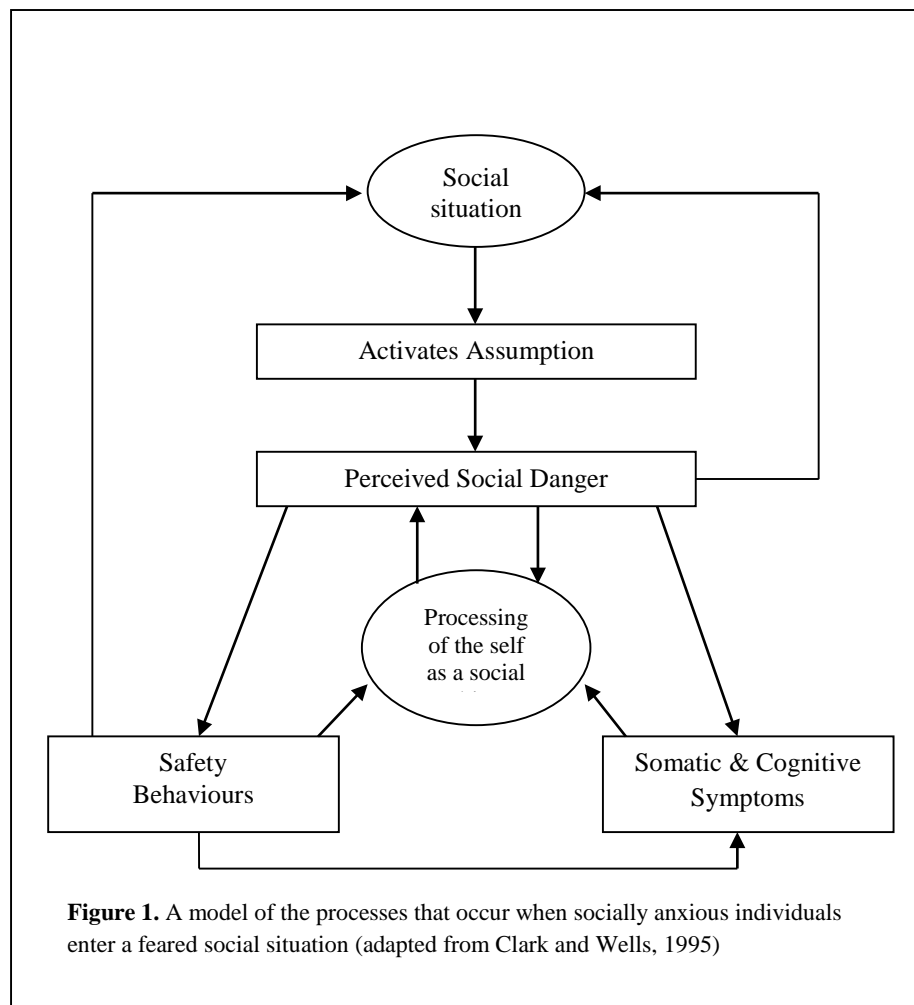
1.1.1.2. A cognitive behavioural model of social anxiety: Rapee and Heimberg (1997)

Two years after Clark and Wells (1995), Rapee and Heimberg (1997; see Figure 2) proposed a model which paralleled some of the model offered by Clark and Wells (1995) in that individuals with social anxiety generate a series of assumptions and expectations when they think about the next social situation they will find themselves in. These may, in turn, lead to the continued maintenance of dysfunctional perceptions of their social performance and their interactions with others. In other words, when socially anxious individuals encounter a social situation, they may form a self-image of how they look to others (appearance) and how their behaviour seems to others (audience). This self-image is based on three sources of information: past experience of similar situations; internal cues, (physiological and bodily symptoms) and external cues (audience evaluation). Having formed this self-image, individuals with social anxiety begin to direct their attention towards the most salient sources of information and monitor any sources of external threat in the form of negative evaluation. Within this evaluative context, individuals with social anxiety develop a standard against which they compare their perceptions of their own performance. Therefore, as the audience's evaluation seems to grow, more negative anxiety symptoms such as somatic features and negative thoughts increase. After experiencing a social situation, they may make interpretations that are biased towards their negative self-image and their catastrophic expectations for the future.

However, it is important at this point to mention that these two dominant models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) make a common assumption around the cognitive factors that lead to the persistence of social anxiety. Both models agree on the role of self-focussed attention when the individual enters the social evaluation situation. However, while the two models agree on this attentional bias, they differ on the factors responsible for the generation of social anxiety. Clark and Wells (1995) attribute social anxiety to an increased self-focus in social situations thus emphasizing the self-processed as a 'social object'. According to their model, socially anxious individuals tend to use their internal cues or interceptive information generated by their self-focus to make assumptions about themselves. They believe that their self-impression is the same as what others' think about them rather than finding out what others actually think about them. On the other hand, Rapee and Heimberg (1997) emphasize the role of self-focus in the maintenance of social anxiety. This supports the idea that social anxiety could be the result of mental representations built from the perspective of the other, for example audience feedback as an external cue and the

internal information that the individual gains from long-term memory, past experience and physical symptoms. These external and internal cues work together increasing social anxiety.

Differences aside, these two models are productive in explaining the factors behind the maintenance of social anxiety, creating a strong foundation for future investigations of such disorders.

Figure 2. A model of the generation and maintenance of anxiety in social/evaluative situation (adopted from Rapee and Heimberg, 1997)
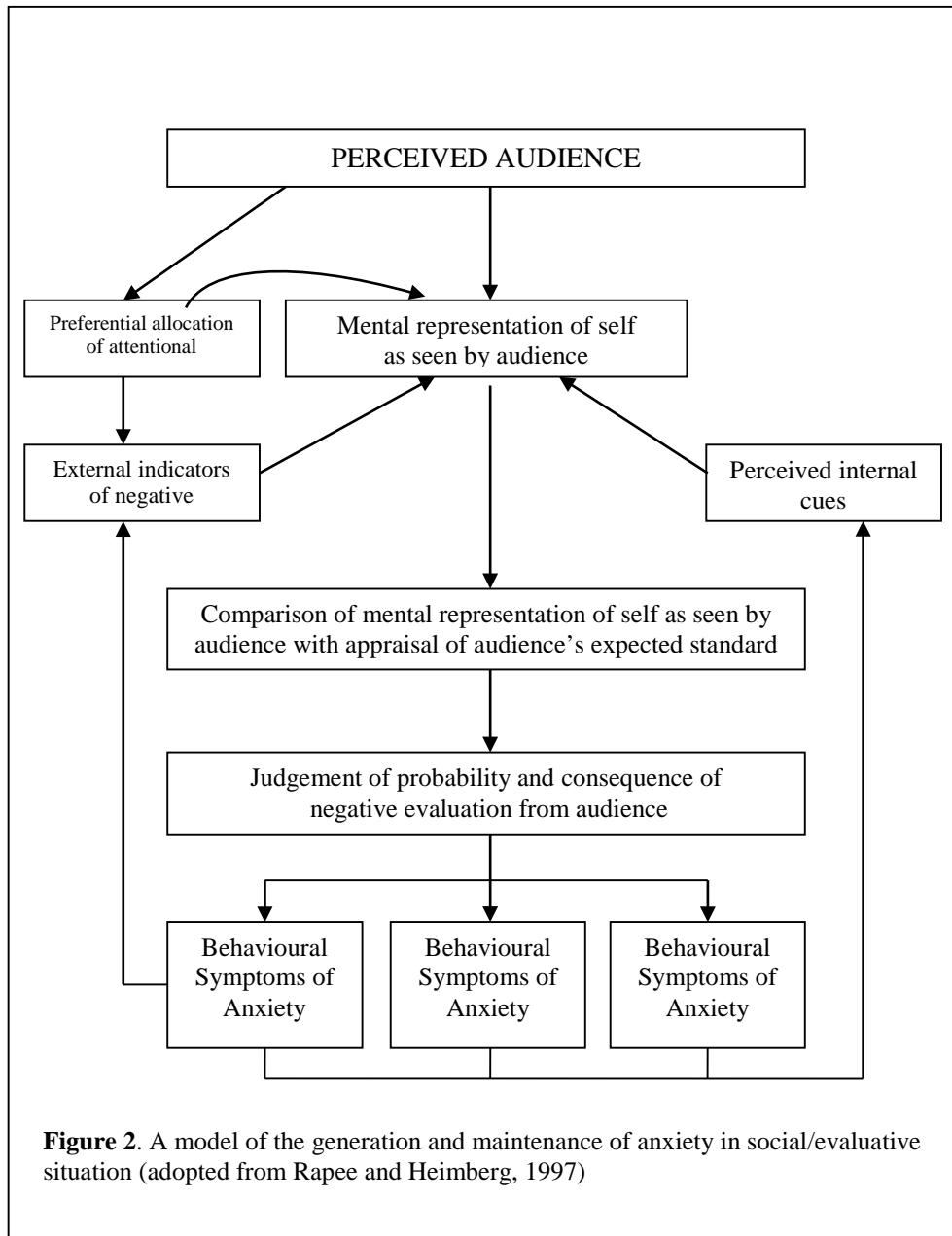
1.1.1.3. A cognitive behavioural model of social anxiety: Update and extension: Heimberg, Brozovich and Rapee (2010)

Having provided an outline of Rapee and Heimberg's (1997) cognitive behavioural model of social anxiety (mental representation of the self as seen by others), the revised

and extended version of this model by Heimberg et al. (2010; see figure 3) will be summarized. According to Heimberg et al. (2010), although there has been a large enough body of research concerning the endurance of social anxiety, there is a need to expand some areas and to incorporate new factors into the model to provide more explanation with reference to the maintenance of social anxiety. They review five elements that update and inform the original model.

To begin with, mental imagery has a place as: "…anxiety disorders in general could be easily characterized as disorders of imagination" (Heimberg, Brozovich & Rapee, 2010, p. 414). Socially anxious individuals imagine themselves from the observers' perspective. This however, is a negative image, which they have created themselves. They take these negative images with them to any forth-coming social event, making catastrophic outcomes more likely. In the revised model, there is emphasis on the idea that when these negative mental images are activated, socially anxious individuals experience intense negative emotions, which ultimately impact on their social performance. Based on research, they identify three features that provide a picture of the socially anxious individual's mental representations as seen by the audience. 1) The socially anxious individual is more likely to spontaneously recall negative images, which disturb their mental representations (e.g., Hackmann et al., 1998). 2) The socially anxious individual is more likely to perceive the social event from others eyes or from the observer perspective rather than the field perspective or their own observations (e.g., Hackmann et al., 1998; Spurr & Stopa, 2003; Wells & Papageorgiou, 1999), and 3) socially anxious individuals are more likely to preform unfavourably in social events when they hold negative images in their mind (e.g., Stopa & Jenkins, 2007; Vassilopoulos, 2005).

The first element explained above directs us to the second cognitive feature of Heimberg et al's model, post-event processing where the socially anxious individual reviews exactly what happened at the last social event in detail. They update this social information about their social performance every time in an even more negative way, making the images worse than they actually are. This makes their images more fearful which leads to a prediction of a poor performance resulting in an increase in the anticipation of negative outcomes (e.g., Abbott & Rapee, 2004; Dannahy & Stopa, 2007). The third and consequent interaction between different cognitive processes, mental imagery and post-event processing is a general example of the complex relationship between information processing in social anxiety. These cognitive processes operate together to contribute to the maintenance of social anxiety as discussed by Hirsch, Clark, and Mathews (2006). Fear of positive evaluation, the fourth element, is the fear that comes from the idea that the individual has to improve their social performance each time

they encounter others. For the socially anxious individual however, they doubt their ability to meet others' social standard this in turn leading to an increase in social anxiety (Gilbert 2001; Heimberg et al., 2010). This type of fear, as seen later in Study 3, is activated when socially anxious individuals think that any successful interaction might increase others' social expectations. At the same time, their fear of positive evaluation activates negative assumptions about being unable to meet social standards ultimately leading to negative evaluation. Alongside fear of negative evaluation, this is termed as fear of evaluation in general, the two types of evaluation potentially existing at the same time in any social situation.

Finally, there is the need to consider emotional dysregulation, a new area of investigation in the field of social anxiety. According to Heimberg et al. (2010), the regulation of emotions is a significant aspect of any human, however, for those suffering from social anxiety, things are different. This approach suggests that socially anxious people are less expressive of their positive feelings, paying little attention to their emotions in general, consequently struggling to describe them. Heimberg et al. (2010) suggest that the reason behind the suppression of positive emotions is because the socially anxious individual seeks to regulate their emotions to fit in with interpersonal communication, this suggestive of a self- protective strategy (or safety behavior as describe earlier in Clark & Wells' (1995) model) that the individual adopts to reduce the risk of negative social evaluation (Cuming & Rapee, 2010). However, this suppression might prevent the socially anxious person from recognizing that perceived dangers in social situations may not occur, or at least rarely occur.

The revised model illustrated above, provides a wider range of cognitive features that could help to explain the reasons for the maintenance of social anxiety. However, it is necessary to critically evaluate this revised model by conducting empirical research to identify how it helps to explain social anxiety. Emphasis here must be placed on the two last cognitive features, fear of positive evaluation and emotional dysregulation as these two areas are still under investigation.

In summary, the available models of social anxiety are beneficial when explaining the reasons around the persistence of social anxiety. One question still outstanding though concerns culture: does culture have it is own place in such models? This question encourages us to focus on the relationship, if any, between social anxiety and culture in the following section.

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│  Figure 3. An updated cognitive behavioural model of social anxiety    │
│  disorder. (Adapted from Behaviour Research and Therapy, 35, R.M.      │
│  Rapee & R. G. Heimberg, A cognitive-behavioural model of anxiety in   │
│  social phobia, page 743. Copyright 1997, with kind permission from    │
│  Elsevier)                                                              │
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Figure 3. An updated cognitive behavioural model of social anxiety disorder. (Adapted from Behaviour Research and Therapy, 35, R.M. Rapee & R. G. Heimberg, A cognitive-behavioural model of anxiety in social phobia, page 743. Copyright 1997, with kind permission from Elsevier)

1.2. Social anxiety and culture: an overview

Recognition of the relationship between social anxiety and culture as an on-going source of how the individual feels, thinks and acts has been established over time (Hofstede, Hofstede, & Minkov, 2010). This is due to the attention paid to the intricate interplay between social anxiety and culture (Heinrichs, Rapee, Alden, Bogels, Hofmann, Oh, & Sakano, 2006). Hong and Woody (2007) also point out that the two main cognitive models of social anxiety agree that the social standard of the individual's performance (Clark & Wells, 1995) and the role of mental representations of the self in the midst of a social situation (Rapee & Heimberg,

1997), are important to include when attempting to understand the maladaptive nature of social anxiety. This is where culture comes in as the incumbent cultural social context is likely to influence the individuals' beliefs around what constitutes acceptable standards of social performance to meet social expectations, as well as the perceived threat of pre-conceived, but not necessarily realistic, social consequences of unacceptable behavior. This stance sees culture as having it is own contribution to the experience of social anxiety in addition to moulding one's sense of a social self (Hong & Woody, 2007).

Therefore, when discussing the evolution of social anxiety across different cultural contexts, it is useful to identify the cultural values that influence the development and maintenance of this disorder. Most of the research carried out to explain the relationship between social anxiety and culture, include the two aspects of cultural values: individualism and collectivism. These concepts are related to the social norms across different countries (Hofmann, Asnaani, & Hinton, 2010) and are helpful in the quest for understanding variations in social anxiety across cultures (Schreier, Heinrichs, Alden, Rapee, Hofmann, Chen, Oh, and Bogels, 2010). In light of this, two main areas will be used as explanation of the topic of social anxiety and culture: 1) the two aspects of cultural values, individualism and collectivism, and 2) variations in social anxiety across cultures according to these factors.

1.2.1. Cultural values: individualism and collectivism

Culture is a fundamental source of human change; it is the: "…unwritten book with rules of the social game that is [*sic*] passed on to newcomers by its member, nesting itself in their mind" (Hofstede, Hofstede, & Minkov, 2010, p. 26). Our own culture works in a way that adapts us to our social environment. However, different social environments generate different social systems and norms (Cohen, 2001). Explaining diversity between different cultures is a complicated task as there is still disagreement about what is universal and what is not when taking cultural diversity into account (Norenayan & Heine, 2005). In this sense, unpacking the two aspects of cultural values: individualism and collectivism could help our understanding of this relationship between cultures on the psychological life of individual. According to Triandis (2004): "…many findings could be understood much better if the individualism and collectivism dimension was taken into account" (Triandis, 2004, p. 88).

Broadly speaking, the terms individualism and collectivism were introduced in the work of Hofstede (1984, 2001), as we will describe later. Hofstede (2001) was working under the assumption that people have 'mental programs' or 'mental software' that exist because of their social context (i.e., family and organizations), which influences their values in any given

situation in line with accepted social standards. Accordingly, Hosftede (2001) classified different countries by four, mainly work-related, cultural values: power distance, individualism and collectivism, masculinity and femininity and uncertainty avoidance.

The main focus in this project is on the second values; individualism and collectivism. Individualism: "…pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family", while collectivism: "…pertains to societies in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede, Hofstede, & Minkov, 2010, p. 92). Triandis (2004) points out that the characteristic that distinguishes between people from either culture is that in a collectivist culture; people pay more attention to the context of the situation (i.e., tone of voice or the way something is said) than the content itself (i.e., the topic of conversation or what is said). In a collectivistic culture, individual's behaviors are determined by external factors (i.e., societal norms and values), whereas in an individualistic culture, internal factors (i.e., individual attitude and personality) are the clue to the individual's behavior. This could allow for people in a collectivistic society to behave in ways that change and fit the demands of the situation in comparison to those from individualistic societies who are more self-consistent, regardless of the surrounding environment (Triandis, 2004).

The rationale behind concentrating on these two aspects is that according to Triandis (2004) and Hofmann et al. (2010), these two cultural values are the most important to consider when examining variations in human ecology as they are more relevant in comparison to other values, to the cultural norms in any given culture. In addition, they are crucial to the literature in psychology, organizing and systemizing recent research in that field (Triandis, 2004), helping to expand knowledge about psychological disorders (i.e., social anxiety) when culture is included.

Having defined these two aspects, the role of both cultural values will be explained through the work of 1) Hofstede (1984, 2001), 2) Triandis (1993, 2001), 3) Markus and Kitayama (1991, 2010), and 4) Shulruf, Hattie and Dixon (2007).

Initially, Hofstede's (1980, 2001) classification influenced a lot of the work on the concept of cultural frameworks as cited in much of the research carried out on cross-cultural variations (Oyerman, Coon, & Kemmelmeier, 2002). The data of his work were collected from International Business Machines (IBM), the aim being to measure workplace values. These data from forty countries was analyzed producing four values of cultural; power distance, individualism and collectivism, masculinity and femininity and uncertainty avoidance.

Linked to the values of individualism and collectivism, Hofstede (1980, 2001) measured the degree of individualism in societies using the country's level of analysis (differences in responses according to country). The survey itself consisted of fourteen work place questions including: "…try to think about those factors that would be important to you in an ideal job; disregard the extent to which they are contained in your present job". How important is it to you to: "…e.g., *have challenging work to do- work from which you can get a personal sense of accomplishment*" or "…e.g., *live in an area desirable to you and your family*". All fourteen questions were presented in the same manner, the scores ranging from 1 (of utmost importance to me) to 5 (of very little or no importance). The responses to these fourteen questions from the forty countries (50 respondents from each country) were analyzed, generating two cultural values: individualism and collectivism (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010).

However, despite the extensive use of and numerous application of Hofstede's cultural framework to cross-cultural examinations, there has been much criticism of his work. Two points of criticism will be addressed here: 1) the definition of individualism and collectivism and whether they are one or two dimensions, and 2) the level of analysis; societal *vs* individual.

Firstly, the definition of collectivism per se is vague and often coined as simply the opposite of individualism. This was clearly the case in the review of Oyerman, Coon, and Kemmelmeier (2002), where collectivism as a dimension, was a 'reflection' of individualism. From the same but opposite viewpoint, collectivist cultural value was defined to be the reverse of individualist cultural value. Accordingly, this became a point of debate, many researchers considering definition when investigating these two dimensions in terms of whether or not it is necessary to update Hofstede's work after three decades (Yi Wu, 2006). The question of importance is whether to reclassify cultural nations or to update these two values themselves (Triandis, 1993; Triandis, & Gelfand, 1998) with clear and lucid definitions. Along the same lines and according to Oyerman et al. (2002), Hofstede (2001) assumed that individualism and collectivism appeared as a single continuum, where high levels of individualism were equivalent to low levels of collectivism and vice versa. Oyerman et al. (2002) also stated that Hofstede (2001) was aware that levels of individualism in any country are unstable and that he saw individualism as an indicator embedded in a dynamic process of cultural development which shifts as social, structural and historical changes happen. In response, Hofstede, Hofstede, and Minkov (2010) raised the question of whether we see both values as two distinct dimensions or as opposite ends of the same construct. These discussions do not change the definition of the collectivism value as it still remains vague. However, the answer seems to be

that it depends on the level of analysis, whether the analysis aims to compare the entire culture or individuals within a culture. If the analysis aims to compare a society, opposite poles of this values are used and average value's scores are compared. If the analysis aims to compare individuals within a society, both values should be treated as separate, this implying that both cultural values may exist within the individual.

Secondly, despite the brief clarification given by Hofstede (2001) and Hofstede et al. (2010) concerning level of analysis (societal *vs* individual), this is still a point for debate. Hofstede (2001) stated that both individualism and collectivism are *antitheses,* used in their approach as an anthropological evaluation rather than psychological. Therefore, these two values define the society but not the individual in that society. This would mean that Hofstede has not taken into consideration the individual level when he analyzed his data, drawing conclusions about cultural values. Hofstede's approach at a societal level, means that all members of the countries under investigation are similar on these two cultural values (i.e., all those living within an individualist culture are defined as individualistic, the same true of those from collectivistic cultures: they are all collectivist). This dichotomous stance is hardly likely to be the case (Shulruf et al., 2007), but as a consequence, it facilitates the use of cultural stereotyping as a platform for future research (Matsumoto, 1999). However, Triandis (2004) makes reference to the importance of Hofstede's work making a distinction between cultural and individual levels of analysis.

This led to an increase in awareness in the field of cultural psychology about integration at both the societal and individual level; the multilevel or multiple level of analysis (Oyserman & Uskul, 2008; Triandis, 1998) or multi-method system (Matsumoto, 1999). As each level of analysis is assumed to shape the other, a number of researchers have developed individual-level scales in order to examine individual-level values (Oyserman & Uskul, 2008).

Like Hofstede (1980, 2001; Hofstede et al., 2010), Triandis (1993) agrees on the role of these two cultural characteristics when it comes to the investigation of cross-cultural differences. However, his approach has directed him to consider both individualism and collectivism in the field of psychology. He argues that there are many subtypes of these two cultural aspects and that we cannot treat them as two distinct cultural forms. At the outset, Triandis (1993) declared that every individual's psychological processes had a cultural element (Triandis, 2004). He considers these to be two independent values that can co-exist together in one culture, depending on the situation that individuals face when interacting with other members of their group. These values may have a strong influence on different aspects of personality development, particularly in terms of cognition (how people think about

themselves and others), emotion (sensitivity to criticism) and behaviour (avoidance) (Triandis & Suh, 2002). According to Triandis' (1993) definition, in individualistic cultures, emphasis is placed on independence with personal goals ranked higher than group goals: more attention is paid to individual values over group values (Triandis, 2001). The main focus of individualist societies is on responsibility, uniqueness and competitiveness (Shulruf, Hattie, & Dixon, 2007). This is the direct opposite to collectivistic cultures where people tend to be dependent on other members of their group, family, tribe or nation and therefore give priority to group goals rather than personal goals (Triandis, 2001).

According to this view, different patterns or levels of individualism and collectivism can be found operating within different cultures prompting Triandis and Gelfand (1998) to argue that these two dimensions can be: "…*horizontal* (emphasizing equality) or *vertical* (emphasizing hierarchy)" (Triandis & Gelfand, 1998, p. 118). In an attempt to establish this new classification at the individual level of analysis, Triandis and Gelfand (1998) identified two levels of individualism: Horizontal Individualism (HI), related to an individual's tendency to be distinct from, but not superior to their own group, and Vertical Individualism (VI), which expresses the individual's tendency to be distinct from, and superior to, their own group. They also introduced two levels of collectivism: Horizontal Collectivism (HC), expressing the individual's preference to be interdependent and share common goals with others, and Vertical Collectivism (VC), encompassing the individual's preference to favour group goals at the cost of their own personal goals. According to Triandis and Gelfand (1998), these horizontal and vertical classifications reflect the cultural situations in which individuals find themselves as well as their nationality. For example, vertical individualism and horizontal individualism may have consequences for the cultural emphasis placed on competition and its effectiveness, whereas patterns of horizontal collectivism and vertical collectivism may: "…provide protection and security and reduce the need for personal decisions, which some people find anxiety provoking" (Triandis & Gelfand, 1998, p. 126).

Moreover, Triandis (1995) has suggested that within societies (collectivist and individualist) there are individuals who are idiocentric (think, feel and act in a similar way to those in an individualistic culture) or allocentric (think, feel and act in a similar way to those in the collectivist culture). Idiocentric individuals are associated with those who display: "…expressiveness, dominance, initiation of action, aggressiveness, logical arguments, regulation of flow of communication, eye contact, tends to finish the task and have strong opinions" (Triandis, 2004, p. 90). An individual who has a higher education, is in the role of leadership, an international traveler, bi-cultural (expose to a different cultural than the original)

tends to have more idiocentric tendencies. In contrast, allocentrics are more associated with those who are: "…high on accommodation and avoidance of argument and they shift their opinions more easily than idiocentrics" (Triandis, 2004, p. 90). For example, an individual who has financially dependent, limited education, less international travel, an orientation towards religion and is rooted in their original culture norms has more tendencies toward allocentrism (Triandis, 2004). This is, according to Hofstede (2001), a helpful approach in order to establish clarity for both levels of analysis, particularly the individual level.

A significant change concerning the link between individuals and their particular culture emerged with the work of Markus and Kitayama (1991). Their work was defined by the concept that people in different cultures differ in their self–construal, this cultural diversity influencing individual experience in terms of cognition, emotion and motivation (Markus and Kitayama, 1991). They go on to assert that although there is universality in the understanding and representation of some characteristics of the individual self, some of these characteristics are exclusive to a particular cultural framework. Correspondingly, they assume that there is a 'cycle of mutual constitution' that refers to the dynamic relation between culture and the individual self. Any changes that occur in cultural content, impact on the psychological functioning of the self, resulting in changes in responses (Markus & Kitayama, 2010).

According to this view, the influence of culture on the individual self, produce two types of self-construal; independence and interdependence of self. When an independent-of-self individual organizes and structures behavior: "…the primary referent is the individual's own thoughts, feelings and actions" (Markus & Kitayama, 2010, p. 423). Consequently, people assert their independence, individuality and separation from others. It seems that the way the individual thinks, feels and acts is culturally influenced this guiding aspects of the independent self in their interactions. When an interdependent-of-self individual organizes and structures behavior: "…the immediate referents are the thoughts, feelings and actions of others with whom the person is in a relationship" (Markus & Kitayama, 2010, p. 423). Interdependent individuals assert their interdependence and relatedness to other. As with the independent self, it seems that the individual is culturally shaped to fit with others, to meet others' expectations and to abide by cultural norms to promote social coherence.

Markus and Kitayama (2010) suggested that independence and interdependence shape psychological functioning in terms of cognition, emotion and motivation. For example, individuals with self-independent schemata have a sense of being distinct from others, acting in ways that reflect this distinction. They speak out about themselves expressing their quality, successes and achievements thus highlighting their positivity. In contrast, individuals with self-

independent schemata are people who have a sense of the significance of others, paying more attention to context and others over themselves and who also tend to be regulated by obligations and rules.

A further attempt to clarify these two dimensions was been made by Shulruf et al. (2007) based on the work of Oyerman et al. (2002). Rather than relying on measuring these two values as only individualist or collectivist (Hofstede, 1980, 2001) or creating a separate measure concentrating on vertical or horizontal measurements (Triandis & Gelfand, 1998), they argue that it is prudent to use mixed measures which includes the most powerful domains of these two values. Their view on these sub- values (domains) is that categorizing people as completely individualist or completely collectivist is misleading as there are some common domains between individuals.

With this in mind, they created the Auckland Individualism and Collectivism Scale (AICS), a straightforward, clear and reliable tool to measure these dimensions, comprising a self-report questionnaire of 26 items related to five main factors (for more details about the AICS, see Chapter 3). Three of these factors are related to individualism; engagement in competition, seeing the self as unique and being more responsible for the self. The remaining two are related to collectivism; seeking others' advice and being in harmony with the group.

Through this brief illustration it can be seen that these two aspects of cultural values may be considered a direct assessment of cultural differences, as they could co-exist in any culture. However, this raises questions for those who are interested in the psychological function of individual questioning, the impact an individual has based on their culture system and how this cultural framework shapes the individual self.

1.2.2. Social anxiety and culture

Cultural variations based on individualism as expressed by independence and collectivism as expressed by interdependence can be viewed as key factors shaping the self during social interactions between group members. For example, Markus and Kitayama (1991) argue that there are three cognitive outcomes specific to an individualistic or collectivistic view of the self. Firstly, the collective self is more attentive and sensitive to others than the individualist self. Secondly, the representation of the collective self depends on the social context, something that others consider to be an inseparable component of the individual self. Thirdly, the surrounding social context and interactions with others may also influence non-social cognitive activities over different circumstances. An example of this is where the individual

becomes more obedient to people who are their superiors, regardless of whether this happens in their family, at work or in the government.

Likewise, social interactions in both cultures – individualist and collectivist - can invoke different forms of social anxiety. For example, in a collectivist culture, the fear of offending others may lead to the individual avoiding social situations in order to not disrupt or affect the cohesiveness of society members. This is a potential reaction in order to save face and social embarrassment. Meanwhile, in the individualistic culture, the individual might experience fear from the belief that they might engage in behaviours during their social interactions that will result in self-humiliation (Dinnel, Kleinknecht, & Tanaka-Matsumi, 2002). Here, we can see that social anxiety presents itself through the way that the individual expresses themselves according to their cultural orientation. This makes the distinction between different forms of social anxiety across different cultures an important issue when trying to understand social anxiety disorders (Dinnel et al., 2002)

Researchers have linked the general relationship between cultural values and social anxiety as seen above. For example, studies investigating the relationship between culture and social anxiety highlight the broad view that the individual from a collectivistic culture is more inclined to be socially anxious than the individual from an individualistic culture. Despite that this wide view is lately questionable, the reason behind this view is that the strict social norms and appropriate social performance in combination with the benefits gained from achieving social expectations in specific social situations, make these societies more prone to social anxiety than the individualistic culture that endorses self-promotion, at the same time rejecting overt submissiveness (Hong & Woody, 2007; Heinrichs et al., 2006).

Within this context, it seems that there is relationship between the two values of culture (individualism and collectivism) and social anxiety disorders in such a manner that it could be consistent with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997). However, what is the precise link between these two values of culture and cognitive models of social anxiety?

Generally speaking, these two models of social anxiety explain the role of self-schema and self-presentation in the maintenance of social anxiety (Hong & Woody, 2007). From the point view of these models, socially anxious individuals feel as if they are under social threat when they engage in any societal occasion because of their negative assumptions and the negative mental imagery that they hold about themselves, in that they believe that are inept having insufficient social skills. This threat comes from high anticipation of negative evaluation by others. Thus, they attend closely to the social context or social standards and

others' social expectations to in order to stop others' negative evaluation. According to Hofmann et al. (2010), these social standards and rules of expectations that socially anxious individuals carry in their minds are all culturally dependent or created by culture. Hence, it could be expected that these social rules and standards, which have been scripted by culture either explicitly or implicitly, could be intentionally absorbed by individuals therefore, regulating their social behavior according to the demands of society. This protects him/her from receiving negative evaluations made in the social environment.

Cultures have influenced these experiences by shaping the understanding of their social self and their hope of a successful social performance that is socially acceptable (Hong &Woody, 2007). Accordingly, and to establish a practical link between social anxiety and culture, a number of studies have been carried out in an attempt to uncover this relationship. For example, Dinnel et al. (2002) suggested that the expression of social anxiety across culture might differ as a result of cultural variations. Collectivism and individualism as identified by the work of Kleinknecht et al. (1997), suggest a helpful interpretation of the relationship between culture and social anxiety, as shaping the individual experience of social anxiety when entering a social situation. These two cultural values explain how culture shapes an individual's self when they are interacting socially, or in other words, how the individual defines him or herself as an object open to social threat and how to react in light of this. To give an example, Heine et al. (1999) point out that people from Western cultures (assumed to be individualistic) are more likely to promote themselves in a positive manner acting appropriately in order to not show any signs of weakness socially that goes against the demands of the current social milieu. Conversely, in Eastern cultures (assumed to be collectivistic), people try to avoid negative evaluation in social interactions by choosing to act modestly and to criticize their social performance in order to improve their social behavior so that it is in line with the demands of the social milieu. In each culture, there is a standard, which serves in one way, or another, to provide the individual with what is needed to meet societal demands (Heine et al., 1999). Consequently, the individual tries to avoid negative evaluation by not breaking or departing from cultural rules when they interact socially. This implies that each cultural definition of the self (individualistic self/ collectivistic self) includes reference to some level of social anxiety present when interacting socially (Dinnel et al., 2002). Here, we can see how individuals' cultural values shapes the experience of receiving social negative evaluation, this in turn implying the idea that the experience of social anxiety must differ within/ across culture.

As can be seen from the above illustration, both the cognitive models of social anxiety presenting an individualistic view of the self, and the cultural model that presenting individualism and collectivism view of the self (Dinnel et al., 2002), agree that individuals are open to negative evaluation when in social interaction situations. However, the issue is how individuals in each culture (within or between) express symptoms of social anxiety.

There are three hypotheses which can be offered to shed some light on the puzzling relationship between social anxiety and culture that could helps to explain individual's experience of social anxiety related to their culture. The first hypothesis is coming from the work of Kitayama, Markus, Matsumoto, and Norasakkunkit (1997), the second from the work of Heine, Lehman, Markus, and Kitayama (1999). The third, a briefer hypothesis, come from mention of the value of uncertainty avoidance, described in the work of Hofstede, Hofstede et al. (2001, 2010) and Triandis (2004). According to these authors, uncertainty avoidance, the avoidance of unstructured situations, seems to be linked with both collectivism and individualism and correspondingly, anxiety disorders.

Kitayama et al. (1997) suggested that in Western cultures (e.g., American culture) the individual is seen as more independent and self-sufficient with an emphasis on individual autonomy and the importance of presenting the self positively. According to this view, individuals are forced into self-enhancement, as they need to be positive and more expressive of their attitudes. In contrast, Eastern cultures (e.g., Japanese culture) see the individual as interdependent and more related to others with more of a need to fit in with their cultural standards. According to this view, individuals are forced to adjust themselves to cultural demands and social needs. They engage in a process of self-criticism to explore their shortcomings and handicaps, a process that may affect social expectations. According to these situational scripts, in both cultures, people are processing themselves to fit in with their culture. Kitayama et al. (1997) go on to argue that in both cultures, there exists social situation bias which is shaped by collectivistic constructs that "emphasize the historical and collective processes by which culturally shared ideas of the self as independent (self- enhancement) or as interdependent (self- critical) are transformed into corresponding psychological tendencies and processes" (Kitayama, Markus, Matsumoto and Norasakkunkit, 1997, p. 1263). This is manifest in individuals' responses to the situations that they find themselves in. Kitayama et al. (1997) therefore assert that it is important to focus on the social situation as experienced by the individuals themselves. However, even if social situations across cultures are similar, there is still likely to be some cultural divergence.

A further point of view offered by Heine et al. (1999) emphasizes how variations across cultures suggest that we may need to rethink what is culturally related and what is not. The psychological processes that build up individual personality are shaped by socialization processes. It is here that we find a relationship between cultural systems and psychological systems. According to this view, Western society has a set of assumptions around 'what it means to be a person'. These assumptions are established through the socialization process and passed on in everyday cultural interactions. Within the individualistic framework, the person is presumed to be distinct, separate, autonomous, unique and to some extent unsociable, this stressing their independence. In reality, these assumptions, or the appropriate cultural social images enhanced across time, have become important, enabling people to present themselves correctly in various social situations. Therefore, in this type of culture, there are social forces on the individual to see himself or herself positively with high levels of self-esteem. However, when individuals act against or deviate from these social assumptions, they are more likely to become anxious and to suffer from poor life satisfaction. Thus, when people think that they cannot act in keeping with the way that their cultural norms demand, they are more likely to see themselves as inadequate or incompetent, struggling with self-value.

Eastern cultural social assumptions concern the self-related to others or how the individual acts as part of the larger group. In these societies, the individual's perception of self is not one that needs to be separate from their group or society, it is rather: "Within the contextual fabric of the individual's social relationships, roles and duties that the interdependent self most securely gains a sense of meaning" (Heine, Lehman, Markus & Kitayama, 1999, p. 770). In these cultures, people need to validate themselves in their social relationships by conforming to social expectations and following social standards, allowing them to fit into their society in an acceptable way. Consequently, self-criticism is valued more than self–regard. This self-criticism involves finding better ways to find out how others see them, how to become perceived positively by others and how not to deviate from social norms thus avoiding any negative outcomes.

Hofstede (2001) and Hofstede et al. (2010) present a further argument, which helps our understanding of social anxiety across culture. They found that when ambiguity is extreme in any situation, anxiety becomes intolerable. Consequently, levels of anxiety may differ across cultures such that some are inherently more anxious than others depending on the level of ambiguity in the situation. Working in this area, Boelen and Reijntjes (2009) hypothesized that uncertainty and/or ambiguity are important factors that cause anxiety in social-evaluative situations. Individuals who are socially anxious tend to think in such a way that includes

thoughts about how to predict, structure or handle interactions with others in social events. However, the question is how this can be linked to the cultural impact (individualism and collectivism) on the anxious and/ or socially anxious individual?

In response to this question, Hofstede et al. (2010) propose that both anxiety and uncertainty are diffuse feelings. In general, anxiety tends to have no target object while uncertainty has no defined parameters. These are situations where anything can happen or occur and where people have no clear idea what is and why it has happened meaning that when ambiguity becomes a threat, anxiety becomes insurmountable. Using this as a starting point, Hofstede (2001) and Hofstede et al. (2010) describe where two levels of uncertainty avoidance are most likely to occur: in a culture that is weak on uncertainty avoidance and within a culture that is high on uncertainty avoidance. Compared to weak uncertainty-avoiding cultures where individuals tend to be sociable, altruistic, modest and tender-minded, people from high uncertainty-avoiding cultures are more disposed to be anxious, depressed and self-conscious. As a result, high uncertainty-avoiding cultures tend to be highly structured societies, allowing situations to be more interpretable in order to reduce any potential risk and avoid any possible anxiety happening as a consequence to unknown events. Along a similar vein, Triandis (2004) interpreted this cultural value (uncertainty avoidance) in terms of how a culture is likely to be Tight or Loose. In a tight culture, strict rules, norms and standards regulate the individuals' behaviour. Breaking these rules and norms may mean that the individual faces punishment or criticism. In contrast, in loose cultures there are fewer norms and rules and those that do exist are not as extreme: when a rule is broken, it is easy to state that 'it does not really matter'. Interestingly, both these cultural types can be found in any culture (Triandis, 2004).

Both Hofstede et al. (2010) and Triandis (2004) assert that the effect of uncertainty avoidance depends to some extent on individualist and collectivist cultural aspects. For example, individualistic countries (e.g., Germany) that are high on uncertainty avoidance tend to be guided by rigid and explicit written legislation, whereas collectivistic countries (e.g., Japan) that are high on uncertainty avoidance tend to be guided by rules, which are implicit within legislation as these rules are inherently traditional. Given this illustration, avoiding ambiguity could mediate the relationship between cultural aspects and anxiety, an interesting point for future investigation.

It is worth mentioning that the work of Hofstede (2001) and Hofstede et al. (2010) is more pertinent to how individuals function in industrial societies, this limited context giving Triandis (2004) the advantage with reference to the term 'uncertainty' as applied to understanding psychological processes in different cultures. Despite that, research concerning

the integration between this value and cultural variations in social anxiety across culture is still in its infancy.

To sum up, these three points of view are important in order to understand the relationship between culture and social anxiety as well as how cultural schema influence and create social norms, norms which divide people according to cultural social expectations. The ontological background of any society or culture is important as it shapes the individual's social life, meaning that any analysis of social anxiety cannot be attempted outside the individuals' cultural system.

1.3. Social Anxiety within Saudi Arabia: a Collectivistic culture

Understanding the cultural background of Saudi Arabia is essential in order to understand the development of social anxiety in this country. Saudi Arabian culture is defined as very collectivist in nature (Hofstede et al., 2010; Ruwaitea, 2007). Members of this society strive to live in harmony with each other, to the extent that others are more important than the self. To fully understand the nature of Saudi culture however, there is the need to be aware of the other elements that characterise this society: losing face, Islam and high context communication (source: Saudi Arabian Social and Business Culture- A Saudi Arabian Culture Overview).

1)   **Losing face**: according to Patai (1983), the term 'face' is a vital cultural symbol in Arabic culture. It represents human dignity in such a society, and can be used in daily life to represent the positive and proud (whiten my face) or the negative and embarrassing (blacken my face) result of any action (Al- Sawaidi, 2008). In addition to this, 'face' is important where confrontation and conflict are to be avoided in everyday situations. In Saudi Arabian culture, strategies such as compromise, patience and self-control are utilized as a means of maintaining face, solving conflict and to avoid creating embarrassment or discomfort for others.

These metaphors have their source from the Holy Quran text as, for example, mentioned by Al- Sawaidi (2008): "…the face is described as being whitened or darkened as a sign of the person's actions in life" (Al- Sawaidi, 2008, p. 19) and as found in verse:

> *"On the Day [some] faces will turn white and [some] faces will turn black"*
> *(Surat 'Āli `Imrān, 3:106, Noble translation)*
> *"Some faces, that Day, will be humiliated, (Other) faces that Day will show*
> *pleasure (Surat Al-Ghāshiyah, 88:2, 8, Noble translation).*

2)   **Islam**: The majority of Saudi Arabians follow Islam, which as well as guiding every aspect of the individual's life is present in every aspect of the Saudi state. Consequently,

Arabian culture is described as detail orientated, where importance is placed on ethics and certain social behaviors for example generosity, respect and solidarity.

3) **High Context Communication**: when communicating in this mode, the message is not just verbal. It also relies on non-verbal cues for example, body language and eye contact, allowing people to make assumptions about what is not said. Specific emphasis is placed on tone of voice, the use of silence, facial cues and body language. It is necessary to be aware of these other aspects of interaction in order to avoid misunderstandings. This type of communication is implicit with no clear written rules that a person could follow.

Although there is no database that we can reliable access to identify the prevalence of mental disorders in Saudi Arabia (Al-Ibrahim, Al-Sadat & Elawad, 2010), Al - Gelban (2009) found that the most prevalent symptoms in 545 Saudi female students (secondary school girls) were related to social anxiety (16.4%). El-Tantawy, Raya, Al-Yahya and Zaki (2010) found that social anxiety was a common disorder, with a one-month prevalence rate of 5.63% among outpatient attendees and 13% among patients in Chaleby's (1987) study. According to El-Tantawy et al.'s (2010) study, the most common symptoms of this disorder are anxiety performance in social situations, for example, giving a speech or speaking in public, eating or drinking while someone watches and having a conversation with others because the person might sound foolish. This disorder was found to be more frequent in young, unmarried males who were relatively highly educated, holding more prestigious jobs (Chaleby, 1987). In contrast, El-Tantawy et al. (2010) found that this disorder was more common among females than males, which was in line with epidemiological research concerning the prevalence of social anxiety across gender (Furmark, 2002).

Given this brief illustration about social anxiety in Saudi Arabia, we can assume that the obligation of commitment to others is a very important aspect of this society. This could lead people from this society to be more aware of others and to be more concerned about how they present themselves in any given interaction to save themselves from any conflict. This scenario allows us to think about the role of this form of culture in the development of social anxiety. Chaleby (1987) confirms that social anxiety in this milieu derives from apparent rigidity and a strong emphasis on values, customs and rituals in place for specific social occasions. Moreover, clinical observation of social anxiety within Saudi society found it to be primarily ascribed to individuals failing to meet social obligations when they interact with each other. It can be said that any slight deviation from social norms in Saudi culture could potentially come to be regarded as unacceptable by the authorities. Therefore, individuals take considerable

trouble over how they appear to others, this placing considerable strain on them as they try to maintain in-group relationships (Al-Suwaidi, 2008).

Collectivism in Saudi Arabian society fosters interdependence between group members at the cost of their independence. In a recent study, Al-Ruwaitea (2007) investigated the conceptualization of collectivism and individualism within Saudi Arabia in terms of their effect on the development of social anxiety. Two hundred and eighty one undergraduate students were asked to rank the order (strongest to least) of elements that expressed collectivistic aspects of Saudi Arabia in terms of 'to what extent these elements are so strong as to impede individuals from behaving naturally' (reputation, others criticism, religion, responsibility and norms or rules). Most of the participants chose reputation and religion over laws and regulations. The results of this study confirmed that Saudi culture leans more towards collectivism than individualism.

In this sense, the development of social anxiety is likely to result from a number of factors related to collectivism, such as extreme sensitivity to criticism, inflexibility, resistance to change, feeling threatened by anything that is novel, focusing on how to appear in front of others, high standards in social interactions in terms of how accepting others are and conformity. Furthermore, cognitive schema around interaction with others and expectations about appropriate behaviour in social situations could play a role in individual self-esteem and in the formation of the judgments of others (AL-Ruwaitea, 2004). A combination of factors in Saudi life, for example social norms and values, may make people more prone to experience social phobia (Chaleby, 1987). However, conceptualizations such as individualism and collectivism may increase cultural misunderstandings, especially with regards to the paucity of cross-cultural research in this field within Saudi Arabia. On this matter, the generalization of such results needs further investigation and should include a clinical group trial to determine the level of psychological and pathologic predisposition that might enhance social anxiety within this society.

2. Conclusion

Social anxiety has been recognized as the more common disorder amongst anxiety disorders. Undue fear experienced while the individual interacts or during their social performance defines this disorder. A number of social anxiety cognitive models have shed light on reasons for the continuance of this disorder. However, the characteristics typical of social anxiety appear in social contexts that are significant and meaningful for the socially anxious person. This provides enough evidence to consider the role of cultural context with

reference to its maintenance. Individualism and collectivism serve to help understand social anxiety across culture. As such, there is debate around the notion that people from Eastern cultures (collectivistic) have a greater chance of developing social anxiety than those from Western cultures (individualistic). This is due to the strict norms and values that form collectivistic societies. However, another point of view is more related to social context and the ontological assumptions of the given society rather than the distinct classifications of individualism and collectivism *per se*.

This brief theoretical outline now requires further supportive evidence from empirical research in order to clarify this relationship more lucidly. This is the aim of the following chapter.

Chapter 2
Cognitive Biases in Social anxiety and Culture: an Empirical Review

An overview

In the previous chapter a number of theoretical approaches that serve to shed light on social anxiety, social anxiety cognitive biases and the impact of culture on this disorder were outlined. This was in order to start to delineate the relationship that may exist between social anxiety and culture. In this section, the aim is to review the most relevant critical empirical investigations, which explain the current study variables. The rational behind selecting these variables is to take the first steps towards testing cognitive biases in social anxiety as explain by models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) across different cultures, because in some social environments or different cultural contexts, individuals' concept of self may differ according to cultural self-definition (Markus & Kitayama, 1991). This in turn, is likely lead the individual who is prone to experience social anxiety, to evaluate themselves and their social surroundings relevant to the social context that they belong to. Thus, the assumption is that information processing relevant to social anxiety is to some extent affected by cultural social norms and regulations. Therefore, we will start by reviewing the research that investigates the role of cognitive biases in the maintenance of social anxiety. This refers to different types of information processing that play a significant role in this disorder: fear of negative evaluation, fear of positive evaluation, post-event processing and negative interpretation bias of social information. We will then move on to review a number of investigations looking at the relationship between social anxiety, social anxiety cognitive biases and culture.

1. Cognitive biases in social anxiety

Cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010) are valuable models that help us to understand information processing in social anxiety. These models attempt to explain the maintenance of social anxiety. They have identified that the socially anxious individual holds unrealistic assumptions about their social abilities, while at the same time over-evaluating others social expectations. When socially anxious engage in any social situation, they start to interpret social cues in more negative manner, have biased evaluations and review their social performance in substantial detail, spending time ruminating over every single social action. Consequently, the aim of this section is to review a number of experimental research studies in detail, which cover the cognitive biases at work in social anxiety in the light of the afore-mentioned models.

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1.1. Fear of global evaluation

Fear of negative evaluation is thought to be the core element of social anxiety however situational evaluation in general, which also includes positive evaluation, may also stimulate social anxiety (Heimberg et al., 2010). The existing cognitive models of social anxiety assert that the global fear of evaluation is a fundamental element that helps to maintain social anxiety, whether this evaluation was negative evaluation (e.g., Clark & Wells, 1995; Rapee & Heimberg, 1997) or positive evaluation (Gillbert, 2001; Heimberg et al., 2010). Therefore, in the next section we will attempt to clarify both evaluation constructs; Fear of Negative Evaluation (FNE) and Fear of Positive Evaluation (FPE) by discussing a number of experimental studies exploring these concepts.

1.2.1. Fear of negative evaluation

Fear of Negative Evaluation (FNE) refers to: "… apprehension about other's evaluation, distress over their negative evaluations, avoidance of evaluation situations, and the expectation that others would evaluate one negatively" (Watson & Friend, 1969, p.449). This fear of negative evaluation has received much attention by those investigating what the core features of social anxiety may be (Clark & Wells, 1995; Rapee & Heimberg, 1997). For example, Clark and Wells (1995) suggest that being under the threat of others negative evaluation makes people with social anxiety focus attention on themselves and engage in a range of safety behaviours to protect themselves from the possibility of negative outcomes or to avoid negative social evaluation completely (Clark & Wells, 1995; Wells, Clark, Salkovskis, Ludgate, Hackmann, & Gelder, 1995). However, as a result of this, the more safety behaviours they use to avoid negative outcomes, the more negative reactions they can probably provoke in others (Alden & Beiling, 1998) confirming their assumptions of the probability of negative evaluation by others. Along the same lines, Rapee and Heimberg (1997) proposed that socially anxious people direct their attention towards more salient features and perceive sources of external threat as a sign of others' negative evaluation. Within this evaluative context, anxious individuals develop a standard against which they mentally compare their perceived negative performances. Therefore, if the audience's evaluation is perceived as becoming strongly negative, anxiety symptoms such as somatic features and negative thoughts increase maladaptively.

To date, empirical research has been used to establish support for the relationship between social anxiety and fear of negative evaluation. According to Hackmann, Suraway, and Clark (1998), socially anxious people hold a negative self-image and are thus more likely to see

themselves behaving in a way which may be open to negative evaluation by others. Taking the observer's perspective, they tend to negatively evaluate their own social performance (Spurr & Stopa, 2003) being of the opinion that others negative evaluations will also be high, exacting a high social cost (Heimberg et al., 2010).

To shed light more on this construct, Clark and Arkowitz (1975) examined the self-evaluations of interpersonal performances made by socially anxious people. They asked people with high and low social anxiety to interact freely in conversation with a female partner. These conversations were recorded the participants then watched the recording and evaluated their performance in terms of their social skills, social anxiety and the female partner's responses towards them. Another participant in the role of judge also evaluated the participant's performance using the same three dimensions. The results of this study revealed that individuals with social anxiety underrated their positive social performance in comparison to their negative social performance and were less positive about their social skills. In their research, Clark and Arkowitz (1975) suggested two main reasons behind the negative evaluation of the self that characterises socially anxious individuals. Firstly, socially anxious individuals are stricter and more stringent in their self-evaluation standards making them more likely to evaluate their social performance negatively. Secondly, socially anxious individuals tend to pick up on negative social information more so than positive social information, focusing on remembering negative as opposed to positive facets (Clark & Arkowitz, 1975).

In support of the previous notion about negative evaluation in social anxiety, Ashbaugh, McCabe, Schmidt and Swinson (2005) examined self-evaluation bias in social anxiety: others evaluation and self-evaluation. They emphasized that socially anxious people believe that they are acting inappropriately, that others will evaluate them negatively and then they are unable to make positive social impression in their interactions. In their study using undergraduate students, the Social Phobia Inventory (SPIN; Connor et al., 2000) was used to divide participants into high ($n = 24$) and low ($n = 24$) levels social anxiety. Participants viewed a video of either an anxious or confident presenter then rated the performance of these actors using the Presenter Questionnaire, designed specifically for this study. The participants were then invited to present their own speech, which they evaluated using the same measure. The results from this experiment revealed that socially anxious people are the same as non-socially anxious individuals when they evaluate other people. However, they give exaggerated negative evaluations when they rate themselves, acting in such a manner that appears to others as if they are anxious and poorer in their own social interactions (Ashbaugh et al., 2005)

There is promise that self-evaluation of social performance in individuals with high social anxiety is worse than those with low social anxiety. However, Rapee and Lime (1992) propose that for socially anxious people, the inconsistency between self-evaluation and observer evaluation is possibly due to fear of negative evaluation *per se*. To illustrate, they state that socially anxious individuals believe they are incapable of presenting themselves socially in a way that will earn them a favorable impression from others. In their study, they used 33 socially phobic individuals who were diagnosed by the Anxiety Disorders Interview Schedule-Revised (ADIS-R; Di Nardo & Barlow, 1988), and 33 non-clinical controls. Participants were asked to answer complete of self-report scales such as Fear of Negative Evaluation questionnaire (FNE; Watson & Friend, 1969) and the Social Avoidance and Distress Scale (SADS; Watson & Friend, 1969). Participants were then required to present a brief, impromptu speech (3 min) to a small audience of 6-8 people. They either self-rated their performance rated someone else's speech. Finally, self- report questionnaires were filled in. The results showed that there were no significant differences between groups on the observer rating performances. However, socially anxious individuals evaluated their own social performance as poorer than the control group. There was a clear discrepancy between observer ratings and self-ratings. This finding was in line with Stopa and Clark's (1993) work which suggested that if socially anxious individuals have a distorted belief about their own performances for example as poor, worse or unfavourable in comparison to what the actual performance was, a discrepancy between self and observer ratings makes sense.

To recap, the cognitive representations held by individuals with social anxiety give rise to a fear of negative evaluation, which is a core feature of social anxiety. Their assumptions around their own performance as poor are inconsistent with others evaluations which in turn functions to maintain social anxiety.

1.2.2. Fear of positive evaluation

Fear of Positive Evaluation (FPE) refers to: "…the sense of dread associated with being evaluated favourably and publicly, which necessitates a direct social comparison of the self to others and therefore causes an individual to feel conspicuous and in the spotlight" (Weeks, Jakatdar, & Heimberg, 2010, p.3). Fear of positive evaluation appears when the socially anxious individual believes that a successful social performance has heightened the expectations of others regarding future social events, expectations they are unable to fulfil (Heimberg et al., 2010). Despite the lack of attention that has been given to fear of positive

evaluation as an important element maintaining social anxiety, the relationship between both concepts is profoundly important.

Generally speaking, people need to be valued and supported to feel secure. Experiencing these feelings is very important for socially anxious individuals to protect themselves from social threat. They also seek to avoid rejection, criticism or any 'put down' of their social status from, or in front of, others (Gilbert, 2001). Thus, how the socially anxious individual presents himself or herself is a matter of concern for him/her. Current cognitive models of social anxiety (Heimberg et al., 2010) state that although fear of negative evaluation triggers social anxiety, fear of positive evaluation also has a role. Fear of a successful performance or 'fear of doing well', as well as the individual's need to seek approval from others, constitutes an important base for social anxiety, as the socially anxious fear that they will be unable to sustain social gains in future interactions. Because of this, the individual protects themselves and their social relationships from any social conflict (Gilbert, 2001).

To further understand this concept in the context of this current research, a self-report scale was developed to measure the concept of fear of positive evaluation (see Chapter 4 for more details about the psychometric properties of this scale) for use with undergraduate students (Weeks, Richard, Heimberg & Rodebaugh, 2008a) and a clinical sample with social anxiety disorder (Fergus, Valentiner, McGrath, Stephenson, Gier, & Jencius 2009; Weeks, Heimberg, Rodebaugh, Goldin, & Gross, 2012). The findings from these investigations confirmed that the threat a social situation presents could rise from any social experience where individuals could receive positive or negative evaluation (Weeks et al., 2008a). In addition, fear of positive evaluation functions to reduce social conflict, protect individual's social ranking, reduce social competition with others, decrease overall conspicuousness and reduce the availability of the later negative evaluation (Weeks et al., 2012).

An example of the effect of this is found in the work of Wallace and Alden (1997) who recruited 32 clinical participants with generalized social anxiety and 32 individuals – a non-clinical control group - from the general community, covering both genders. Participants were informed that they were taking part in a study to examine how they evaluated themselves in social interactions. They were asked to complete various research measures including an ability standards questionnaire, social self-presentation and a positive and negative affect schedule in order to rate their behaviours and their perceptions of how others rate their performance prior to an interaction.

Two experimenters were used in this study: one to interact with the participants and one to observe the interaction through a one-way mirror. The interaction task itself was an open-

ended task designed to give both the participant and the experimenter the chance to get to know each other. After the interaction, the experimenter left the room and the participant completed the research measures. Following this, the participants were informed that there would be a second interaction after which they needed to complete the ability standards scales. The whole process was completed by asking the participants their reasons for the lowest and highest ratings of their interaction and if they had any questions about the experimenters' behaviour. The finding of this study indicated that socially anxious people display discrepancies between their own judgments around their social abilities and others' judgments of their positive social interactions, which is consistent with the results found by Stopa and Clark (1993). The skewed belief that socially anxious people hold about themselves influences their social judgment. The idea here is that the socially anxious individual believes that positive evaluation about their social acts will influence others' social expectations in future social communications. This confirms the suggestion that the negative assumptions socially anxious individuals hold about positive evaluations in social events, may make social anxiety inevitable.

Using a slightly different methodology, Weeks, Heimberg, Rodebaugh, and Norton (2008b) conducted a study to investigate the relationship between social anxiety and fear of positive evaluation. They asked participants (*n*= 65), all psychology undergraduates, to complete a personality assessment task. They were asked to write an open-ended paragraph on a topic of their own choice and were informed that an expert in this type of assessment would analyze their responses and provide them with their personality profiles. The participants were asked to complete a battery of questionnaires: Fear of Positive Evaluation Scale (FPES; Weeks et al., 2007), Brief Fear of Negative Evaluation Scale straightforward items (BFNE-S; Rodebaugh et al., 2004; Weeks et al., 2005), Social Interaction Anxiety Scale- straightforward score (SIAS-S; Rodebaugh et al., 2007) and the Social Phobia Scale (SPS; Mattick & Clarke, 1998), while their open- ended responses were analysed by an expert.

In reality, the expert did not check the paragraphs. After 30 minutes, the expert rater returned and distributed personality profiles to the participants. Each personality profile included positive feedback, i.e. '*your opinions are often highly valued*' or, '*people assume that you have many talents*'. Following this, the participants were instructed to offer their judgments on their personality profile on a scale from 0 (not at all accurate or true of me) to 10 (extremely accurate or true of me) and in terms of accuracy and discomfort from 0 (no discomfort at all) to 100 (extreme discomfort). The results from this study revealed that there was a strong positive relationship between fear of positive evaluation and discomfort when

participants received positive feedback. This was negatively associated with perceptions of feedback accuracy, but was not the case for fear of negative evaluation. This investigation confirmed that fear of positive evaluation or, 'the fear of doing well' is an important constituent part of social anxiety. Although this study used a non-clinical group, it is still considered as a baseline piece of research into the cognitive processes involved in social anxiety.

In sum, fear of positive evaluation is a significant component in understanding social anxiety. Socially anxious individuals have a fear of being in situations where they might receive positive feedback from others. This fear acts as a trigger for social anxiety and maintains its existence.

1.2.3. The unique relationship between fear of negative and positive evaluation

Fear of Positive Evaluation (FPE) and the Fear of Negative Evaluation (FNE) are significant components to consider with reference to understanding and diagnosing social anxiety. These two constructs are strongly correlated with each other and together termed *general self- evaluation,* something that socially anxious people routinely experience in social occasions. According to Heimberg et al. (2010) socially anxious individuals may better be characterized by a general fear of evaluation instead of by a single fear of evaluation such as fear of negative evaluation. However, it must be remembered that although strongly correlated, these two concepts are fundamentally different from each other. Therefore, the association between FPE, FNE and social anxiety may be considered to be quite specific as opposed to reflecting a general relationship with anxious or depressive symptoms (Weeks et al., 2008b). In addition to this, both FPE and FNE are negatively associated with positive social interaction styles, at the same time positively associated with negative social interaction styles (Weeks, Jakatdar & Heimberg, 2010). Considering each separately, FPE may result in decreased positive affect and increased negative affect when faced with positive social feedback. This happens when the individual worries about having caused others to think that they are 'too good'. Conversely, FNE may result in the same affect when faced with negative social feedback. This is due to the fear that others perceive them as 'not good enough' to be included in social interactions. Both of these negative affects may result in the individual believing that they will be excluded from future social situations (Weeks et al., 2010). Despite this, FNE has a stronger relationship with negative affect in comparison to FPE. The assumptions underlying FNE are described in the initial work of Clark and Wells (1995) and Rapee and Heimberg (1997).

However, this is not the case with FPE (Weeks et al., 2010; Fergus et al., 2009; Wallace & Alden, 1997, 1995). To a certain extent, it is still unknown why socially phobic people experience social anxiety when in a positive social interaction but a number of possibilities have been suggested. Socially anxious people who hold unconditional negative beliefs or a negative self-image think that after positive interactions, they cannot live up to the expectations of others in future interaction situations. This, along with the high standards they hold around their own social performance, may lead them to inflate acceptable social standards of others. Taken together, the socially anxious individual ultimately interprets positive feedback as negative (Fergus et al., 2009; Wallace & Alden, 1997, 1995), which in turn leads to raised social anxiety. Interestingly, Wallace and Alden (1997) conclude that subsequent negative evaluations, which individuals face during their next social interaction, reduce the symptoms of social anxiety more so than positive evaluation as they expect and anticipate failure. These series of negative evaluation that the individual perceived while they interact with others, could be the result of using the "failure strategy" that individuals with social anxiety adapt to protect their self – presentation in order to maintain other's lower expectation. Thus, when individual is becoming uncertain about their ability to gain others favourable impression, "fail strategically" at the beginning of their social interaction it is intentionally their way to create a safer standard and lower social expectations (Baumgardner & Brqwnlee, 1987). Despite this clarification, further research is needed to best understand the relationship between these two constructs and social anxiety, specifically with clinical samples that present with social anxiety symptoms.

1.2. Post-event processing

Post Event Processing (PEP), is defined as an involuntary focus on one's negative feelings (Treynor, Richard, & Nolen- Hoeksema, 2003) and occurs after both successful and unsuccessful social interactions (Hofmann, 2007). According to cognitive models of social anxiety (Clark & Wells, 1995; Clark, 2005), prior to any engagement in social interaction, individuals with social anxiety go over in detail what happened to them on previous social occasions. This behaviour is likely to focus on negative thoughts and negative self-perceptions leading them to remember these interactions as worse than they actually were. Once they start to think about an approaching social event, they become more anxious, recalling their past failures and the perception that they were dominated by others expectations around their inadequate performance. In addition, they fail to interpret social cues in a positive manner (Stopa & Clark, 2000), therefore their expectations about the next social interaction situation

become poorer. As a result of these cognitive processes, individuals tend to expand the list of their past failures (Clark & Wells, 1995) in a more negative way than they really were (Heimberg et al., 2010), making it harder to break out of their maladaptive cycle. Consistent with this model, Rapee and Heimberg (1997) proposed that socially anxious individuals have a negative mental self-image based on their previous negative social interactions. These individuals think about their negative perceptions in a maladaptive manner during consequent social interactions, this possibly preventing them from being aware of positive social interactions or positive social prompts. Thus, the existence of an association between the individual's negative self-perceptions around their social performance and their negative social rumination is inevitable. The more negatively the individual remembers their social performance during a social event, the more negative post-event processing that will occur (Abbott & Rapee, 2004).

A number of studies have investigated the relationship between post-event processing and the persistence of social anxiety. For example, Rachman, Gruter-Andrew, and Shafran (2000), investigated the extent to which socially anxious individuals engaged in post-event processing after social interactions and performances. The questionnaire they designed to measure this, the Post-event Processing Questionnaire (PEPQ; Rachman, Gruter-Andrew, & Shafran, 2000), was employed alongside a battery of other social measures including the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) and the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, Dancu, & Stanley, 1989). One hundred and thirty undergraduate students were divided into high and low social anxiety groups. The subsequent results indicated that socially anxious individuals engaged in more negative post-event processing and that they were more likely to avoid similar negative social events. They were also more likely to remember negative social situations in comparison to the low social anxiety group. This level of ruminative analyses is persistent and intrusive, interfering with other functions, for example levels of concentration. However, it is important to bear in mind that this study relied on a self-report questionnaire (PEPQ), which although a useful scale measuring post-event processing (Brozovich & Heimberg, 2008), did not include a social interaction intervention to accurately assess post-event processing.

More methodologically advanced research was conducted by Abbott and Rapee (2004), who hypothesized that a group with social anxiety would engage in more negative rumination about their speech performance than their non-anxious counterparts. They also proposed a significant positive relationship between negative thought and rumination about speech. Two anxious and one non-anxious groups were given the opportunity to engage in an impromptu

speech and informed that an independent observer would evaluate their performance. One week later, the participants were asked to complete the research measures, post-event processing and performance questionnaires, to evaluate how they felt about that specific speech performance. The results indicated that the socially anxious group continued engaging in negative self-appraisals of their performance up to a week after the event in comparison to the non-anxious group. In addition, the socially anxious group showed a greater pre-occupation with negative post-event processing than the control group. However, a contradictory finding was observed by McEvoy and Kingsep (2006), who found that for a socially anxious clinical sample, post-event processing was not significantly correlated with anxiety and social interaction measures, although after controlling for levels of anxiety, stress and depression, the correlation with anxiety was significant. This conclusion suggests that post-event processing is not necessarily specific to social anxiety but may be more related to elevated anxiety (Brozovich & Heimberg, 2008) and depression (Nolen-Hoeksema, 2000; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008).

The characteristics of negative ruminative thinking were discussed by Dannahy and Stopa (2007) when they replicated Abbott and Rapee's (2004) study to examine for associations between post-event processing and self-appraisal of social performance. High and low social anxiety groups participated in a dialogue with a stooge for 5 minutes. The conversation was videotaped and participant performance evaluated. At the end of the conversation, participants were asked to complete various measures including the Daily Thoughts Questionnaire (DTQ; Dannahy & Stopa, 2007) over the following week. One week later, participants were asked again to complete the study measures for a second time along with a modified Daily Thoughts Questionnaire. This questionnaire assesses the participant's feelings about their performance during the conversation the previous week and how much they had thought about it over that week. The results revealed that highly socially anxious individuals experienced more anxiety, anticipated poor performance, underestimated their performance and engaged in more post-event processing than individuals with low anxiety. The studies of Dannahy and Stopa (2007) and Abbott and Rapee (2004) agree about the relationship between post-event processing and the negative evaluation of individual's social performance but, they disagree about social performance as evaluated through a confederate. Abbott and Rapee (2004) found that the socially anxious group showed more discrepancy between their performance and rater appraisal. This inconsistency in both studies was explained by Rapee and Lim (1992) in that such a discrepancy could occur if judgments were made on overall interaction and not just the one specified.

A slightly different methodology was used by Mellings and Alden (2000) where they used undergraduate students divided into high and low socially anxious groups depending on their score on the Social Avoidance and Distress Scale (SAD; Watson & Friend, 1969). They were asked to engage in a ten minute social interaction with an opposite sex participant (time 1) drawn from the research pool. The 'confederate' presented information relevant to their personality as a part of the social interaction. Participants also completed various research questionnaires: Self-Focused Attention Questionnaire (FAQ; Woody, 1996), Rumination Questionnaire (RQ; Mellings & Alden, 2000) and the State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The following day (time 2), participants were allocated to one of two anticipation conditions. For the manipulation-anticipation condition, participants were informed that they would have to interact with their partner, that this interaction would happen in front of an audience and that their performance would be evaluated. In the other condition, participants were informed that before the second interaction they would be asked to recall the conversation that they engaged in with their partner last time and answer some questions about this. This was a deception condition, which was conducted in order to raise the levels of anticipatory apprehension amongst the participants. Following this, the participants completed the measures related to post–event processing. The results revealed that in the day following the social interaction, the socially anxious participants engaged in more post-event processing than the non-anxious participants. An important finding of this study was that post-event processing after a social interaction may increase negative social information and that this social information may jump into mind when individuals talk about said social situations.

Fehm, Schneider and Hoyer (2007) aimed to answer the question whether post-event processing was specifically relevant to social anxiety or social situations rather than phobic situations (e.g., fear of heights). Undergraduate participants ($n = 281$) were instructed to think about specific social and phobic situations that had happened in the last six months. They then completed measures of social fear, Fear of Negative Evaluation (FNE; German version: Vormbrock & Neuser, 1983; FNE; Watson & Friend, 1969), Phobic Anxiety Questionnaire (PHA; Fehm, Schneider, & Hoyer, 2007), and the revised version of the Post Event Processing Questionnaire (PEPQ; Rachman et al., 2000; (RPEPQ; Fehm, Hoyer, Schneider, Lindemann, & Klusmann, 2008). The results revealed that participants engaged in higher levels of post-event processing following social situations as compared to non-social or phobic situations and that subsequent post-event processing was more prevalent and of longer duration. In addition, fear of negative evaluation in social situations was a stronger predictor of post-event

processing than non-social, evoking anxiety. An interesting finding from this study was that post-event processing is not limited to severe socially anxious or socially phobic individuals; the general population also engages in post-event processing after an anxiety-provoking event. Despite this conclusion, the duration and intensity of post-event processing are major factors to consider in the identification of social anxiety. However, it is important to state that this finding was likely due to methodological issues as post-event processing for both social and non-social situations was measured with the same questionnaire, the PEPQ (Brozovich & Heimberg, 2008).

The previous explanation of post-event processing indicates that the cognitive activity by which people recall what happened during past social situations is a cognitive phenomenon, which could shape and manipulate an individual's social performance.

1.4. Interpretation of ambiguous social prompts

Social information is characterized as being relatively ambiguous and uncertain and therefore, the interpretation of it may result in the perception of some kind of threat (Spokas, Rodebaugh, & Heimberg, 2004). While trying to interpret the world around them, people with social anxiety may judge ambiguous social situations as negative or dangerous and interpret or judge others' views about them as threatening in an extreme or catastrophic manner (Amir, Foa & Coles, 1998; Stopa & Clark, 2000). This biased interpretation of social information may have an effect on both the aetiology of anxiety symptoms and the maintenance of those symptoms (Clark & Wells, 1995; Rapee & Heimberg, 1997). In the following section, the aim is to clarify the role of interpretation bias in the maintenance of social anxiety by examining several findings that have used a number of different methodologies to examine this concept.

To start with, Amir, Foa and Coles (1998) conducted a study to assess the interpretation of ambiguous social situations among participants with generalized social phobia, participants with obsessive-compulsive disorder and non-anxious participants (control). The participants were presented with 15 social scenarios (for example, '*You see a group of friends having lunch; they stop talking when you approach*'), and non-social scenarios (for example, '*You get your cable bill and notice that...*'). After reading each scenario, they were asked to rank-order the likelihood of specific interpretations coming into their minds - self-relevant ranking - or other-relevant ranking. There were three alternative interpretations (negative, positive and neutral) for each scenario. The results indicated that participants with social phobia were more likely to generate negative interpretations of ambiguous social situations than those participants in the other two groups, but there were no significant differences among the three

groups in their tendencies to make negative interpretations of non-social situations. The early findings of Amir et al. (1998) confirm that the propensity of interpretation bias of the ambiguous social event is a distinctive feature in social anxiety as compared with other anxiety disorders such as obsessive-compulsive disorder.

Using a slightly different methodology to investigate the role of interpretation bias in the maintenance of social phobia, Stopa and Clark (2000) found that patients with generalized social phobia ranked negative interpretations of ambiguous social situations higher than patients with other anxiety disorders and non-patients. However, other anxiety disorders, the control groups, did not differ in their scores in terms of anxiety traits. Three groups of participants were asked to read ambiguous interpretation scenarios related to social and control situations and to write down their immediate interpretations classed as negative, neutral or positive. On completion of this task, an additional sheet was distributed, which instructed them to return to the beginning of the questionnaire and rate the extent to which they would accept each of the three alternative explanations for each situation (scenario).

The results of Amir et al. (1998) and Stopa and Clark (2000) confirm that individuals with social phobia are characterized by a tendency towards negative interpretations of social situations (self-relevant interpretation). However, these two studies assessed off-line interpretations (interpretations were based upon previous negative experiences and images rather than immediate self-impressions) and could not determine whether the self-relevant rankings obtained from those with social phobia were direct inferences from ambiguous and unambiguous social events that may have happened to them (Clark, 2005). Stopa and Clark (2000) go on to explain that the strength in the Amir et al. (1998) study is that it included self-relevant versus other-relevant rankings as well as the impact of negative interpretation on individual emotions. In contrast, in Stopa and Clark's own study (2000), the strength was the incorporation of open-ended responses and the interpretation of belief ratings.

Recently, in order to investigate the role of other-relevant rankings in interpretation bias, Roth, Antony, and Swinson (2001) explored the way in which people interpret observable symptoms of social phobia. They compared the responses of socially phobic individual and non-clinical control participants on the Symptom Interpretation Scale (SIS; Roth et al., 2001), which includes eight possible interpretations including experiencing normal levels of anxiety, nervousness or fear of social phobic visible features. Half of the participants in each group were asked to complete an 'observer' version of the SIS centred on how they viewed or judged anxiety symptoms in others while the other half completed an 'actor' version centred on how their own anxiety symptoms were viewed and judged by others. Each group rated the extent to

which each of the eight interpretations could be a possible explanation of the observable symptoms of social phobia. Only three out of the eight explanations, experiencing intense anxiety, experiencing some other psychiatric problem and experiencing a normal physical state were subject to significant variation across the two groups in the two versions of the SIS. It was only in the actor version that participants tended to think that others would interpret their visible symptoms of social phobia as related to intense anxiety or other psychiatric disorders. On the contrary, normal participants in the actor version were likely to hold the view that these symptoms were indicators of normal physical conditions such as being cold, tired or hungry. However, the socially phobic participants tended to attribute any extreme or negative interpretations of their symptoms to others rather than themselves.

As stated earlier (e.g. Amir et al., 1998; Stopa & Clark, 2000), individuals with social phobias tend to form negative interpretations of ambiguous situations. However, there is a paucity of studies on the absence of positive interpretation bias in social phobics. Besides the studies cited above in which socially anxious individuals showed a negative interpretation bias toward social events, it is important to also examine how socially anxious individuals interpret positive social situations, and whether the lack of positive interpretations has a significant role in increasing negative interpretations and therefore the maintenance of social anxiety. Huppert, Foa, Furr, Filip, and Mathews (2003) examined the interpretations of ambiguous social and non-social scenarios separately for positive and negative bias. They asked undergraduate students and university employees to read ten scenarios describing ambiguous social situations and ten scenarios of non-social situations. After a two-minute filler task which involved completing the missing letters in a word related to a scenario, the participants were asked to rank-order four interpretations: positive or negative, consistent or inconsistent, with respect to how similar they were to the original scenarios. The results indicated that negative interpretation bias for social scenarios correlated positively with social anxiety. In contrast, positive interpretation bias was negatively related to a general negative affect. Thus, the results suggested that social anxiety is not associated with a lack of positive interpretations, but rather with a tendency to show more negative interpretations.

The aforementioned studies (Foa et al., 1996; Huppert et al., 2003; Roth et al., 2001; Stopa & Clark, 2000) suggest that individuals with social phobia or social anxiety have a tendency to be biased in their interpretation of ambiguous cues in social events. However, these studies do not test online interpretation or real-time bias towards negative interpretations made at the time the scenarios were presented. Therefore, there is a need for different methodologies specifically online methodologies, to minimize the effects of other factors (i.e.,

memory). According to Stopa and Clark (2000), if socially phobic individuals attend to inaccurate internally generated social details, they may be making judgments based on this information rather than on real negative interpretations of social cues. This suggests that some negative interpretations may be stored in the individual's memory rather than created at that time.

To give an example, Hirsch and Mathews (2000) used online encoding tasks in which participants were presented with ambiguous stimuli. At various points throughout these tasks, the participants' interpretations of current social situations were assessed. Participants with social phobia and matched controls were asked to read eight descriptions based on real-life scenarios, for example, being interviewed for a job: *"You wonder if, when you are in the interview, all your preparation will be..."* These ambiguous, incomplete sentences were displayed on a computer screen. At a certain point in the text, the subjects completed a lexical decision task; they had to quickly decide whether a probe word could complete the sentence. All the words were possible completions for the sentence; half of them related to threat, such as forgotten, the other half to non-threat, such as successful. Reaction times were recorded to examine the match between the participants' interpretations of the incomplete sentences and the probe words. The controls showed a positive interpretation bias (shorter response latencies to benign words than to threat words), while the response latencies of the participants with social phobia showed that they responded more slowly to both threat and benign words. These results indicated that those with social phobia did not show online bias towards negative 'threat' words or positive interpretations, 'non-threat' words. Even if the results were accurate, this does not mean that the slower response latencies of anxious participants for positive and negative interpretations are a consequence of negative interpretation; they may be more related to the lack of positive interpretation, which makes socially anxious people different from those who are not anxious (Hirsch & Mathews, 2000). Similar results were obtained by Huppert, Pasupuleti, Foa, and Mathews (2007), they tested the hypothesis that multiple negative interpretations can result in a lack of positive interpretations or the presence of negative interpretations, or both. Two groups with high and low social anxiety were asked to resolve ambiguous social sentences such as *'As you walk to the podium, you notice your heart racing, which means you are...'* They were asked to verbally generate as many completions that came to mind for each sentence. To record their responses, the participants were presented with small boxes on a computer screen to enter their chosen word to complete the sentence. The results indicated that high-anxiety participants had more negative and anxious responses and fewer positive and neutral responses than low-anxiety participants.

Taking these two studies together, it can be argued that when working online, high-anxiety individuals are able to produce more negative interpretation responses in combination with a lack of positive interpretations even though positive cues are available in the social situation. The reason behind this, according to Wallace and Alden (1997), is that positive interactions in social situations might not fully change negative judgments of the self for the socially phobic individual, as they still believe that they are incompetent and will not meet others' expectations.

It is important to clarify that individuals with social anxiety not only generate a series of maladaptive assumptions about themselves when they encounter social events or when they feel that they are the centre of attention, but they also hold distorted beliefs about themselves prior to social events. In this case, it is possible to assume that early experiences may have greatly affected the generation of distorted beliefs about similar social situations. However, the methods, including self-report questionnaires or reaction time tasks, used in the previous literature do not fully address the influence of such beliefs on negative and benign interpretation bias of ambiguous social events in social anxiety.

Using a different methodology to assess interpretation bias in people with social phobia, Beard and Amir (2009) investigated the effect of positive and negative beliefs on interpretation bias in ambiguous social scenarios. Two groups of undergraduates, representing anxious and non-anxious controls groups, participated in the study. A new paradigm (WSAP: Word Sentence Association Paradigm) was designed for the study to measure the priming effect of positive and negative beliefs on interpretation bias on ambiguous scenarios, which were presented to the participants. The WSAP consisted of the following: 76 ambiguous social sentences including "*People laugh after something you said*" and 34 ambiguous non-social sentences including "*Part of the building has blown up*". Two prime words were selected to precede the social sentences, one related to threat, 'danger', the other to non-threat, 'funny'. The WSAP was programmed and displayed on a computer screen. The reaction time data revealed a threat (negative) interpretation bias and a lack of a benign (positive) interpretation bias in both reaction times and self-report data. Threat and benign biases were not strongly correlated and so these findings support the distinction between threat and benign interpretation biases. Beard and Amir concluded that the meaning of prime words could influence the interpretation bias of social phobics, especially when they are presented with ambiguous information after being exposed to prime stimuli for example, words, photographs or sounds. In fact, this innovative paradigm reflects a mixed methodology in that it uses both offline and online methodologies, which can be employed to test the hypothesis that social

phobics lack positive bias towards social situations. This mixed methodology provides sufficient opportunity to recall negative beliefs rather than positive ones.

Therefore, it can be assumed that most studies of social anxiety (Amir et al., 1998; Stopa & Clark, 1993, 2000) agree on the idea that there is negative interpretation bias towards social information and a content-specificity that characterizes this bias, for example a negative bias towards social versus non-social situations. However, the methods used rely exclusively upon self-reports, which may not minimize the effect of response bias. Opposing studies (Hirsch & Mathews, 2000), which assessed online interpretations of social and non-social situations show that social anxious may lack bias towards interpreting social situations in a positive (non-threatening) way, rather than having a general tendency for negative interpretations. However, these research findings at some stage have the same thought around the negative interpretation bias and their significant role in maintenance of social anxiety.

1.5. The combined cognitive biases in social anxiety

As has been mentioned previously, cognitive-behavioural models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) propose that information-processing biases contribute to the maintenance of social anxiety. In fact, this is not necessarily a result of the separate processing of each bias, but of the combination between these biases, which contributes to the development, and maintenance of social anxiety disorder.

According to Hirsch, Clark and Mathews (2006), when compared to non-clinical groups, those with social anxiety hold a negative self-image during non-significant social performances and they also exhibit less positively biased interpretations of external sources of social information. Moreover, Hirsch, Mathews, Clark, Williams, and Morrison (2003) found that negative images in social anxiety correlate with negative interpretation bias and that these negative images block positive inferences among non-socially anxious individuals. In contrast, holding a positive image in mind changes inferential processing (Hirsch, Clark, Williams, Morrison, & Mathews, 2005; Hirsch & Holmes, 2007). Similar evidence is given by Hirsch, Mathews, and Clark (2007), namely that the negative interpretation of ambiguous social situations is more likely to generate a negative self-image, the anticipation of social danger and vivid images of poor performance. Along the same lines, Spokas, Rodebaugh, and Heimberg (2004) found that individuals with social anxiety focus on threatening information in the environment which affects their ability to process information that may impair the perception of threat. In other words, their interpretations are usually negatively biased and they suffer negative social consequences to a greater degree than non-anxious individuals. In addition,

negative self-imagery in social situations produces greater anxiety and a worse self-perception (Spokas, Rodebaugh, & Heimberg, 2007). Images are seen from the observer's perspective, reflecting fear about the perceptions of others. In this kind of situation it is likely that the interpretation of the original social situation was extremely negative. Correspondingly, this negative interpretation is integrated into the negative image in an inflated way. This image blocks the processing of positive information in future social events (Heimberg et al., 2010).

Self- image is one of the more important cognitive processes found to be impacting on autobiographical memories. Stopa and Jenkins (2007) investigated the effect of self-imagery on the retrieval of autobiographical memories with socially anxious individuals. Holding certain images in mind may affect the types of autobiographical memories in response to the perception of the image be it negative, positive or neutral. When participants hold a negative image in mind, they retrieve negative memories faster; the same can also be said for positive images and memories. However, when an individual holds negative images, positive memories are harder to recover in comparison to both negative and neutral ones. Looking to see if post- event processing has an association with memory, Field, Psychol, and Morgan (2004) sought to establish if post-event processing had an impact on the retrieval of autobiographical memories, negative, anxious and/or shameful using socially anxious individuals and a control group. Each group was randomly allocated into subgroup conditions to examine post-event processing which included a negative, positive and a distraction task. The participants were all asked to recount a recent ambiguous social event, which they had experienced. They were then instructed to focus on the negative or positive aspects of the event or to partake in the distraction task. After this, participants were invited to discuss their memories of personal events and experience these rated as either negative, anxiety provoking or shameful. The result showed that socially anxious individuals recalled memories that were more negative and shameful regardless of the type of post-event processing they carried out. An unforeseen finding concerning socially anxious individuals who engaged in negative post-event processing was that while they recalled situations that were anxious and shameful, they were experienced as more soothing after other types of post-event processing.

So, this research tells us that the stimulation of negative self-images could enhance the retrieval of autobiographical memories. If the socially anxious individual pays a lot of attention to the ambiguous cues in a social event, they tend to interpret these as negative based on their past social experiences or the negative images listed in their mind. Individuals are then able to rehearse these images (worse than they actually are) and to reprocess them thus becoming their initial source of evaluation for any future event. This makes the information

processing loop more robust making it difficult to determine which cognitive biases have the most effect on the maintenance of social anxiety.

2. The relationship between social anxiety and cultural values

In the previous section, a number of empirical research studies concerning social anxiety cognitive bias were reviewed in detail in order to 1) outline the role of cognitive information processing on the persistence of social anxiety disorder, and 2) to look for ways to start to explain the link between social anxiety and cultural values. In this section, the aim is to detail the relationship between culture and social anxiety and to identify the impact of culture on said disorder.

Understanding the relationship between culture and social anxiety, or how the two aspects of cultural values (individualism and collectivism) can function to maintain social anxiety within a population, is not straightforward. This complexity, in our opinion, has three fundamental bases. First of all, there is the need to consider the paucity of direct research on this relationship, research which has revealed some discrepancies between the findings in the research that already exist regarding levels of social anxiety across culture. For example Dinnel et al, (2002) found that social anxiety is likely to be found with those who define themselves as high in collectivism/ interdependence and low individualism/ dependence, regardless of culture. In contrast, Heinrichs et al. (2006) found that those from collectivistic countries reported higher levels of social anxiety than those from individualistic countries. Both these studies used the same measure; the Social Interaction Anxiety scale to examine social anxiety levels (SIAS: Mattick & Clarck, 1998). The second point concerns the intricacies around the significance of the terms 'social norms' and /or 'social values' adopted in different cultures, this including how these terms regulate people according to the needs of their society, for example the interdependence and dependence values of individual's self (between or within cultures) as cited in the work of Markus and Kitayama (1991, 2010). Finally, the implicit bias present when interpreting research findings must also be considered. The above rise in part because most research has been conducted in two countries: the United States and Japan. This situation makes generalization imprecise and perhaps inappropriate. Despite this, in this section we will highlight a number of investigations that have been conducted examining the role of cultural values on the development and maintenance of social anxiety within different cultures.

Social anxiety is thought to be related to social surroundings and the fear of social interaction with others. That said, social norms inevitably have an effect on social anxiety

within a given society (Greenberg, Stravysnski, & Bilu, 2004). To date, this has lead to the proposal that people from collectivistic cultures are more prone to developing social anxiety in comparison to people from individualist cultures.

To give an example, Heine and Buchtel (2009) conducted a systematic review of studies examining cultural differences between Eastern and Western populations. From the data they gathered, their conclusion was that those from Eastern societies show a greater propensity towards avoidance behaviours because they try to make their behaviour conform to that prescribed by society to a greater degree than their North American counterparts. In addition, although Eastern individuals embrace interdependence with others, they create fewer opportunities to develop new relationships. They do not tolerate contradictions, are attentive to the perspectives of others, are wary of potential losses and are self-critical. These findings suggest that differences between Eastern and Western cultures impact greatly on the incidence of symptoms, for example approach-avoidance, which can lead to the development and maintenance of social anxiety.

Heinirchs et al. (2006) found that people from collectivist cultures have greater levels of social anxiety in comparison to people from individualist cultures. They compared social anxiety across eight cultures with regard to individualism-collectivism and the social norms guiding behaviour in each culture. Undergraduate students from eight countries were asked to read 19 hypothetical social scenarios and provide three types of judgment: the appropriateness of the behaviour in each scenario; whether the actor's behaviour in each scenario was positive or negative and the cultural appropriateness of the actor's behaviour. The questions included the following: "*You are sitting in a crowded bus. The man in front of you suddenly gets up and shouts loudly across the bus to a second person. They both then get off at the next stop*". The results indicated that participants in collectivist countries are more likely to accept and tolerate socially withdrawn behaviours than participants in individualist countries who are more likely to tolerate attention-seeking behaviours. Interestingly, there was no difference between individualist and collectivist countries in terms of an individual's personal judgments about socially withdrawn behaviour. Compared to individualist cultures, participants in collectivist countries reported greater levels of social anxiety and a greater fear of blushing. With regard to positive or negative cultural norms, Asian participants were more positive in their perception of socially reserved behaviour than Western participants, whose perceptions of cultural norms were less negative with regards to socially extraverted behaviour. These results provided initial evidence that social anxiety may be related to different norms across culture.

Schreier, Heinrichs, Alden, Rapee, Hofmann, Chen, Oh, and Bogels (2010) replicated the finding of Heinrichs et al. (2006) with 866 psychology undergraduates representing both cultural values. They aimed to examine whether people from collectivist cultures had higher levels of social anxiety and displayed more socially reticent behavior. However, this time Latin American countries were included, countries that are assumed to be collectivist in nature. The results were in line with the earlier work of Heinrichs et al. (2006) with reference to the relationship between collectivistic value and social anxiety. However, they did not find any support for their hypotheses about the Latin American nations.

The studies of Heinrichs et al. (2006) together with Schreier et al. (2010) suggest collectivistic cultures are designed to promote group harmony within society. This harmony seems to be guided by strict social norms, which protect the social fabric of that society. In this case, it can be assumed that being in harmony is the highest priority for this culture; this makes any social slips likely to be obvious and easily spotted by others (Hofmann, Anu Asnaani, & Hinton, 2010) increasing the individual's self-awareness of social expectations this, in turn, increasing levels of social anxiety (Schreier et al., 2010).

Hong and Woody (2007) found that a Korean group, who reflected Eastern cultural norms, reported more social anxiety than a Euro-Canadian group who reflected Western cultural norms. Eastern participants had higher levels of interdependent self-construal, greater flexibility with reference to how they presented themselves in different social contexts or situations, more self-criticism and lower levels of independent self-construal than Western participants. Hong and Woody postulated that both groups essentially reflected their culture framework. In comparison to Western cultures, in collectivist Eastern cultures' self –criticism is ingrained in the individual's sense of self. They respond to the need to harmonise their relationship with others, 'fitting in' to meet others social expectations (Heine et al., 1999). In addition, these individuals are able to present with a variety of selves (e.g., actual self and social self) because they are not constrained by a lack of social flexibility (Shu, 2002). In contrast, Western cultures promote a self-enhancement bias where appearing as positive is regarded as a fundamental need according to cultural norms (Heine et al., 1999), this positivity resulting in more self-consistency across different social situations (Hong and Woody, 2007; Shu, 2002). This suggests that the individual reflects their cultural social system when they present themselves in social situations, this eventually contributing to negative emotional distress.

Although in collectivistic cultures, there are strict and overt social rules, which regulate individuals' behaviors in order to sustain social harmony, and any deviation from

these rules means that the individual could be threatened by sanctions such as social rejection (Hofmann et al., 2010), the proposal that collectivist culture or Eastern culture are more prone to social anxiety is debatable. To clarify, the epidemiological investigations reveal a range of lifetime prevalence rates of social anxiety (Lewis-Fernandez et al., 2009) with the lowest rates in Asian samples, the highest in Russian and US samples (Hofmann et al., 2010). According to DSM-5: "…prevalence rates of social anxiety disorder may not be in line with self-reported social anxiety levels in the same culture- that is, societies with strong collectivistic orientations may report high levels of social anxiety but low prevalence of social anxiety disorder" (DSM-5, p. 206). Stein (2009) indicated that social anxiety is found to be a worldwide prevalent disorder, however, cultural differences show in terms of the expression of this disorder. In Western cultures, the main concern of the individual is their own social performance, while in Eastern cultures the main concern is maintaining social harmony. This inconsistency of prevalence rates of social anxiety across culture: "…emphasize that cultural differences might help explain the differences in prevalence and expression of social anxiety" (Heimberg et al., 2014, p.4), and restructure concepts around the existence of social anxiety whether between or within different countries.

The solid relationship between social anxiety and the collectivistic cultural value, according to the previous research, is not the conclusion reached by all research examining the relationship between social anxiety and culture. While collectivist and individualist value may symbolize a specific culture, both forms may be found within any one culture. Hence, a further line of thought has emerged regarding this relationship. Kleinknecht, Dinnel, and Kleinknecht (1997) studied the influence of self-definition, independence and interdependence on the frequency and prevalence of two culturally-bound forms of social anxiety: social anxiety and social phobia, as defined by DSM-IV, and a form of social anxiety called 'Taijin Kyofusho', a Japanese form of anxiety characterized by fear of causing offence to others who are different from accepted social norms. Two groups of undergraduate students were compared on five scales: the Social Interaction Anxiety Scale (SIAS; Mattick & Clark, 1989); the Modigliani Embarrassability Scale (ES; Modigliani, 1966); the Social Phobia Scale (SPS; Mattick & Clark, 1989); and the 'Taijin Kyofusho' symptoms and behaviours and scales to measure independence and interdependence. The results revealed a negative correlation between independence and all measures of social anxiety and social phobia for both the American and the Japanese participants. The more independent (individualist) a student was, the

less he/she displayed symptoms of social anxiety and social phobia. However, while the interdependence dimension of self was moderately and positively correlated with measures of social anxiety (social phobia) and Taijin Kyofusho in the American group, it did not have a significant correlation with any of these measures among the Japanese students.

This investigation suggested number of significant points: 1) that different forms of social anxiety could occur within each culture and that the social cultural context can determine the individual's social performances. 2) An interesting example of this is where American students have a moderate score when the TKS includes items that measure the fear of being offended by others because of unacceptable social behaviour or appearance. This is not included in the SPS as defined by DSM-IV. 3) Levels of individualism and collectivism may happen within both groups. 4) Levels of independence may work as a strategy to protect people from social stress when they are in novel situations. According to Kleinknecht et al. (1997): "…in our Japanese sample, high independent self construal was associated with less social anxiety about offending others (TKS) or being scrutinized and negatively evaluated by others (SPS)" (Kleinknecht et al., 1997, p. 173).

Turning to another similar line of research, Dinnel et al. (2002) examined the relationship between the individual, culture and three different forms of social anxiety; social phobia as defined by DSM-IV, 'Taijin Kyofusho' and that measured by the social interaction anxiety scale. Two samples comprising of American and Japanese undergraduates were asked to measure their susceptibility to the three aforementioned disorders according to a scale for assessing the independence and interdependence dimensions of self-construal. The Japanese group scored significantly lower than the American group on the independence dimension, but there were no significant differences between the two groups on the interdependence dimension. For social interaction anxiety and Taijin Kyofusho, Japanese participants scored lower than Americans; there were no significant differences between the two groups in their scores on the social phobia scale. These surprising findings are in sharp contrast to accepted ideas around the relationship between collectivism and social anxiety. Dinnel and colleagues (2002) argue that collectivist values (interdependence) or *the value of Japanese culture* might be found within the American sample. Thus, the experience of social anxiety as defined by TKS may be a consequence. In this sense, with reference to the experience of social anxiety, it is not only important to distinguish between the two basic dimensions (individualism and collectivism), but it is also important for therapists who work in the individualistic cultures

when they diagnose clients from collectivist cultures suffering from social anxiety symptoms that are not consistent with the DSM-IV (Dinnel et al., 2002; Dwairy, 2006).

The research described above is considered fundamental to the study of social anxiety and cultural values: individualism and collectivism. Despite this, on-going criticism can be seen according to Oyserman et al.'s (2002) meta-analyses. As mentioned in Chapter 1, Hofstede (1980, 2001) was aware of the limitations of his approach in terms of level of analysis issues and the dynamic process of the impact of culture. The findings of his work were restricted to, and by, the economic and historical issues at the time. Because there has been an enormous shift to studying the influence of cultural values on the individual, Hofstede's approach is no longer deemed appropriate to study psychological functions at the individual level (Oyserman et al., 2002). Oyserman et al. (2002) offered a number of points of evaluation of the existing investigations of individualism and collectivism.

Firstly, some investigations have used Hofstede's classification system for countries to classify individual groups in their research, building their assumptions on the differences between groups according to Hofstede's broader approach. For example, Heinrichs et al. (2006) divided countries into two groups based on Hofstede's data in order to simplify the research analyses. Individualistic countries included the USA, Canada, Netherlands and Germany, while collectivistic countries included Japan, Spain and Korea. A similar procedure was applied by Schreier et al. (2010) in his research. According to Oyserman et al. (2002) this approach makes Hofstede's classification 1) accurate to use across all life domains such as self-concept, 2) unchangeable over time, and 3) applicable to use at the individual level. However, the work of Kleinknecht et al. (1997) and Dinnel et al. (2002) cannot be ignored as their work was based on the individual level as describe by the work of Markus and Kitayama (1991).

Secondly, the direct assessment of culture (usually self- report) in some research assumes that the cultural frame work of individual values, beliefs and attitudes is *a form of declarative knowledge* [italics in the original text] that participants respond to explicitly, instead of a culture which is *a subtle and implicit practice and social structure* [italics in the original text] rooted in the individuals' daily life.

Third, most of the investigations cited above recruited samples of college students. This, according to Oyserman et al. (2002), could limit the generalization of findings to other cultural groups within the same society, as the student sample may have a higher level of education and a different socioeconomic background, masking cultural differences. Despite this, no evidence

supports the notion that students differ from other social groups (i.e., adult) in this meta-analysis.

Fourth, most of these investigations have problematic issues with their samples:

1)   Sample groups were restricted to two main countries; East Asian countries such as Japan, Hong Kong, Korea and China and the United States.

2)   No differences in social anxiety were found between Japan and America as examples of two different cultures (i.e., Dinnel et al., 2002). No significant cultural differences were found between Japan and Korea with American (Oyserman et al. 2002) when the USA was compare with other Asian countries. This may be because a population such as the Japanese: "…generally behave unemotionally in Western eyes" (Hofstede, Hofstede & Minkov, 2010, p. 196). This point presents the opportunity to think about differences with the culture itself and not assume cultural homogeneity.

3)   With some research, data was collected from one country (Western country) the participants then categorized according to their cultural values (i.e., independence and interdependence) even if the researchers attend to use strict criteria to reduce the impact of heterogeneity (i.e., Hong & Woody, 2007). Here we cannot ignore the impact of the original culture as a fundamental component shaping individual social experience. However, it is important to consider the changes that occur in individuals' emotions, cognitions and behaviors when they interact on a daily basis with different cultural systems. Regarding social anxiety, Heimberg et al (2014) state that to make a clinical diagnosis of social anxiety, individuals must be assessed within their own cultural social context. However, it is also important to consider the situation of those who live in multiple cultures (dual interaction between the individuals' original and current culture) as they may show social anxiety in some social situations and not in others. This is one reason why biculturalism becomes a topic of interest when studying the effects of culture in psychology (for more details see Cheng, Lee, and Benet-Martinez, 2006).

4)   The differences between samples regarding language specific cultural issues must also be considered in cross-cultural investigation. The translation- back translation procedure in this case may not be reliable (i.e., Heinrichs et al., 2006).

5)   From the results of these investigations we can surmise that a focus on social anxiety as a broad disorder distorts nuances of its presentation across culture. At this point, it would appear wise to focus on comparing significant components of social anxiety (e.g., fear of evaluation) across culture to identify and clarify the cultural variations inherent in this

disorder. At the same time, a new approach provides the opportunity to assess existing models, which explain social anxiety from a cultural perspective.

To sum up, the relationship between social anxiety and cultural values is still complicated. It goes far beyond the generalized idea that Eastern culture is more collectivist and Western culture is more individualist, as there is the need to include different nationalities to examine this cultural difference. That said, it could be suggested that social anxiety is culturally related. According to Barlow (2002), it is not surprising that there are differences between people in the ways they express emotional distress. What is astonishing is how differently anxiety manifests itself according to different cultural systems.

3. Is there a link between culture and cognitive biases in social anxiety?

Before going on, it would be useful to remind the reader about the main concepts behind cognitive models of social anxiety when thinking about the relationship between culture and social anxiety cognitive bias. Models of social anxiety, for example Clark and Wells (1995) and Rapee and Heimberg (1997), suggest that social anxiety is a consequence of a number of information processing biases that work together in a negative cycle to sustain this disorder. When social anxious individuals enter social situations, they start to focus their attention on dual cues because of the negative beliefs and self image they hold. Internal cues (Clark & Wells, 1995) are used to inform negative self-images held by socially anxious people when they perceive social situations as dangerous and help to create the perception of how others see them. These images tend to appear from others' points of view, the '*observer perspective*'; individuals believe that these images are real reflections of the opinions of others. External cues (Rapee & Heimberg, 1997), negative self-images, could be the result of the perspectives of others, for example the audience response. From these negative sources or cues, socially anxious individuals start to interpret their social surroundings negatively, to occupy themselves with a variety of safety behaviours and to display somatic symptoms. Socially anxious individuals then indulge in an intensive review of negative social experiences using their negative conclusions about social events in their next social event. This cognitive loop helps to maintain social anxiety.

Cognitive models of social anxiety are considered significant frameworks facilitating an expansion of knowledge about social anxiety disorders. Despite that, few studies have investigated the direct relationship between culture and cognitive biases in the light of these models. Therefore, an attempt will be made to outline these investigations, providing details

over the following chapters to illustrate the relationship between cognitive biases in social anxiety across culture.

Initially, cultural differences can be seen as evidence of cognitive differences between cultures. In general terms, O'Gorman, Wilson, and Miller (2008) note that social norms can be considered as representing human cognitive bias. Individuals are inclined to recall information they have about social norms rather than that about non-social norms. This information enhances individuals' attention to normative social information and determines how individuals use it as an adaptive strategy to protect themselves from any negative evaluation, which might result from a lack of compliance to social norms. This notion is consistent with Kleinknecht et al.'s (1997) explanation that the increasing levels of independence found in a Japanese sample, as opposed to the generally perceived levels of interdependence assumed to be present, may work as a strategy to protect individuals from social stresses when they interact with others from different cultures. Here the idea is that the individual obeys the social information available in a given culture thus regulating himself or herself to fit with the social surroundings.

This type of adaptive strategy leads us to think about safety behaviours and if these two concepts are somehow related in one-way or another. In the O'Gorman et al. (2008) study, there is some overlap when distinguishing between protective behaviour as an adaptive strategy, avoiding violating norms to cope with anxiety and maintaining social interaction, and as a kind of safety behaviour, defined as engaging in a variety of behaviours in social interaction or performance in order to reduce negative consequences as defined by Clark and Wells (1995). The distinction between these is critical particularly when carrying out a cultural comparison. This is an important issue because of its role in identifying social anxiety across cultures. According to Thwaites and Freeston (2005), safety behaviours and adaptive coping strategies: "…can only be distinguished on the basis of the intention of the individual, their perceived function to that individual in the specific contact, and the subsequent impact on positive and negative cognitions" (Thwaites & Freeston, 2005, p. 186). This is a clear statement that the context and the consequences of social experience can determine which type of behaviour it would be better to use in order to avoid negative outcomes. By way of explanation, the cultural social context forces individuals to perform in ways that protect them from social threat (i.e., social exclusion). However, it is unclear how socially anxious individuals switch between these two strategies in a certain culture or in specific situations. It is possible that the social benefit of these two strategies is that they help identify social anxiety.

In an attempt to examine the role of culture on individual's social interpretation, Wu and Keysar (2007) found that perceptions about cultural differences might be dependent on how individuals interpret others' perspectives or others' behaviour during social interaction. In addition, they assume that collectivistic populations focus more on others than they do on themselves. Both Chinese and American groups performing their task used a game requiring interaction between two people; successful completion of the experimental task required that they distinguished between their own information and that of others' knowledge. The results indicated that Chinese culture centres on interdependence, focusing on how one must appear to other people and on the perspective of others in a way that leads them to be more attentive and less prone to error (more accurate) when they solve problems, whereas American culture values independence, focusing more on the self rather than others. The American group made more errors in their performance on the task than the Chinese group. This study confirms the idea that individuals from collectivistic cultures shift their attention away from the self to others and interpret social information according the current social system they find themselves in.

By way of giving more information about how social interpretations are linked to cultural context, Norenzayan and Nisbett (2000) report that, compared to those from the West, East Asian people pay more attention to the whole situation, the self and the context; they are more able to interpret actions based on information about the whole field, and less able to distinguish between the self and context as they perceive themselves as part of the social fabric. In a later study, Norenzayan, Choi, and Nisbett, (2002) examined how individuals make social judgments when they interact with others. Six scenarios included short sentences about two people; one of them reflected traits while the other did not. The participants were asked to make predictions about the people in each scenario. The results indicated that there was no difference between Korean and American participants when the information about others was ambiguous, but when the information was available or salient, Korean people tended to use their own judgments or the situational context to interpret social behaviour. This result supports Norenzayan, Choi, and Nisbett's (2000) notion that Asian people think holistically. In other words, Eastern people tend to focus attention on the whole field and attribute causality to the relationship between the object and subject, whereas Western people are more analytic, focusing attention on the object rather than the subject, attributing causality to the rules related to it. However, interpretation of such actions is complex. Markus and Kitayama (1991) argue that in collectivistic cultures, close relationships between others and the individual self are important but they do not constitute a single unit. The individual in this cultural social context

is simply more connected with others and less different. Furthermore, Cohen and Gunz (2002) found that Eastern participants are more likely to see themselves from a third-person perspective when they are the centre of attention in social situations in comparison to Western participants. For Easterners, emotion plays a part in transforming self-perception and in changing biases held when interpreting social situations. Westerners have a bias towards seeing emotions in others that they have experienced in themselves, whereas: "Easterners show a greater bias towards seeing in others the emotions appropriate for the generalized other or those of another person looking at them" (Cohen & Gunz, 2002, p. 58). This thought is consistent with Markus and Kitayama's (1991) suggestion that in a social situation, in order to avoid threatening behaviour and give others a bad impression, Easterners tend to use 'appropriate emotions' to protect themselves. This leads to a bias towards visibly happy emotions to maintain social harmony, even when they feel different emotions.

Markus and Kitayama's (1991) research is in agreement with that of Mesquita and Walker (2003), who highlight cultural differences in emotions in their review of the literature. The individualist culture, which concentrates on the individual's abilities, tends to focus on positive outcomes while the collectivist culture, which emphasizes obligation, focuses more on avoiding bad outcomes. In addition to this, they assert that the individual from the culture that focuses on social rules and social expectations tends to think about whether the current interaction satisfies social rules or not. This is complex, as they tend to focus attention on negative outcomes such as the fact that they may not meet social expectations. This cultural model contributes to individuals' anxieties Mesquita and Walker (2003) emphasizing that: "…a higher level of anxiety may be functional by particular models, because it keeps people in place, and makes them less likely to break rules or take personal risk" (Mesquita & Walker, 2003, p. 782).

This later work by Mesquita and Walker (2003) leads us towards the work of Kitayama et al. (1997) and Heine et al. (1999). As cited in Chapter 1, people in both cultures regulate themselves according to cultural needs. In Western cultures, self-enhancement is culturally promoted. People in this culture make efforts to maintain a positive self-position to save their self-esteem when they are acting in social situations. They have the need to highlight themselves positively to avoid negative evaluation by others. In contrast, self–criticism characterizes people who endorse an Eastern attitude. People in this culture attempt to avoid negative evaluation by others by criticising their social actions and updating their social behaviours according to social cultural expectations. This, in turn, raises levels of social acceptance.

To close, as can be seen from the discussions above, cultural context may influence the individual's cognitive behaviours and emotions during social interactions and this may contribute to thinking about how culture is important in understanding the cognitive processes that individuals rely on it when they interact with others. The studies reviewed have described some features of social anxiety as Clark and Wells' (1995) and Rapee and Heimberg's (1997) describe in their models. As yet, there is no direct cultural evidence to describe cognitive bias in social anxiety as a base of cognitive bias models. Accordingly, the present thesis attempts to focus on three questions.

1.   Do social anxiety disorders differ across cultures? More precisely, is there a cultural difference in social anxiety between countries based on collectivism and individualism.

2.   Does cognitive bias in social anxiety as represented by the models of Clark and Wells' (1995) and Rapee and Heimberg (1997), differ according to collectivism and individualism? More specifically, are there cultural differences in the four different components of cognitive bias in social anxiety: fear of negative evaluation, fear of positive evaluation, post-event processing and interpretation of ambiguous social cues.

3.   To what extent do cognitive models of social anxiety explain social anxiety culturally? Consequently, is there a need to amend these models by taking cultural difference in consideration?

By recruiting two different samples, a British sample who represent Western attitudes and Saudi sample who represent Eastern attitudes, we will attempt to examine these questions.

Chapter 3
Translating and Validating the Study Questionnaires: Use of Vallerand's Cross-Cultural Translation Methodology (Study 1)

1. Introduction

Cross-cultural investigation has become an important line of enquiry within the field of psychology. Theoretically, this approach to research allows those who are interested in cultural variations to examine and expand current knowledge (Pena, 2007). Consequently, researchers are currently examining research issues connected to cross-cultural research at the conceptual level (Schaffer & Riordan, 2003). Hui and Triandis (1985) state that some of the psychological concepts applied in this area are universal and cross-cultural, while some are meaningful only to one culture as they are culturally-related at a specific situation or time. This implies that issues present and important in one culture may not be as important in meaning and/or purpose in another culture (Banville, Desorosiers, & Genet- Volet, 2000). Such a situation might make the results of cross-cultural investigations more open to misinterpretation.

Undoubtedly: "…culture is a complex construct that is often difficult to define and measure objectively" (Friedman, 2002, p 39). Ignorance of the impact of self-report questionnaires that have inherent cultural meaning might also lead to the misinterpretation of research findings, making them inconclusive and meaningless (Schaffer & Riordan, 2003). Therefore, adoption and translation of measurement instruments are matters of concern in most cross-cultural research. The cross-cultural adoption and translation of any instrument is challenging work which may involve a slow and rigorous process of examination bearing in mind the fact that some of the psychological concepts are not exactly universal, and that meaning differs from one culture to another (Banville, et al., 2000; Friedman, 2002). For instance, Al- Ruwaitea (2004) has indicated that the cultural characteristics that distinguish one culture from another are critical issues in the translation of questionnaires and scales that are used to assess psychological phenomena. An important issue in relation to this matter is that sensitive assessment for psychological disorders such as social anxiety within a specific culture may influence the true clinical picture in terms of reflecting cultural differences (Dwairy, 2006) stereotyping the psychological phenomenon and therefore the psychological experience. This can make an appropriate translation more challenging when undertaking cross-cultural research. According to Kristjansson, Desrochers, and Zumbo (2003) problems can occur during the translation process because of a lack of semantic equivalence, as it is possible that a lexical equivalent may not be available in a different language. Thus, the

translation itself should be considered an essential step to establish whether or not the selected measures are semantically equivalent, measurement equivalent and appropriate to use with the target population as some concepts are culture related and need to be modified dependant on cultural demands (Schaffer & Riordan, 2003; Arab, 2010). For all these reasons, and in light of the scarcity of social anxiety measures translated into Arabic, this makes the translations of the measures for the present work an important step before actually investigating social anxiety cognitive biases across culture. Therefore, to examine variations in social anxiety across culture, there is the need to utilise well constructed and validated or cross - validated tools (Friedman, 2002). Because this cross - cultural investigation is to use two different populations, British and Saudi, the fundamental aim of this chapter is to translate the instruments that will be used in the present work from English into Arabic language to investigate social anxiety and social anxiety cognitive biases equally across cultures.

1.1. The purpose of the translation process

The main goal of the current study is to utilise Vallerand's (1989) methodology (see Kristjansson et al., 2003; Banville et al., 2000), which is recognised as a rigorous approach to translate instruments that measure aspects of social anxiety, social anxiety cognitive biases and culture within Saudi society. The target language in this translation process is Arabic language. The measures under translation need their psychometric properties to be examined in terms of the target language and need to be equivalent in general meaning and psychological purpose with the original scales (English scales) to be appropriate for use in this current sequence of studies. To accomplish this goal the following questions were posed:

1. To what extent do the questionnaires have similar meaning in both languages?
2. Are there any differences in responses to the questionnaires words or items across both languages?
3. Are any items culturally specific?
4. Are there any changes to the questionnaires in terms of additions, omissions and replacements, which may influence the meaning between the two versions? (Zenisky, Hambleton, & Luecht, 2010)
5. Are there any differences between the source (English) and target (Arabic) languages in terms of the items (e.g., metaphors, idioms and colloquialisms)? (Zenisky et al., 2010)
6. What is the validity and reliability of the Arabic translated measures:
   - The Auckland Individualism-Collectivism Scale (AICS; Shulruf, Hattie, & Dixon, 2007).

- The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998).

- The Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969).

- The Fear of Positive Evaluation Scale (FPE; Weeks et al., 2008).

- Ruminative Responses Style Scale (RRSQ; Nolen - Hoeksema & Morrow, 1991).

- Hospital Anxiety and Depression Scale (HADS; Zigmund & Snaith, 1983)

- The Ambiguous Social Situation Interpretation Questionnaire (ASSIQ; Butler & Mathews, 1983; Stopa & Clark, 2000).

7. Are the questionnaires appropriate to measure the research variables concerning social anxiety and culture?

8. To what extent are the final versions of the questionnaires appropriate for a Saudi population?

Given this illustration of the importance of translation, the following section will discuss the translation steps in details.

2. Method

The translation technique recommended by Vallerand (1989) will be described in this section. The research instruments, which will be adopted for use in the proposed sequence of studies, will be explained in detail. This will be followed by explanation of the main role of the translation and the translation steps (see Figure 4), which are as follows:

1. Verification of focal concepts of relevance

2. Translation of the instrument and development of preliminary versions

3. Committee review: evaluation of the preliminary versions

4. Pre-testing the instruments

5. Pilot-testing the instruments

6. Evaluation of concurrent validity

7. Evaluation of reliability

8. Establishing norms

All the demographic information about the participants (i.e., age, gender and level of education) was obtained for the two groups of participants, the bilingual sample and the sample to test reliability. The difference between the sample numbers on each scale was due to incomplete answers.
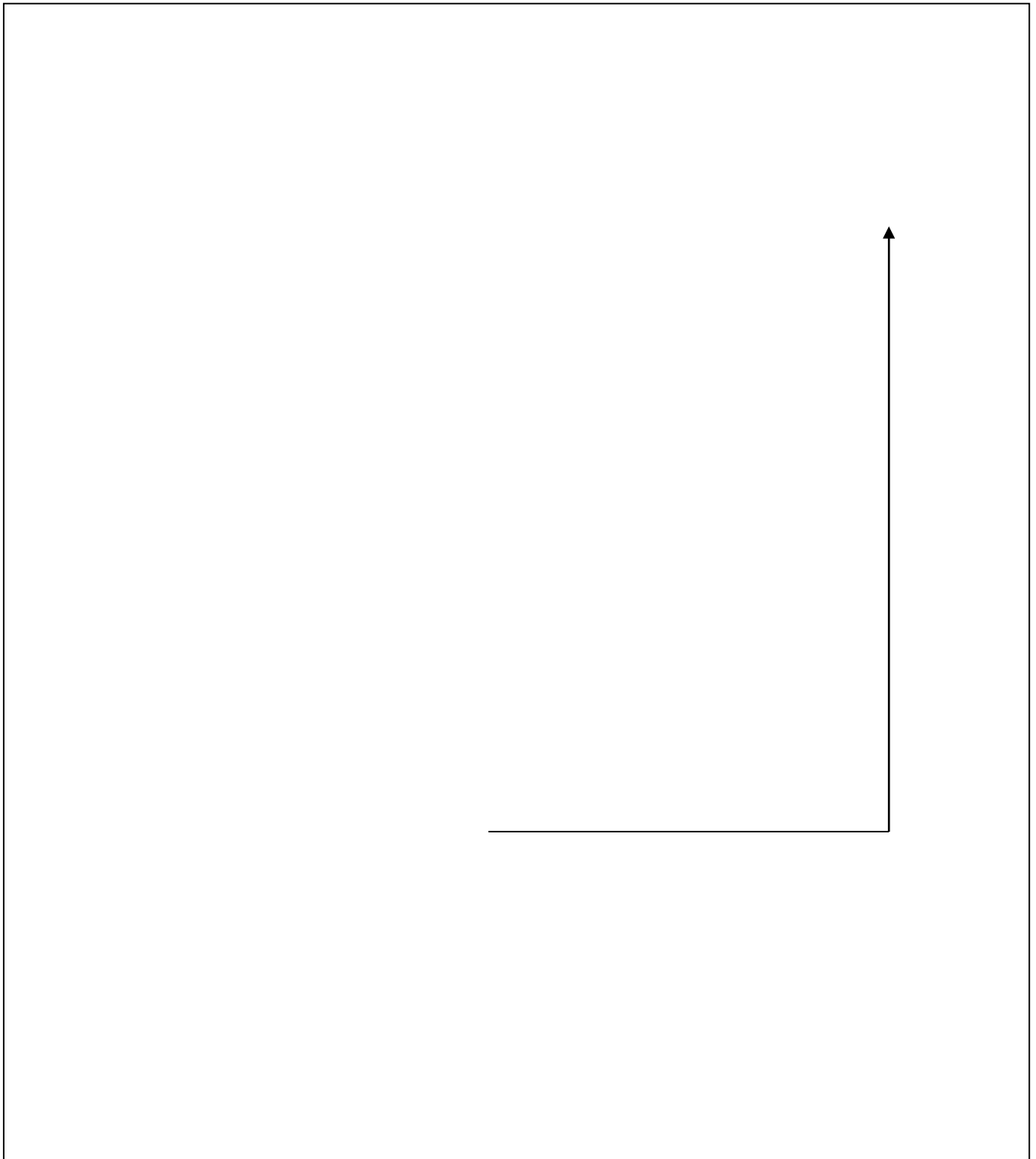
2.1. Measures

Six self-report questionnaires were translated from English into Arabic language, the
psychometric properties of the translated measures described here in detail. The Hospital
Anxiety and Depression Scale (HADS) has previously been translated into Arabic by Rufaie
and Absood (1987) and re-tested by Khusaifan (2005) using a Saudi sample.

2.1.1. The Auckland Individualism-Collectivism Scale (AICS: Shulruf et al., 2007)

The AICS was developed by Shulruf et al., (2007) to assess the attributes of individualism (emphasizing personal goals over others' goals, self-reliance, distinguishing self from others and direct interaction with others), and collectivism (emphasizing group goals, adherence to social norms, avoiding conflict, tendency to use indirect interaction with others and being more strict or restrained in emotions). This scale is appropriate for use with adolescents and adults, age range 15 – 45 years. The validation sample comprised 199 undergraduate students of different ethnic backgrounds at a tertiary institution in Auckland. The scale is a self-report questionnaire that comprises 26 items related to five main factors. Three of these factors are related to individualism: Compete (7 items, subscale range 7 to 42), Unique (4 items, subscale range 4 to 24) and Responsibility (4 items, subscale range 4 to 24). Two are related to collectivism: Advice (7 items, subscale range 7 to 42) and Harmony (4 items, subscale range 4 to 24). The total scores for this scale range from 26 to 156. Questions are answered on a frequency scale that requires the respondents to select from six alternatives ranging from 1 = 'never' to 6 = 'always'. The analysis of the scale focuses on the mean score for each subscale rather than on the categories of individualism and collectivism. The estimates of reliability Alpha's for each scale were Compete = .78, Unique = .76, Responsibility = .73, Advice = .77 and Harmony = .71. Discriminate validity for the AICS was also examined with 199 participants from different ethnic groups. The results indicated that ethnic groups differed more in terms of specific dimensions of individualism and collectivism. In addition, correlations between the five scales revealed the underlying contributory strength of the subscales overall (see Appendix A).

2.1.2. The Social Interaction Anxiety Scale (SIAS: Mattick & Clarke, 1998)

The SIAS was developed by Mattick and Clarke (1998) as a means of assessing people's fear while interacting socially. The SIAS is a five-point Likert scale covering 20 items with responses ranging from 0 = 'does not apply to me at all' to 4 = 'very much applies to me'. The total scores range from 0 to 80, with higher scores on the SIAS indicating higher levels of social anxiety. The original sample comprised five groups of subjects (n = 1,069) including participants with social phobia, agoraphobia with panic attacks, simple phobia, undergraduate students and those from the local community. Mattick and Clarke found that the SIAS had high internal consistency for the total sample with alpha = 0.94 (α = .83 for the present study) and an 11 to 13 week test-retest correlation coefficient above 0.90. Moreover, the SIAS

has been shown to differentiate socially phobic participants from those with panic disorders with or without agoraphobia, simple phobia samples and normal samples. Concurrent validity of the SIAS indicated that the scale was positively correlated with the Fear of Negative Evaluation Scale (FNE: Watson & Friend, 1969), the Social Avoidance and Distress Scale (SADS; Watson & Friend, 1969) and the Fear Questionnaire (FQ; Marks & Mathews, 1979). Previous research has investigated the ability of the SIAS to differentiate between patients with social anxiety from other anxiety disorders and non-clinical samples. For example Brown, Turovsky, Heimberg, Juster, Brown, and Barlow (1997) found that the SIAS appears to be a reliable measure to differentiate those with social anxiety from 'other anxiety' and 'normal' groups. A significant correlation was found between SIAS and the number of feared social situations and performance situations (ADIS-R) (see Appendix B).

2.1.3. The Fear of Negative Evaluation Scale (FNE: Watson & Friend, 1969)

The FNE is a 30-item self-report measure designed to assess social evaluation anxiety. FNE is mainly used to identify potential apprehension that people may experience due to others' negative evaluations, which may lead them to avoid evaluating social event effects, expectations of others (i.e., negative evaluations. FNE has 17 true *(e.g., 'I often want to get away from people')* items and 13 false (e.g. 'I usually feel relaxed when I am with a group of people'). Participants are asked to choose either true or false. A high FNE score indicates a high level of social-evaluation anxiety. Based on a sample of 154 undergraduates and one-month test-retest, the FNE has satisfactory reliability ($r = .78$). The scale has high internal consistency ($\alpha = .94$), and it is significantly correlated ($p. < .01$) with a number of measures of social anxiety, social desirability and social approval (Watson & Friend, 1969) (see Appendix C).

2.1.4. The Fear of Positive Evaluation Scale (FPE: Weeks et al., 2008)

The FPE is a self-rating measure designed to test individuals' expectations that others might evaluate them positively, which in turn leads to increased individual social anxiety (Weeks et al., 2008a). The FPE consists of ten items that are rated from 0 (not at all) to 9 (very true). An example from the FPE is, *(I generally feel uncomfortable when people give me a compliment)*. Applied to a sample of 1711 undergraduate students, the scale has high internal consistency ($\alpha = .80$) and an acceptable correlation on five-week ($r = .70$) test-retest reliability (Weeks et al., 2008b). The FPE has high convergent validity. It is strongly correlated with two social anxiety measures, the social interaction anxiety scale and fear of negative evaluation

scale. In addition, discriminant validity tests indicate that the FPE correlates strongly and significantly with the social interaction anxiety scale as opposed to measures of generalized anxiety, depression and worry. Confirmatory factor analysis has also been applied indicting that the FPE has a unique construct distinct from fear of negative evaluation (see Appendix D).

2.1.5. Ruminative Responses Style Questionnaire (RRSQ: Nolen - Hoeksema & Morrow, 1991)

The RRSQ includes 22 items that define how individuals engage in, or think, in response to negative emotions such as sadness or depression (Nolen–Hoeksema, Larson & Grayson, 1999). The Ruminative Responses Style Questionnaire measures an individual's response in terms of depressed moods that are self focused (*e.g., I think, 'why do I have problems that other people don't have'*), focused on symptoms (*e.g., 'I think about how hard it is to concentrate'*), and/or focused on the potential causes and consequences and of their depressive mood (e.g. I think 'I won't be able to do my job if I don't snap out of this'). Participants rate their responses using a four-point Likert scale from 1 (almost never) to 4 (mostly true). The RRSQ has been widely used and has good internal consistency ($\alpha = .90$) and test – retest reliability ($r = .67$) (Nolen–Hoeksema, Larson & Grayson, 1999), ($\alpha = .89$ with $r = .62$ as presented by Nolen-Hoeksema & Morrow, 1991. Furthermore, the RRSQ has satisfactory convergent validity when used to predict depression (Just & Alloy, 1997; Treynor, Gonzalez, & Hoeksema, 2003; Nolen–Hoeksema et al., 1999) (see Appendix E).

2.1.6. The Hospital Anxiety and Depression Scale (HADS: Zigmund & Snaith, 1983)

The HADS is a four-point Likert type scale that includes 14 items aimed at measuring anxiety and depression symptoms in non-psychiatric patients. There are two subscales in the HADS instrument: a 7-item anxiety subscale intended to examine anxious mood, thought and restlessness and a 7-item depression subscale for hedonistic symptoms. For both scales, the scores range from 0 – 7 reflecting normal mood, 8 – 10 reflecting mild symptoms, 11 – 14 showing moderate symptoms and a severe symptom score range of 15 – 21 (Antony, Orsillo, & Roemer, 2001). The HADS has been widely used showing good internal consistency ranging from $\alpha = .89$ to .93 (Zigmund & Snaith, 1983) and $\alpha = .82$ to .86 (Grawford, Henry, Crombie, & Taylor, 2001) for both subscales in addition to acceptable test-retest reliability ($r = .72$) (Zigmund & Snaith, 1983; Antony et al., 2002). The discriminant validity of HADS indicates that both subscales - anxiety and depression - are significantly correlated with the interview designed to rate both conditions and self-assessment measures of anxiety and depression. In addition, both subscales are correlated with each other ($p. < .001$). The HADS

has been translated into Arabic by El-Rufaie and Absood (1987), completed by Saudi patients of both genders ($n = 50$) with an age range of 15 and 65 years. The overall subscales have highly significant correlations ($p. < .001$) with researcher ratings. The items-subscale correlation for both Anxiety and Depression was highly significant ($p. < .001$). However, one of the Anxiety subscale items was non–significant: (*I get a sort of frightened feeling like butterflies in the stomach*). The author retained this non-significant item in the translation because the item does not effect the overall scale validation (Rufaie & Absood, 1987). In response to this issue, test-retest reliability for both the English and Arabic translations was examined by Khusaifan (2005) the results revealing high correlations for the overall scale, $r = .96$ with $r = .98$ and $r =. 95$ for the Anxiety and Depression subscales, indicating that the measure is applicable in both these countries (Khusaifan, 2005) (see Appendix F).

2.1.7. The Ambiguous Social Situation Interpretation Questionnaire (ASSIQ: Butler & Mathews, 1983; Stopa & Clark, 2000)

The ASSIQ is a 24-item questionnaire, originally developed by Butler and Mathews (1983), modified by Stopa and Clark (2000) to measure negative interpretations and social phobia. It includes two sets of ambiguous situations; 14 social situations (*e.g., 'a friend overhears your telephone conversation and starts to smile'*), and 10 control situations (*e.g., 'you have a sudden pain in your stomach'*). Each situation is followed by the question '*Why*', the participants required to write down the first explanation that comes into their minds. After writing their responses, participants are told to turn the page over and rank-order how likely the three experimenter-provided alternative explanations for the ambiguous situations would come into their minds. These options include one negative explanation with the other two either neutral or one neutral and one positive. A score of 3, 2 or 1 is given, depending on whether the negative explanation/answer was ranked first, second or third. Once the participants complete the open-ended responses and the rankings of all the items, they are required to go back to the beginning of the questionnaire to rate the extent to which they would believe each of the three experimenter-provided alternative explanations for the situation on a rating scale from 0 = 'not at all' to 8 = 'extremely'. It is worth remembering that for the psychometric properties of the ASSIQ, the researcher focused on face validity and content validity, by-passing the non-statistical translation steps because those types of item measures may be inappropriate for use in the statistical approach recommended by Vallerand's Cross-Cultural Translation Methodology (e.g., test-retest, Pearson Correlation) (see Appendix G).

3. Procedure and results

3.1. Role of Translation

The paucity of Arabic questionnaires available to measure social anxiety and social anxiety cognitive bias and culture has resulted in the need to translate the English questionnaires described above into Arabic language to carry out the current research. Because the proposed series of studies to investigate social anxiety cognitive bias will be conducted between two different populations, Saudi and British, it makes sense to translate the measures into Arabic and use them in this cross-cultural investigation. Vallerand's methodology (1989, see Kristjansson, et al., 2003; Banville et al., 2000) was utilised as a rigorous and exhaustive methodology to translate and validate the English social anxiety and culture questionnaires thus achieving the objectives of the study and addressing the research questions.

The following sections introduce the seven steps undertaken to translate and validate the set of English questionnaires.

Step 1: Verification of focal concept relevance

It was necessary to adopt the research questionnaires in order to ensure that they were directly relevant to the study aims concerning the relationship between social anxiety cognitive bias and culture. After the researcher and supervisors decided which measures were appropriate to use in the current study, attention turned to the central concepts of the measures. Attention also needed to be given to the psychometric properties of the measures to ensure that they comprised of well-validated and well-tested scales. The scale items were checked to establish whether or not the translated scales were appropriate to use on the target culture (Saudi Arabia) and if the items were culturally- related. All the translated measures were pertinent in terms of the concepts and relevance to social anxiety cognitive biases and culture and were therefore deemed appropriate to be used in this research. Permission to use all the instruments was obtained from the authors before starting the development of the initial versions.

Step 2: Translation of the instruments and development of preliminary versions

In order to reduce translation problems that may occur, Vallerand (1989, see Banville et al., 2000; Kristjansson et al., 2003) provides recommendations to guide and improve the quality of translation thus ensuring robustness in terms of the goals of the research. Accordingly, this step includes three main phases: 1) translation of the original version into Arabic language, 2) back-translation, and the Arabic version translated back into English

language, and 3) a committee review to evaluate both the translated and back-translated versions.

Guillemin, Bombardier and Beaton (1993) state that translations are more robust if a team of translators carries them out. This step therefore has three phases, which are as follows:

First phase: The researcher recruited two professional bilingual translators, one from Saudi Arabia and the other one from Egypt, to translate the preliminary English versions into Arabic language. All the scale items and scale instructions were included in this step. Two independent Arabic versions of the study questionnaires were generated. These were then refined, combined and formed by the researcher to produce a single Arabic version for each of the six scales.

Second phase: two different professional bilingual translators, both of them from Egypt, translated the Arabic versions of the questionnaires back into English language (back translation to generate two different English versions). These two versions were then refined, combined and re-formed by the researcher to produce a single version in the original language (English language).

Third phase: a review committee was established comprising of three bilingual experts in the field of linguistics and two experts in questionnaire content who were also psychiatrists, one from Saudi Arabia the other from Egypt. They were asked to compare the two English copies, the original and back-translated copies. The purpose of this step was to ensure the general meaning of the scale items rather than the literal translation of each item (Banville et al., 2000). This is a useful way to avoid and prevent any misinterpretation that may occur from verbatim translation (Kristjansson et al., 2003). However, because the English language makes use of idiom phrases and metaphors, to ensure that the general meaning did not affect the initial meaning, the researcher recruited two English experts (a British PhD student studying at Southampton University, School of Psychology and a British proof-reader working in the UK) to compare the two English versions, the original and back-translated versions, to check for meaning in both copies. All their suggestions were taken into consideration to improve the accuracy of the translation however, no significant changes were found to be necessary.

Following these procedures, it was established that there were no substantial differences in the overall meaning between the original English version and the version translated into Arabic language. Although there were some differences in terms of structure and grammar, these did not affect the overall general meaning of the items in the scales.

Step 3: Committee review: evaluation of the preliminary versions

Once the target versions had been developed, the researcher used non-statistical tests to examine face validity (scale items measuring what they are designed to measure) and content validity (scale items including and representing the exact meaning of the variable structure or factors). Testing of the Arabic version was conducted through consultation by a research committee consisting of six professors from the Department of Psychology at King Saud University, Al-Imam Muhammad bin Saud Islamic University and King Khalid University Hospital to evaluate firstly whether or not the questionnaires were good enough to measure the target concepts and secondly, to confirm whether or not the content of the measures was appropriate for investigating the research hypotheses (Banville et al., 2000; Kristjansson et al., 2003; Howitt & Cramer, 2005). Finally, there was the need to review the questionnaires in terms of cultural appropriateness and cultural specificity. According to the committee's comments, some changes were made to make the items linguistically more coherent and to have more of an Arabic sound before moving on to the next step. No significant comments were made with reference to cultural specificity hence, no changes were required.

Step 4: Pre-testing the instruments

In order to obtain primary feedback on whether or not the items in the translated scales were understandable, they were pre-tested on a small sample of people. Eleven participants, all of them from the Department of Psychology at King Saud University (four senior lecturers and seven postgraduate students), were asked to write down their comments and impressions about the questionnaires items in terms of clarity and accuracy as well as any additional comments that might improve the translated versions. All participants' comments and suggestions were taken into account in the final versions. The sample size was not important as no statistical tests were used at this stage (Banville et al., 2000). In addition, no specific process (i.e. selecting the sample, demographic information) was used with this sample for the primary feedback.

Step 5: Pilot-testing the instruments

As recommended by Vallerand (1989), the main goal of this step is to use bilingual participants who are proficient in both languages, in this case English and Arabic. The preliminary questionnaires were tested using such a bilingual group. Between 25-32 bilingual participants were used for each scale, the majority being PhD and MSc Saudi students living in the UK (Psychology, Education and Business and Medical Faculties) and undergraduate

students at the Faculty of Languages and Translation at King Saud University, who are living and studying in Saudi Arabia. The age range of all participants was between 19 to 39 years with an average age of 27.03 (*SD*= 5.39). Both genders were represented but only 4 were males, the remaining participants were female (See Table 1).

All of the participants had a good level of English language as a second language. However, as an additional step and to establish more accurately their proficiency in English language, the participants completed the Self-Evaluation Test developed by Vallerand and Halliwell (1983; see Banville et al., 2000). This test assesses the participants' ability to understand, read, speak and write in both languages. Participants were asked to rate themselves from 1 (very little) to 4 (very well) for each of eight components (i.e. I understand English, I read English, I understand Arabic, I read Arabic) (see Appendix H). A score of 12 or more for each language would be satisfactory to conclude that the participant had acceptable levels on both languages (Banville et al., 2000). Most of the participants scored between 12 and 16 for each language, which indicated that the overall level of their language proficiency was acceptable for this stage in the research. Following the evaluation of both languages, each participant completed the six measures (AICS, SIAS, FNE, FPE, RRSQ and ASSIQ). They completed the Arabic version first, followed by the English version after a 2-week interval; this period of time was in line with the length of time that has been used in other studies using translated scales across cultures (Banville et al., 2000; Demers, Monette, Descent, Jutai & Wolfson, 2002; Khusaifan, 2005).

Table 1

Pilot test: Number of participants for the Arabic and English questionnaires

Scales	Scales items	Arabic	English
1-AICS	26	28	28
2-SIAS	20	30	30
3-FNE	30	32	32
4-FPE	10	32	32
5-RRSQ	22	32	32
6-ASSIQ	24	25	25

Note. AICS = Auckland Individualism-Collectivism Scale; SIAS = Social Interaction Anxiety Scale; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RRSQ = Ruminative Responses Style Questionnaire; ASSIQ = The Ambiguous Social Situation Interpretation Questionnaire. It is worth noting that the differences in sample size between scales are a result of invalid questionnaires due to incomplete answers. For all measures the same participants responded to the same items in both languages.

Step 6: Evaluation of concurrent validity

Several statistical and non-statistical methods were employed to examine the validity of the translated instruments (AICS, SIAS, FNE, FPE and RRSQ). These methods were based on Vallerand's (1989) recommendations for examining face validity and content validity. This step aims to assess whether or not the English and Arabic versions are correlated with each other by conducting concurrent validity tests. The scores from both versions, the original English and the target Arabic version, will be compared using two statistical tests; a paired *t*-test (a non- significant "*p*" representing similarity between versions), and Pearson's correlation (a high correlation representing similarity between versions) as recommended by Banville et al. (2000) and Kristjansson et al. (2003).

The paired sample *t*-test revealed a non- significant difference *(p > 0.05)* between the means for both Arabic and English measures of the AICS, SIAS, FNE, FPE and RRSQ. This means that both English and Arabic versions have equivalence and correspondence (see Table 2).

Table 2

Paired sample t-tests for the means of Arabic and English versions of translated scales

Scale	Arabic		English				
	M	SD	M	SD	*n*	*t*	Sig
1- AICS	102.04	13.01	101.25	15.54	28	0.49	.62[ns]
2- SIAS	24.30	14.64	24.30	14.64	30	0.06	.94[ns]
3- FNE	44.62	5.52	44.25	6.12	32	-0.53	.75[ns]
4- FPE	29.37	12.68	28.56	14.71	32	-0.85	.59[ns]
5- RRSQ	44.84	11.10	45.00	10.44	32	0.31	.39[ns]

Note. AICS = Auckland Individualism-Collectivism Scale; SIAS = Social Interaction Anxiety Scale; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RRSQ = Ruminative Responses Style Questionnaire. ns = Non- significant.

Pearson's correlation coefficients revealed significant relationships between the Arabic and English versions of the AICS, SIAS, FNE, FPE and RRSQ, all significant at $p < 0.01$. (See Table 3). These results indicated that the English and Arabic versions were highly correlated and that the participants provided similar responses for both versions.

Table 3

Pearson's correlation coefficients between Arabic and English versions

Scale	n	r
1- AICS	28	.84[**]
2- SIAS	30	.93[**]
3- FNE	32	.77[**]
4- FPE	32	.93[**]
5- RRSQ	32	.96[**]

Note. AICS = Auckland Individualism-Collectivism Scale; SIAS = Social Interaction Anxiety Scale; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RRSQ = Ruminative Responses Style Questionnaire.
n = Number of participants, *r* = correlation coefficient. ** $p < 0.01$

It is important to note that in order to confirm the accuracy and quality of the back translation of the Arabic version of the Ambiguous Social Situations Interpretation Questionnaire (ASSIQ), the researcher carried out the following steps as this measure is more quantitative than the others. After presenting the Arabic and English versions of the ASSIQ to two specialists in English language in Saudi Arabia, two professors of psychology at King Saud University and two psychiatrists in Saudi Arabia (as per step 3 of Vallerand's (1989) methodology), both the original and the translated Arabic version of ASSIQ were administered to a sample of 25 participants (PhD and Masters students in the UK, psychologists in Saudi Arabia and students of the Faculty of Languages and Translation at King Saud University) for pre-testing and pilot-testing (steps 4 and 5 of Vallerand's Methodology). For the Arabic version, the researcher then tested face validity and content validity, this involving a committee consisting of six members of the Department of Psychology at King Saud University, Al-Imam Muhammad bin Saud Islamic University and King Khalid University Hospital. All recommendations and suggestions were taken into account in terms of general meaning; however, there were no fundamental changes related to the main purpose of the ASSIQ. This confirmed that both versions were equivalent and appropriate to use in the current study.

Step 7: Evaluation of stability and reliability

Reliability concerns the consistency and stability of the measure over time (Howitt & Cramer, 2008). To evaluate the reliability of the target versions (Arabic translations), two main types of reliability were used. Test-retest reliability was used to examine correlations between scores from the same participants at one point in time with scores on the same test

collected at a later date. Internal consistently was tested using Cronbach's alpha to measure the correlation between each pair of items as well as across all items in the scale (Howitt & Cramer, 2008; Brace, Kemp & Snelgar, 2009). Participants were psychology students at King Saud University; all were females aged over 19 years (See Table 4 for sample numbers).

The test-retest reliability technique was applied to measure reliability for the AICS, SIAS, FNE, FPE and RRSQ. Participants completed the Arabic questionnaires and were retested again two weeks later. The results revealed significant positive correlations between the two measurements for each scale, all significant at $p < .01$. According to Vallerand (1989), a coefficient of $r = .60$ or more for test-retest within one month is considered satisfactory (Banville et al., 2000). However, for the current research, the test-retest period was only 2 weeks due to unavoidable constraints caused by the participants' examination timetable. Using the same participants, Cronbach's estimates gave satisfactory results for internal consistency when examining the correlations between scale items (See Tables 4 and 5). According to the general rule of thumb, an Alpha value of more than .70 is appropriate when judging the reliability of correlations between items (Brace et al., 2009). The SIAS, AICS (the overall scale and subscale), FPE and RRSQ scores were between .77 and .88, which indicates a good level of internal consistency. However, the FNE was .65, which is less than the previous values but still within an acceptable range according to Gliem and Gliem (2003), a point that will be discussed in detail in the discussion section along with test-retest results.

Table 4

Test-retest correlation coefficients and Cronbach's Alpha reliability coefficients for translated measures (SIAS, FNE, FPE and RRSQ)

Scale	*n*	Time 1 M (SD)	Time 2 M (SD)	*R*	α
SIAS	119	24.88 (11.32)	23.35 (11.12)	.78[**]	.85
FNE	105	44.56 (4.00)	44.19 (4.13)	.62[**]	.65
FPE	105	35.83 (15.06)	36.29 (13.60)	.61[**]	.77
RRSQ	108	47.99 (10.36)	48.45 (9.66)	.65[**]	.88

Note. SIAS = Social Interaction Anxiety Scale; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RRSQ = Ruminative Responses Style Questionnaire. *n* = Number of participants, *r* = correlation coefficient, *α* = Cronbach's Alpha.
** $p < 0.01$.

Table 5

*Test-retest correlation coefficients and Cronbach's Alpha reliability coefficients for
translated measures (AICS; scale and subscale)*

Scale	*n*	Scale items	Time 1 M (SD)	Time 2 M (SD)	*r*	α
AICS	108	26	102.00 (13.64)	98.11 (17.30)	.62[**]	.87
Collectivism	108	11	41.85 (7.78)	40.25 (9.20)	.66[**]	.83
Individualism	108	15	60.14 (10.02)	57.86 (11.61)	.67[**]	.84

Note. AICS = Auckland Individualism-Collectivism Scale; *n* = Number of participants, *r* = correlation coefficient, α = Cronbach's Alpha.
** *p* < 0.01.

Step 8: Establishing norms

Vallerand (1989) recommended that once questionnaires have been refined and tested in the target language, it is important to establish norms with a representative sample to compare scores across different reference groups (Banville et al., 2000; Kristjansson et al., 2003). However, this step was not conducted in the current research for two reasons. Firstly, the main aim of the current translation procedure was to produce equivalent Arabic scales to use for this research, a comparison between two populations (British and Saudi) into social anxiety cognitive biases and culture. Establishing norms is not pertinent to achieving this specific goal, as the comparison of different norms is meaningless. Secondly, according to Banville et al. (2000) at this stage, simple statistical methods such as means, standard deviations, t- test scores and z- scores are appropriate for such a comparison rather than establishing norms. An example of this is seen in the work of Shulruf et al. (2007) who used averages and z-scores (Shulruf et al., 2011) to assess different nationalities, comparing them on the Auckland Individualism-Collectivism Scale (AICS), the same measure used in this study. For these reasons, it is considered that adequate reliability has been established to allow use of the translated questionnaires in the current research. However, while the Auckland Individualism-Collectivism Scale (AICS; Shulruf et al., 2007, 2011) was used with groups of different nationalities when translated and back translated, Weeks et al. (2007) applied the Fear of Positive Evaluation based only on the level of proficiently of the participants' English language. With regard to both these studies, little detail was given in terms of the translation methodology or on establishing norms, which gives the current study processes more strength. In support of this strength, a full picture of the process is offered through providing a comparison between the original English version and the target Arabic version in terms of the

psychometric proprieties as seen in Table 6. It is important to note that for the AICS, the internal constancies presented in Table 6 are related to two different published papers, Shulruf, Hattie and Dixon (2007) for the overall scale and Shulruf et al. (2011) for the two subscales, individualism and collectivism.

Table 6

Psychometric proprieties of the original and target versions

Scale	Original version			Target version		
	n	*R*	*α*	*n*	*r*	*α*
AICS	199		.75	108	.62**	.87
Collectivism	1166		.70	108	.66**	.83
Individualism	1166		.80	108	.67**	.84
SIAS	1069	.90	.94	119	.78**	.85
FNE	154	.78	.94	105	.62**	.65
FPE	1711	.70	.80	105	.61**	.77
RRSQ	1328*	.67	.90	108	.65**	.88

Note. AICS = Auckland Individualism-Collectivism Scale; AICS = Auckland Individualism-Collectivism Scale; SIAS = Social Interaction Anxiety Scale; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RRSQ = Ruminative Responses Style Questionnaire. r = correlation coefficient, $α$ = Cronbach's Alpha. ** $p < 0.01$. Test – retest was not obtained for AICS (scale- subscale). * Participant numbers based on Treynor's (2003) study.

4. Discussion

The initial purpose of the present study was to explain and then employ the cross-cultural translation methodology recommended by Vallerand (1989) to translate a set of psychological questionnaires from English into Arabic to accomplish the main goal of the current research, to investigate and explore social anxiety cognitive biases across two cultures, British and Saudi. Taking into consideration the diversity between the two languages, the use of Vallerand's methodology was a deliberate choice as it is deemed a robust and rigorous methodology for cross-cultural research. According to Banville et al. (2000) "…it is an effort to take into consideration the uniqueness of the culture in which the questionnaires will be used" (p. 384). Different cultures may impose and encourage different norms guiding individuals when responding to certain situations or internal feelings, thus words and phrases which are meaningful in one language may differ or have an inexact counterpart in another (Kristjansson et al., 2003). This cultural difference in languages made the choice of translation methodology a priority as the translation-back translation approach is not robust enough for cross cultural

research. According to Gauthier and Bouchard: "…the back translation technique does not allow enough discrimination to be effective" (Banville et al., 2000, p.378).

Having carried out and applied the seven steps of the translation and validation procedure, the overall results revealed that all the questionnaires translated into Arabic had satisfactory validity and reliability, which meant that they could be used to address the research questions around culture and social anxiety cognitive bias among the Saudi population.

Although the adaption and translation procedure was a challenging and difficult task, equivalence in the overall meaning of the questionnaires items was successfully achieved. Three main steps were used to ensure the appropriateness of the translated versions of the AICS, SIAS, FNE, FPE, RRSQ and AISSQ. Using a team of professional translators who had sophisticated knowledge about both languages for the preliminary translation and back translation in addition to knowledge about word phrase complexity and culture (e.g., meanings in different situations) (Kristjansson et al., 2003), ensured that the initial steps in the translation procedure were robust. This robustness was maintained and enhanced by using a committee comprised of professionals who were experts in the content, social anxiety and culture, to critically analyze and judge if the translations were carried out in a clear and fair manner without making overt changes to the content. The main aim regarding these two steps was to avoid possible cultural bias that could emerge by using a single researcher (Schaffer & Riordan, 2003; Banville et al., 2000). After completing these two phases, the instruments were tested using a sample typical of the final target sample to provide feedback around the items in terms of comprehensibility, unambiguousness and appropriateness (Kristjansson et al., 2003). After these steps, the instruments were considered satisfactory and adequate to use with the Saudi sample and appropriate to use to complete the remaining translation phases.

Regarding the evaluation of the validity of the six questionnaires (AICS, SIAS, FNE, FPE, RRSQ and AISSQ), bilingual participants were employed to examine the equivalence of the English and Arabic versions. Self-evaluation tests were used to assess participants' proficiency in both languages. However, it must be noted that this is considered a highly subjective assessment tool that may impact on the accuracy of reports of the language levels of the sample. To increase the objectivity of this evaluation, the researcher recruited Arabic participants studying in the English language, both in the UK and Saudi Arabia. The results of the comparisons between the English and Arabic versions revealed no observable differences between the two versions. Paired *t*-tests confirmed the similarities between the English and Arabic versions through obtaining non-significant results. The highly significant Pearson correlations between instruments further established no differences between versions, both

versions highly correlated with each other. This supports findings about the equivalence of the questionnaire items and the appropriateness of using them with a Saudi population. With regard to AISSQ, as was mentioned earlier, all the first four translation steps were applied to ensure the accuracy and equivalence of the questionnaire, a satisfactory result was obtained.

Face validity of most of the measures was deemed satisfactory as few comments were offered by the committee and participants regarding to this measures. However, a general comment was made by the committee about AICS items as they thought it might reflect specific cultural values that could not exist in the Saudi culture. These included items that emphasized self-interest, independency and competition. No changes were subsequently made, as the main purpose of this kind of measure is to reflect these different cultural values. However, the researcher was aware that there were some items that could appear unsuitable for Saudi society both in terms of culture and Islamic religion. For example, consider the item in the SIAS '*I have difficulty taking to attractive persons of the opposite sex'*. It could be argued that this item could reveal an etiological side of social anxiety, which makes it essential to include when measuring interactions in the social situation. In fact, the strict emphasis on unacceptable cross-gender interaction in this society (in terms of culture or religion) is beyond the meanings included in the afore-mentioned items. A further item was found in the AISSQ, this is '*You've made a tentative arrangement to go to the cinema with a friend and then they tell you that they can't go',* also requires attention. While there were no comments made about this item, it was deemed prudent to replace 'cinema' with 'party' in order to fit in with cultural attitudes toward 'cinema'. However, more attention needs to be given in the future to these scales to monitor for the changes that appear rapidly in Saudi social life.

The reliability of the Arabic questionnaires was established through the use of a large number of Saudi participants as recommended by Vallerand (1989). The Arabic versions were subjected to test and re-test reliability, the results revealing that there were significant correlations between the two tests at $p = .01$ with a r range between .61 to .78 for the SIAS, FNE, FPE and RRSQ, and between .62 to .67 for AICS scale and subscales. While not extremely strong, the modest r coefficients were within an acceptable range. It is important to emphasize that according to Howitt and Cramer (2008), test-retest reliability is affected by a number of factors, one of these the characteristics of the individual which for whatever reason, in our case the examination time, will simply change over time. They claimed that: "…psychological characteristics which are not stable over time should not necessarily give good levels of test- retest reliability" (Howitt & Cramer, p. 265, 2008). That said, a satisfactory range is needed, this achieved.

In addition, there were satisfactory Cronbach's Alpha estimates for internal consistency for each of the Arabic questionnaires, the internal consistencies ranging from .65 to .88 for FNE, FPE and RRSQ, and between .83 and .87 for the AICS (overall scale and subscale). With regard to the FNE, FPE and RRSQ, internal consistency was, to a certain extent, less than the original scales (see Table 6). However, all the Alpha estimates were within an acceptable range for use with the target population. Nunnaly (1967) recommended internal consistency, as a general rule of thumb, from .50 to .60 in the early stages of research, rising to .80 for final versions (Streiner, 2003). However, a reduced value for Alpha does not necessarily represent unfavorable internal consistency. According to Streiner (2003), Alpha does not always test the homogeneity of scale items, but also the homogeneity of what the scale aims to test. Some degree of heterogeneity is therefore necessary between the scale items. Streiner (2003) argues that higher levels of Alpha (over .90), possibly indicate unwanted redundancy between the scale items rather than homogeneity. This is likely to have occurred by duplicating the content; scale items presenting the same content meaning but in a different direction. Focusing on the value of Alpha with regarded to FNE ($\alpha = .65$), despite the fact that this is an acceptable value, it must be noted that the internal consistency may be affected be the length of the questionnaire as the FNE includes 30 items (Streiner, 2003). Due to the length of the scale, participants might have answered some of the scale items with haste, especially if they felt they had already used the same response with similar items (Brown, 2011), this potentially impacting the value of Alpha. Additional support for FNE internal consistency is suggested by Clark and Watson (1995) in that for scales with narrower constructs, a higher mean inter-correlation in the range of .40 and .50 is required. That said, further examination of the FNE would be beneficial.

In context, it is important to comment on the content of Table 6, which compares the psychometric proprieties of the original and target language. The correlation coefficient for the SIAS Arabic target version was in line with original version; all were within an acceptable range. In addition, the RRSQ, both Arabic target version and original version, were within a modest range. However, FNE and FPE were different, the original versions within a good range in comparison to the Arabic target versions, this still satisfactory. No test- retest reliability was obtained for the AICS original version. However, looking to the Cronbach's alpha, we can see that all the original and Arabic versions achieved a good level. Cronbach's alpha for AICS was higher for the Arabic target versions. Although FNE achieved coefficients lower than most of the other measures, it is still within an acceptable range.

When confirmed as valid and reliable, the equivalent meanings of the instrument items indicated that they were appropriate for use in the current sequence of studies with the Saudi sample. However, since these are the first translated versions of the AICS, SIAS, FNE, FPE and RRSQ questionnaires from English into Arabic, a large number of Arabic participants with different genders need to complete the questionnaires to demonstrate the psychometric properties and so enable the use of these questionnaires in the future. Moreover, further work, which should include a clinical population, larger samples and equal numbers of both genders, are necessary to validate the translation process in cross-cultural research.

In conclusion, translation is an important element in cross-cultural research. It is one of the most challenging and rigorous tasks faced by the researcher. However, employing an accurate and robust method supports such endeavors. Vallerand's (1989) methodology for cross-cultural translation is a rigorous method providing equivalence in the meaning of items in a version in another language, confirming the validity and reliability of the questionnaires using psychometric procedures. The findings of this section of the study provide adequate support for the reliability and validity of the translated questionnaires, meaning that they are appropriate to use with the target population (Saudi sample) to investigate social anxiety cognitive bias.

Chapter 4
A cross–cultural investigation into social anxiety
(Study 2)

1. Introduction

Social anxiety is thought to be associated with a fear of social negative evaluation by other people in the social environment (Hofmann, Asnaani & Hinton, 2010). It has been assumed that social anxiety may occur in any context that has important meaning for the individual, invoking cultural norms, values, social standards and social expectations across countries (Hofmann et al., 2010; Hong & Woody, 2007). Hofmann et al. (2010) suggest that while social anxiety is linked with others' negative evaluations in social interactions, assumptions about the importance of social norms as linked to the occurrence of social anxiety must be considered. Hoffmann and colleagues suggest that social anxiety could be defined as: "…an excessive fear of violating social norms" (Hofmann et al., 2010, p1122), putting the individual under the threat of others' negative evaluation. Fear of negative evaluation is the more significant characteristic of social anxiety according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; *DSM-5*; APA, 2013). That said, it is not surprising that one of the most interesting issues in recent psychological research concerns the relationship between cultural social norms and psychology and how this mutual relationship influences the individual's social life and even shapes their personality.

In reality, there is on going debate around the manner by which cultural values and norms might shape and impact people's experiences of social anxiety (Heinrichs et al., 2006; Schreier et al., 2010). The ways in which people express their emotions may be culturally manipulated, a phenomenon which may well influence the interpretation and presentation of social anxiety across cultures (Barlow, 2002). An interesting question in this context is whether or not there are specific cultural features that may provide an explanation for the impact of social anxiety in a given culture. Hofstede (1984, 2001) covered these issues extensively in their work, providing two significant cultural values that could explain cultural differences as a consequence of social norms across countries. These are individualism and collectivism. However, there has been no direct examination of social anxiety *per se* of these two cultural values.

The individualistic culture is one where personal goals and desires are ranked higher than group goals and needs and where more attention is paid to individual attitudes in comparison to group values (Triandis, 2001). The main focus of individualistic societies is on responsibility, uniqueness and competitiveness (Shulruf et al., 2007) and where individual

successes and accomplishments are social admired (Hofmann et al., 2010). In contrast, the second value is the collectivistic culture where people tend to keep themselves in social harmony with others, to seek advice and to avoid engaging in any social conflict. More consideration is given to group goals, social norms and social expectations over personal success or personal desire (Triandis, 2001; Shulruf, et al., 2007) because any deviation from social norms or social expectations is obvious and socially evaluated (Hofmann et al., 2010). This brief illustration may help to shed some light on the relationship between social anxiety and cultural norms, and provide insight about how culture could characterise the individual's experiences of social anxiety (Heinrichs et al., 2006; Hofmann et al., 2010; Greenberg et al., 2004; Schreier et al., 2010)

In order to explain the link between social anxiety and culture, a number of studies have examined the relationship between this disorder and the cultural values of collectivism and individualism. It is important to note that these investigations fall into two main groups the first of which represents those who see people from collectivistic culture as having more of a tendency to develop social anxiety than those from individualistic cultures (i.e., Heinrichs et al., 2006; Schreier et al., 2010). The second comprises those who believe that a certain level of social anxiety exists in both cultures (i.e., Dinnel et al., 2002; Kleinknecht et al., 1997).

With regard to the first group, their findings indicate that there is a trend whereby individuals in collectivistic cultures (mainly Eastern), report higher levels of social anxiety than those from individualistic cultures (mainly Western). For example, Heinrichs et al. (2006) compared social anxiety across eight countries with regard to individualism-collectivism and the social norms in each culture. Undergraduate students from eight countries were asked to read 19 hypothetical social vignettes, for example, "*You are sitting in a math class. The lecturer writes a problem on the board and asks if anybody can solve the problem. You can see that the woman sitting next to you has already worked out the problem but she does not step forward.*" and to make three judgments based on these. The judgments were about the appropriateness of the behaviour in each scenario, whether the actor's behaviour in each scenario was positive or negative and the cultural appropriateness of the actor's behaviour. The results showed that participants from collectivistic cultures reported greater levels of social anxiety, a greater fear of blushing and more likely to accept socially withdrawn behaviours and social reticence than participants from individualistic cultures who were more likely to accept attention-seeking behaviour. Interestingly, there was no difference between individualistic and collectivistic countries in terms of an individual's personal judgments about socially withdrawn behaviour.

Heine and Buchtel (2009) conducted a systematic review of studies that examined the cultural differences between Eastern and Western societies, specifically China and America. This review concluded that Eastern societies show more of a tendency towards avoidance and adaptive strategies in order to make their social performance more socially acceptable and approved of in comparison to people with an American background. In addition, although Eastern countries embrace interdependence with others, they create fewer opportunities to develop new relationships. They are attentive to the perspectives of others and are more self-critical. Considering the above research, we can conclude that social norms and values increase the probability of individuals who hold a collectivistic attitude to experience social anxiety. These findings suggest that: "…within collectivist countries, strict social norms designed to ensure group harmony may evoke social anxiety due to feared negative consequences if those norms are violated" (Schreier et al., 2010, p.1129).

However, and in spite of the above, it must be stated that the majority of research on social anxiety has concentrated on Eastern (i.e., Japanese, Korean, and Chinese) and Western, (i.e., USA and European cultures) as examples of individualistic and collectivistic societies (e.g., Hofmann et al., 2010; Hong & Woody, 2007; Schreier et al., 2010). According to our knowledge, there is currently no literature available on cross-cultural research that deals with cultural influences on social anxiety within Arabic countries such as Saudi Arabia. Most of the available research concentrates on the prevalence of social anxiety (Al-Ibrahim et al., 2010; Arafat, Al- Khani, Hamdi, Yousseryia, A, El- Defrawi, & Moussa, 1992; Bassiony, 2005; Chaleby, 1987; El-Tantawy et al., 2010) making little, if any, reference to the role of norms. Despite that, Al- Ruwaitea (2007) was the first to propose the notion of collectivism and individualism and their role within Saudi society. He suggested that in a collectivist culture (e.g. Saudi Arabia) social anxiety derives from important beliefs about the perceptions of others. People need to avoid making any bad impressions in the group situation as they are more concerned about meeting others expectation in any given social situation.

To this end, Al- Ruwaitea (2007) conducted a series of investigations to explore the impact of social anxiety with reference to collectivism and individualism amongst a Saudi sample. Participants, 157 males and 124 females, were asked to rank the elements that reflected collectivism and individualism attitudes as defined by Triandis et al. (1988) this including reputation, criticism by others, religion, responsibility and social standing. The majority of the participants rated reputation, an external factor, and religion, an internal factor, as more important than rules and regulations. Thus, they conclude that Saudi collectivistic social norms, which are described as more rigid and strict, carry high expectations for

individuals' social roles. These then influence the development of social anxiety, manifest as cognition and behavioural reactions, such as extreme sensitivity to criticism and inflexibility in unstructured situations, leading to a focus on how one appears to others and an awareness of others social expectations (Al- Ruwaitea, 2004, 2007). In line with this result, Chaleby (1987) confirmed that social anxiety in the Saudi milieu is typically derived from an extreme emphasis on social norms, where any slight deviation from the norm could potentially be deemed unacceptable. Therefore, individuals make considerable effort with regard to self-representation to harmonize their relationships within the group and regulate themselves according to social expectations thus avoiding others' negative perceptions or negative evaluations (Suwaidi, 2008).

The second group asserts that this relationship between culture and social anxiety is not always as clear-cut and still remains an enigma. For example, Kleinknecht et al. (1997) studied the influence of self-definition, independence / individualism and interdependence / collectivism, on the frequency and prevalence of two culture-bound forms of social anxiety: social anxiety or phobia, as defined by DSM-IV (i.e., concern over public insecurity or embarrassment), and a type of social anxiety called "*Taijin Kyofusho*", a Japanese form of anxiety characterized by a fear of causing offence to others who are different from the mainstream. Two groups of undergraduate students were compared on five scales to assess their social anxiety; a social interaction anxiety scale, social phobia, Modigliani's embarrassment ability scale, "*Taijin Kyofusho*" symptoms and behaviours and a measure of independence and interdependence. The results revealed negative relationships between individualism and all measures of social anxiety and social phobia for both American and Japanese participants. The more independent (individualistic) a student was, the less he/she displayed symptoms of social anxiety and social phobia. Unexpectedly, the collectivism dimension was positively correlated with three of the measures: social anxiety, social phobia and "*Taijin Kyofusho*" in the American group. There was no significant correlation with any of these measures for the Japanese participants as anticipated by the research.

Likewise, Dinnel et al. (2002) examined the relationship between individual and cultural levels or individual's cultural values, and three different forms of social anxiety: social interaction anxiety scale, social phobia scale as defined by DSM-IV, and "*Taijin Kyofusho*" scale. Two groups of American and Japanese undergraduates were asked to measure their susceptibility to the three aforementioned forms of anxiety according to a scale for assessing the independence and interdependence dimensions of self-construal (i.e., individual's beliefs concerning the relationship between the self and others and how people observe themselves in

terms of their connection with, or separation from others). Japanese individuals scored significantly lower than Americans on the independence value, but there were no significant differences between the two groups on the interdependence value. An interesting finding in this study was that the Japanese participants scored lower than the Americans on the social phobia scale, but higher on the "*Taijin Kyofusho*" scale. There were no significant differences between the two groups in their scores on social interaction anxiety. Dinnel and colleagues (2002) assert that regardless of the individual's cultural context, social anxiety is common in both cultures. The results from these two studies emphasize the dynamic relationship between culture and social anxiety, a relationship which challenges the notion that people are isolated and divided people into two domains, collectivist with more experience of social anxiety or individualistic with less experience of social anxiety. Social anxiety was found to be present in both cultures as a common anxiety disorder. However, it may be suggested that the role of culture here is to guide the way that people deal with social anxiety when participating in any social event.

These differences in cross - cultural research findings regarding social anxiety are challenging, however, there are two competing hypotheses which should be taken into consideration when attempting to unpack the relationship between social anxiety and culture. Heinrichs et al. (2006) proposed two reasons that serve to broaden our understanding of this relationship. The first is that social anxiety will be higher in a culture that asserts strict social norms in order to achieve appropriate social performance or to prevent social disapproval (e.g., collectivistic cultures). Secondly, and to the contrary, social anxiety will be greater in cultures with clear and structured norms where any deviation from these norms will be openly evaluated and judged (e.g., individualistic cultures). An alternative interpretation that could explain this relationship according Heine et al. (1999), is that individuals in collectivist cultures occupy themselves with more self- criticism to re-evaluate and judge their social performance thus regulating themselves via social norms in order to avoid or reduce any negative outcomes or negative emotions. These actions make the experience of social anxiety preventable. In contrast, those in individualistic cultures engage in more self-enhancement in order to get more positive evaluations this encouraging them to be more positive. This course of action however could put them at risk of developing negative emotions in order to meet societal expectations implying that they too could experience social anxiety. Therefore, with this rationalization, it may be conceivable to say that levels of social anxiety could explain how socially anxious people perceive and translate their cultural social norms when they are at the center of social attention. In other words, levels of social anxiety will help to realize if the

individual in any certain culture could embrace an individualistic or collectivistic values as these two form are potential to be exist within culture.

This aside, developing an, understanding of the relationship between cultural values and social anxiety is critical as this exists in any given culture meaning that research is needed to understand the experience of social anxiety on the individual. In addition to examining the differences between British and Saudi participants' levels of social anxiety and culture, an attempt is made to take advantage of the *coexistence* of both cultural values to investigate the relationship between social anxiety and culture by examining individual levels of social anxiety in relation to culture.

1.1. **Study objectives**

In line with the above illustration and to enable a deeper understanding of the relationship between social anxiety and culture, this study will explore:

- Whether levels of social anxiety will differ between British and Saudi groups according to cultural values. The assumption is that a high level of social anxiety will be found for those in groups who are defined by levels of collectivism (Saudi group) but not with the British group whose background is individualistic.
- Whether differences in levels of social anxiety for British and Saudi groups predict levels of cultural values, in this case individualist or collectivist.

2. Methods
2.1. Participants

One hundred and thirteen British students were recruited via local university websites while 85 Saudi students were recruited through lectures; all were psychology students. The groups differed significantly by age, t (196) = 2.36, $p < .01$, the mean age of the Saudi participants 20.45 years ($SD = 3.50$), significantly lower than the British participants who had an average age of 22.02 years ($SD = 5.78$). The average age of the British females ($n = 103$) was 21.83 years ($SD = 5.38$), the males ($n = 10$), 23.90 ($SD = 9.12$). For the Saudi participants, the average age of the females ($n = 50$) was 20.04 years ($SD = 2.78$), the males ($n = 35$) 21.03 ($SD = 4.21$). The two groups also differed significantly in terms of gender, χ^2 (198) = 28.8, $p < .001$.

2.2. Measures

All measures are described and discussed in detail in Chapter 3.

2.3. Procedure

British participants were recruited via a web-based site at a University in the South of England, while the Saudi participants were randomly selected from lecture attendance lists at a local Saudi university. The method of selection of the Saudi students was reliant on the School of Psychology class list. Each student has to complete four different levels as part of their degree. With this in mind, the researcher selected the participants from each level to give them all the chance to participate in the study. Firstly, university ethics approval was obtained for the study. All participants were provided with a research information sheet to read followed by the consent form (Appendix I). Participants were instructed to complete all the measures. The British participants were given six credits for completing the questionnaires. The Saudi university had no research credit system for students therefore no credits were given to them. All participants were debriefed at the end of their participation (see Appendix J).

3. Results

The exploratory data is presented first including: 1) tests of normality and 2) descriptive statistics. A t-test was used to test the first study question. In addition, to answer the second question a multivariate analysis of covariance (MANCOVA) was conducted on the dependent variables (cultural dimensions; scales and subscales) by fixed factors (country groups and social anxiety level) as the main analysis. This is presented along with tests for interactions between social anxiety and culture group. This analysis was used to in order to control for age and gender, however, gender was not include in this analysis as the number of females was larger than males in both groups. Incomplete self- report questionnaires for 23 Saudi students (six males and 17 females) and one British student were excluded from the analysis. In the data set, missing values were replaced with mean scores using the SPSS package following the procedures as describe in (Howitt & Cramer, 2005) for the Saudi group data only. However, for the British group no missing data was found. A general summary of the results follows the analysis.

3.1. Exploratory Data Analysis
3.1.1. Tests of Normality

In order to establish normality of distribution, Kolmogorov-Smirnov (K-S) and Shapiro-Wilks tests were performed. Data screening using both statistical tests showed that overall the measures for both groups were normally distributed. However for the British group, 'Responsibility', one of the Individualism dimension subscales, deviated significantly from the normal acceptable range. To address this issue, the Kurtosis and skewness test was applied to

check the Gaussian distribution of the subscale. The test value (see Tabachnick & Fidell, 2001; Johnson & Lady, 2008) was within the range ±1.96, which therefore established an acceptable normality of distribution. Kurtosis and skewness were applied to all measures to test for normality, the results of all showing as statistically acceptable.

3.1.2. Descriptive Statistics

Means and standard deviations of the self – report measures by group are presented in Table 7. Table 7 shows that levels of social anxiety as measure by SIAS (overall score) for the British group were higher than for the Saudi group. This result was different from Mattick and Clark's (1998) original study in which mean SIAS scores for undergraduate students was 19.0 (SD =10.1). In the present study, mean SIAS scores for the British undergraduate sample was just over one standard deviation higher than the normative sample. In order to address this, participants in this study were divided using median splits into two groups (high and low) with respect to their social anxiety (SIAS) scores depending on whether their score was below or above the group median ($Mdh = 25$) as can be seen in Table 8. However, levels of social anxiety were still higher for the British group (high in social anxiety) than Saudi group (high in social anxiety). For more deatiales for the group characteristics; high and low on social anxiey we refer the reder to Apendex K.

Table 7

Means and standard deviations for Self-report questionnaires by country (n= 198)

Variables	British ($n = 113$)	Saudi ($n = 85$)
	M (SD)	M (SD)
Age	22.02 (5.78)	20.45 (3.50)
SIAS	31.40 (15.59)	18.34 (9.42)
Collectivism	43.61 (8.02)	42.58 (9.24)
Individualism	61.64 (10.05)	62.98 (12.42)
Individualism and Collectivism Subscales		
Advice	29.37 (6.21)	27.48 (7.04)
Harmony	14.23 (3.47)	15.09 (3.63)
Competition	25.99 (6.72)	28.30 (7.51)
Unique	17.27 (3.14)	17.11 (4.11)
Responsibility	18.38 (3.02)	17.56 (3.53)

Note. SIAS = Social Interaction Anxiety Scale. Cronbach's alpha reliability coefficients for SIAS range from .94 to .83, and for AICS (both scale and subscale) from .77 to .89 for British and Saudi respectively suggesting appropriate internal reliability for the measures.

3.2. T-test for self -report measures

A t-test was used to compare the groups on social anxiety (SIAS) and cultural values (AICS) in order to provide a clearer picture about group differences in terms to these variables.

The results indicted that there were significant group differences on the SIAS, $t(196) = - 6.83$, $p < .001$; $d = 1.01$. The effect size for SIAS was found to be exceeding Cohen's (1988) convention for a large effect size which is $d = .80$. No significant group differences were found for either individualism or collectivism. An additional independent t- test analysis was conducted for the AICS subscales, the results revealing significant differences between groups on sub scales advice, $t(196) = 1.99$, $p = .04$; $d = .28$, and competition, $t(196) = -2.27$, $p = .02$; $d = .32$.

3.2. Multivariate analysis of covariance

The aim here is to examine if levels of individualism and collectivism are dependent on levels of social anxiety across both groups. MANCOVA was used to examine this. Similar investigations using MANCOVA are presented to examine if individual's levels of individualism (unique, responsibility and competition) *and* collectivism (advice and harmony) depend on levels of social anxiety for both groups. Because age differences may impact the outcome, age was included as a covariate for all analyses.

3.2.1. Differences between groups on social anxiety, individualism and collectivism

Prior to conducting the MANCOVA, a series of Pearson Product-moment Correlation Coefficients were conducted between the dependent variables in order to test MANCOVA assumptions that all pairs of dependent variables are correlated with each other (Tabachnick & Fidell, 2001). As Table 9 shows, significant correlations were found among the majority of the dependent variables (scale and subscales), justifying the appropriateness of MANCOVA. Table 9 also shows a significant correlation at $p = .05$ between collectivism and individualism (explanation for the impact of this association will be covered in the discussion).

Table 8

Pearson correlations for cultural dimensions   (n = 198)

Variables	1	2	3	4	5	6	7
1- Collectivism	1						
2- Individualism	.35**	1					
3-Advise	.92**	.37**	1				
4- Harmony	.68**	.15*	.35**	1			
5- Competition	.28**	.88**	.33**	.07	1		
6- Unique	.12	.73**	.11	.10	.42**	1	
7- Responsibility	.43**	.68**	.42**	.25**	.35**	.49**	1

Note. The results are presented for the two main dimensions (Individualism *and* Collectivism) and for the five subscales.
* Correlation is significant at .05 ** Correlation is significant at .01.

A 2 (anxiety; high vs. low) × 2 (nation; British vs. Saudi) MANCOVA was used to test the hypothesis that social anxiety levels for both groups could predict individualism and collectivism levels (which were the dependent variables). Age was included as a covariate. The analysis revealed significant multivariate effects of social anxiety, Wilks' Lambda = .94, F (2, 192) = 5.82, p = .003, ηp^2 = .05, but not of nation, Wilks' Lambda = .99, F (2, 192) = .93, p = .39, ηp^2 = .01. There was no significant interaction effect, Wilks' Lambda = .98, F (2, 192) = 1.26, p = .28, ηp^2 = .01. In addition, a significant effect of age was observed, Wilks' Lambda = .94, F (2, 192) = 5.49, p = .005, ηp^2 = .05. The homogeneity of variance assumption was obtained for all dependent variables. Levene's test confirmed that the homogeneity of variance assumption was satisfied.

A follow up univariate F- test revealed a significant effect of social anxiety level on individualism, F (1,193) = 10.73, p = .001, ηp^2 = .05, but not on collectivism. For both groups, those who had higher levels of social anxiety had higher individualism scores. A significant effect was observed of age on collectivism, F (1,193) = 7.36, p = .007, ηp^2 = .03, but not individualism. For all analyses, the effect sizes were (partial η^2) small, ranging from .01 to .05.

3.2.2. Differences between groups on social anxiety, individualism and collectivism subscales

A similar procedure conducting MANCOVA was performed to examine if levels of social anxiety for both groups as independent variables could predict cultural dimension subscales as dependent variables. A 2 (high and low in social anxiety) × 2 (British and Saudi)× 5 (cultural subscale) procedure was used. This analysis also revealed significant multivariate main effects of groups and social anxiety (Wilks' Lambda = .82, F (5, 189) = 8.29, p = .001, ηp^2 = .18, Wilks' Lambda = .87, F (5, 189) = 5.62, p = .001, ηp^2 = .13) respectively. In addition, a significant effect of age was found (Wilks' Lambda = .88, F (5, 198) = 5.04, p = .001, ηp^2 = .11). However, there was no significant interaction effect (Wilks' Lambda = .97, F (5, 189) = 1.13, p = .34, ηp^2 = .02). Homogeneity of variance assumptions were obtained for all dependent variables. Levene's test was satisfied in general. One of the five subscales, Unique, was statistically significant for both groups (p = .007) thus non homogeneous. Examination of the standard deviations (see Table 7) confirmed that the greatest standard deviation was not more than four times the size of the corresponding smallest, which indicated that the ANOVA was robust in this case (Howell, 2009).

The result will be presented separately for the Individualism subscales Unique, Responsibility and Competition, followed by the Collectivism subscales Advice and Harmony.

3.2.2.1. Differences between groups on social anxiety by individualism

Univariate F- test ANOVAs revealed a significant effect of social anxiety for both groups on the unique, $F (1,193) = 9.45$, $p = .002$, $\eta p^2 = .04$, and responsibility subscales, $F (1,193) = 20.03$, $p = .001$, $\eta p^2 = .09$. In addition, univariate analysis revealed a significant effect of group on responsibility, $F (1,193) = 10.82$, $p = .001$, $\eta p^2 = .05$. There was no significant interaction effect and no significant effect of age.

3.2.2.2. Differences between groups on social anxiety by collectivism

Univariate F- tests revealed no significant effect of social anxiety for either group on advice or harmony. However, univariate analysis revealed a significant effect of group on advice, $F (1,193) = 7.02$, $p = .009$, $\eta p^2 = .03$. A significant effect of age was also found for advice, $F (1,193) = 7.96$, $p = .005$, $\eta p^2 = .04$.

4. Results summary

The descriptive statistics indicate that British individuals reported higher levels of social anxiety in comparison to those from Saudi Arabia as can be see in Table 7 for SIAS overall and Table 8 levels of social anxiety for both groups. No differences were found between groups with reference to individualism and collectivism. However, MANCOVA showed that certain levels of social anxiety were associated with individualism for both the British and Saudi groups but this was not the case for collectivism. The results indicated that within both cultures, people who exhibited social anxiety tend to be more individualistic in values. This indicates that both forms can be found within / between cultures. MANCOVA also gave similar results across subscales, as certain levels of social anxiety were associated with unique and responsibility (individualism subscales) for both groups but not for advice or harmony (collectivism subscales). However, there was a significant effect of group and age on the collectivist subscale 'advice'.

5. Discussion

The purpose of this study was to explore whether levels of social anxiety for British and Saudi groups differ according to their cultural value under the assumption according to previous research, that high levels of social anxiety will be found in groups who have a collectivistic value (Saudi group) as opposed to the British group who are regarded as being more individualistic. Further investigation was carried out to see if levels of social anxiety could predict cultural values: individualist or collectivist.

Interestingly, the findings generally revealed that British participants had higher levels of social anxiety than their Saudi counterparts with no cultural differences between groups in terms of collectivism and individualism. However, multivariate analysis of covariance results revealed a new sight to see this relationship between social anxiety and cultural values. That is, social anxiety was more likely to be found in groups with individualistic values but not for those holding collectivistic values regardless of the group nationality. A similar result was obtained for the cultural values subscales as certain levels of social anxiety were associated with unique and responsibility (individualism subscales) for both groups. A significant effect was also observed of group and age on the advice collectivism subscale.

Accordingly, this result will be discussed in two stages: firstly, the results will be discussed with reference to British and Saudi groups regarding social anxiety. Secondly, discussion will focus on cultural values; differences between groups with reference to collectivism and individualism together and social anxiety, then, social anxiety with its relationship with individualism cultural value. This will be followed by comment on some unusually interesting issues, limitations and the conclusions of the study.

5.1. Social anxiety: group differences

Most cross-cultural research in social anxiety has demonstrated that collectivistic cultures (e.g., Eastern nations) display greater levels of social anxiety than those from individualistic cultures (e.g., Western nations) (Al- Ruwaitea, 2004, 2007; Al- Suwaidi, 2008; Chaleby, 1989; Heine & Bechtel, 2009; Heinrichs et al., 2006; Hong & Woody, 2007; Ingman, 1999; Markus & Kitayama, 1991; Rapee & Spence, 2004; Schreier et al., 2010). However, the results of the current study reveal a different picture of cultural differences and social anxiety. These results appear to suggest that the relationship between social anxiety and culture is paradoxical and not purely static. This enigmatic relationship challenging previous generalized findings as discussed in many cross-cultural studies (e.g., Al-Khodair & Freeman, 1997; Chiao, Harada, Komeda, Li, Mano, Saito, Parrish, Sadato & Idaka, 2009; Dinnel et al., 2002; Heinrichs et al., 2010; Iancu, Sarel, Avital, Abdo, Joubran & Ram, 2011; Karam et al., 2006, 2008; Qyserman & Lee, 2008). In line with this challenging notion concerning cultural differences and social anxiety, the results of the present study reveal that the Saudi group who are assumed to hold collectivistic cultural values according to the previous research (e.g., Al- Ruwaitea, 2004, 2007) do not have higher levels of social anxiety in comparison to the British group. Quite to the contrary, the British group who are assumed to hold individualistic values, showed greater

levels of social anxiety, as measured by the Social Interaction Anxiety Scale (SIAS). This result confirms the equality of both cultural forms to be in the two cultures of investigation.

Several interpretations can be offered to interpret this outcome including 1) social anxiety measurement issues namely social interaction anxiety scale (SIAS), the scale responses options and socially desirable responses, 2) response style bias and 3) gender roles.

With respect to the measurement issues, several points are worthy of comment. First, there is the need to examine the Social Interaction Anxiety scale (SIAS) in order to understand this finding. This measure has been used extensively to examine social anxiety in cross-cultural research (e.g., Dinnel et al., 2002; Kleinknecht et al., 1997; Schreier et al., 2011). Aside from the discrepancies that occur in cross-cultural research findings concerning social anxiety, previous research on social anxiety and culture (see, Dinnel et al., 2002; Heinirchs et al., 2006; Kleinknecht et al., 1997; Schreier et al., 2011), found that people who were supposed to hold individualistic cultural values (i.e., the USA and Germany) had higher than average social anxiety as measured by the SIAS. This result is different from the results obtained with the general population, undergraduate populations and simple phobia groups which were used to validate the original SIAS design (Mattic & Clarke, 1998). In a cross-cultural comparison of social phobia symptoms (Dinnel et al., 2002), USA participants scored a mean social anxiety scale of 33.41(14.15), this score slightly closer to the social anxiety scores for the British participants in the present study ($M = 31.40$, $SD = 15.59$) and closer still to the social phobia sample ($M = 34.6$, $SD = 16.4$) in Mattic and Clarke's normative study. Hence, the results here are not surprising as such findings are common in a cross- cultural research (e.g., Heinirchs et al., 2006; Schreier et al., 2010). Second, this recent result adds to the evidence that scale constructs might be perceived differently when used in cross-cultural research in psychology. According to Stein (2009), social anxiety constructs in Western cultures focus on the individual's social performance, while in Eastern cultures social anxiety is more rooted in the loss of the individual's social cohesion. Therefore, there is the possibility that SIAS items are more closely identified with Western cultural attitudes than Eastern cultures. Despite that, Schreier et al. (2010) consider that the SIAS was found to be satisfactory regarding internal consistency when utilized with different cultures indicating the appropriateness of using it to assess social anxiety. However, a question suggests itself here concerning whether or not high internal consistency across instruments is a good enough reason to judge scale appropriateness for cross-cultural investigation in social anxiety. Third, although the translations in the present study were robust in their psychometric properties, we cannot ignore the fact that these measures were created in a different culture and may have different underlying constructs. This

issue is more so linked with the essential features of social anxiety across culture rather than the translation itself. Fourth, given that the original study using SIAS was carried out in 1998 and that this was 16 years ago, the difference in scores may well be reflecting a real time difference in attitudes within student groups (namely the British group) across time. This needs to be considered in light of the massive differences in student life over the last 16 years; economically, culturally and socially. One might expect that the potential strength of the measure is that it can detect changes in social anxiety in groups between two points in time.

Another point considering to the measurement issues is that, the scale responses options, namely the Likert response, and the potential for this type of response to conceal individual cultural differences. Heine, Lehman, Peng and Greenholtz (2002) argue that individual cultural differences that are presumed to exist between cultures according to much of the research conducted in the cross-cultural field, to some extent need to be reconsidered. This notion raises the issue around the sources of data underpinning the research question. They maintain that findings obtained from cross-cultural comparisons from any given psychological instrument are questionable. The idea here is that individuals from different cultural backgrounds are willing to adopt different social standards when evaluating themselves using subjective Likert scales. According to Heine, Lehman, Peng & Greenholtz (2002, P. 905) "…Likert scales capture one's feelings relative to a comparison group or shared norm, but they do not provide a context-free assessment of one's absolute standing" . Likert scale response options conceal variability between groups that may confound comparisons with the reference-group. However, Likert scales are considered a valid approach to identify differences within rather than between groups. Sharing the same background makes differences within groups more accurate and rational.

The later notion around the measurement issues is linked to ideas around socially desirable responses defined, according to Cronbach (1946) as: "…any tendency causing a person to consistently give a different response to test items than he would when the same content is presented in a different form" (Shulruf et al., 2011, p, 53). This social desirability reflects the individual's attitude toward their appearance according to the image that society desires. For example, people with more Westernised principles are more likely to select more extreme responses as they are more motivated, responsible and also trying to manage their responses to create a clear distinction or difference from others to assert their uniqueness. In contrast, people with Eastern values tend to select the more moderate responses and are more cautious to not differ from their surrounding society thus asserting their modesty (Heinirchs et al., 2006; Shulruf et al., 2011). Taking these interpretations together, it is possible that the

British group were reflecting their cultural values (expressing themselves and their emotions clearly as a way to flag their uniqueness) by selecting the extreme responses, which makes them higher in levels of social anxiety than the Saudi group, who are more concerned to not be different from others (suppressing or hiding their emotions as a way of fitting in and being more modest).

However, besides these explanations for levels of social anxiety between the groups in the present study, it is also important to remember that both groups differed in their method of response to the research measures. This could also contribute to the need to be more socially acceptable. The British participants used computerized questionnaires, whereas the Saudi participants filled out paper questionnaires in class, something that could also give them the opportunity to control their responses to make them more socially desirable. According to Richman, Kiesler, Weisband and Drasgow (1999), socially desirability will be lower when the participant is alone and using computerized questionnaires. Individuals have more freedom and comfort in expressing their emotions or attitude under this condition, than when others surround them, filling out paper forms finding themselves more aware of their surroundings and the possibility of others seeing their response. In addition to the above, Mattick and Clarke (1998) conclude with three limitations of their study concerning the development and validation of SIAS, two of which are 1) the participant as if they wish, they can falsify their responses to make them more socially desirable and 2) most of the SIAS items were designed to be in the same direction which possibly increases the chances of bias in response to the scale items. These limitations give more strength to the agreement previously made.

Further explanations that could be offered for differences in anxiety levels between groups may concern cultural response style bias. What is considered a social anxiety symptom in one culture might not be applicable in a different one (Barlow, 2002) in that some cultural responses may be seen as normative and not medical (Stein, 2009). In cross-cultural research, cultural responses are important in order to identify social anxiety. According to Hong and Woody (2007, P. 1787): "East Asians typically experience more social anxiety than Westerners, but this anxiety would not be directly translated to psychopathology" . For example, East Asian societies with a stronger collectivist emphasis may normalize individual experiences of social anxiety: that is to say such behaviors are more socially acceptable within those societies, for example being less talkative and displaying more reticent behaviours (Hofmann et al., 2010; Rapee & Spence, 2004; Lewis – Fernandez et al., 2010; Schreier et al., 2010). According to Stein (2009), some social responses may be considered as highly prized in some cultures. Consequently, people from collectivistic cultures might suffer "less impairment"

and therefore, less social anxiety (Schreier et al., 2010). Thus, cultural social style may direct people to perform in a way that fits them according to what the social surroundings demand. According to Kitayama, Markus, Matsumoto and Norasakkunkit, (1997) in a cultural system that emphasises social harmony and the importance of social relationships, people become more sensitive to any negative social information. This sensitivity is not necessarily the result of low self- esteem or low self- confidence and consequently negative emotions but is rather of benefit to them to regulate their behaviour within social situations to gain positive social costs (i.e., social approval). This way of interpreting individual social responses may hide the truth about the prevalence of social anxiety across cultures irrespective of cultural attitudes.

A final and significant point with respect to differences in the level of social anxiety is gender. Although, gender is not included in the analysis, it is an equally significant aspect that potentially explains the findings of this study. The impact of gender differences needs to be considered in three areas. Firstly, the number of females ($n = 153$) in the current study is larger than the number of males ($n = 45$). Notably, the number of British females ($n = 103$) was more than Saudi females ($n = 50$). This may be the reason, which resulted in the British groups reporting higher levels of social anxiety than the male and female Saudi groups. Secondly, epidemiological research has shown a discrepancy with reference to the prevalence of social anxiety between genders. However, some research has demonstrated that females are more disposed to meeting the criteria of social anxiety than men (Furmark, 2002; Iancu et al., 2011; Karam et al., 2006, 2008). These two explanations provide clues about the results. Thirdly, and potentially the more appropriate explanation, the traditional social role of western women sees them as more dependent and in need of security. This could drive them to seek more independence in their social lives, to be more competitive and responsible and to crave autonomy, which in turn could result in them becoming more anxious than men (Fodor, 1974; Arrindell et al., 2004).

While social anxiety in Saudi women might be less obvious culturally, the social lives of Saudi women are more protected than males, implying that these strict social norms could provoke social anxiety (Al- Sabaie, 1989; Chaleby, 1987). In addition to this, women in such societies are more accepting of psychological pain as this is seen as part of their lives as women (Al- Sabaie, 1990; Al- Sayed, 1986). This might explain the somewhat unreal position of Saudi women (Menezes, Fontenelle & Versiani, 2006). Therefore, women in different societies such as British and Saudi, present themselves as symbolizing the culturally designated social needs and expectations even though this is contrary to their own desires.

Another broad line of thought regarding the role of gender, Gross and Madson (1997) reviewing models of the self specifically self-perception and gender, found that the self is a 'social product'. It has been developed through a period of time via social experiences with engendered social standards and expectations. The role of the self is partly to guide individual responses to engendered situations. It is thought that this is why men and women are likely to develop different self-perceptions. Compared to men who define themselves as more independent, women have a tendency to develop an interdependent self-perception. This means they are more connected to others, seek to keep harmony in their relationships, resulting in different cognitions, emotions and social actions. Women present themselves as more related to others believing that social relationships are an important aspect of life. They are also more motivated to avoid conflict in their relationships and more likely to openly express their emotions in comparison to men. Threats to self-esteem or self-evaluation depend to a certain extent, on this type of self-perception. The individual who has an interdependent self-perception is more sensitive to intimate interactions or to any potential danger to relationships and social roles, which could threaten self-esteem. They are also more aware of social cues, which increase the possibility of negative emotions (see Gross & Matson, 1997 for review). These types of social self-concepts foster social anxiety amongst women. According to Moscovitch, Hofmann and Litz (2005), socially anxious people are very aware of the cultural norms, which dictate acceptable social performances, however, they believe that they are unable to embody these norms in their lives in ways, which they perceive to be consistent with cultural standards and expectations. Despite the fact that gender differences are not within the analysis of the present study, this interpretation might offer additional reasons as to why the British group had higher social anxiety scores than the Saudi group. Further research with larger sample sizes would allow more focus on gender differences relative to culturally specific issues, as culture has it is own contribution in gender differences.

In sum, the explanations offered in this section discuss the differences in social anxiety between the two groups. The differences between theses group are a result of a variety of reasons including social anxiety measurement issues, responses style bias and gender roles. All these reasons together are important in order to understand the current findings regarding levels of social anxiety across culture.

5.2. Cultural values and social anxiety

The discussion in this section will be presented in two sections; the results related to group differences in individualism and collectivism cultural values, and the relationship between the individualistic cultural value and social anxiety for both groups.

Regarding the first, the results revealed that there were no differences between the Saudi and British groups in either collectivist or individualist cultural values. This is interesting as these factors were expected to be responsible for certain differences between groups with reference to levels of social anxiety. In addition to that, it is challenge the previous research that consistently classifies individuals according to their cultural values. This result suggested the availability of both values in each group as suggested by Oyesman et al. (2002) who found that both individualism and collectivism are likely to be found co-existing in any one culture. When considering the differences, if any, between cultural values, it is important to consider the ideas of Matsumoto (1999, p.292) "…most of cross cultural research is not cross cultural *per se*; it is generally cross national and more specifically, cross-city or even cross- university" and with respect to this view: "…no wonder the field has had difficulty in explaining differences when obtained".

Given this, it is important to note that some previous cross-cultural research has assumed that the countries involved were individualistic (US) or collectivist (Asians) (Shulruf et al., 2011) without any empirical investigation to demonstrate genuine cultural differences (Matsumoto, 1999). This may mask the real observation of these values within or between cultures. This previous research may have classified people in a fixed manner, either collectivist or individualist, which generates an uncertain picture about cross-cultural differences. For example, two major studies in cultural differences in social anxiety (Heinirchs et al., 2006; Schreier et al., 2011) only categorized their research participants based on Hofstede's (1980, 2001) classification of collectivism and individualism. That said, no specific cultural measures were used to define or classify their research participants. However, currently, there is debate around Hofstede's definition of both dimensions as was mentioned earlier in this project (see Chapter 1). Therefore, these reasons give strength to the present study, which utilizes participants from two geographically different countries, Britain and Saudi Arabia. In addition, participants in this study were classified based on the Auckland Individualism and Collectivism Scale (AICS), which is designed to identify collectivism and individualism between/within groups. While the differences between groups

were indistinguishable, it can be suggested that both cultural values are present in each society without specifically categorising people.

Although, there was a remarkable difference in social anxiety between the groups as discussed earlier, and there were no differences between groups in collectivism and individualism. Our study revealed that higher levels of social anxiety were found in people who held individualistic cultural values, but not for those who held collectivistic cultural values. This is an interesting finding as it gives a clear indication of the existence of both cultural values in both cultures, supporting the argument presented earlier. In addition, it emphasises the need to examine in depth the number of guiding principles people hold as they may live by one cultural value but not entirely classify their experience according to this single attitude. In line with this result, Ingman (1999) found that American participants and Chinese participants report significant relationships between levels of individualism and levels of social anxiety but none of these differences were found in the relationship between the degree of social anxiety and levels of collectivism. According to this, Schreier et al. (2010) stated that individual collectivistic values do not intrinsically represent cross-cultural differences in social anxiety. In addition, Hong and Woody (2007) found that collectivist values functioned as the weakest mediator when establishing a relationship between social anxiety and ethnicity. In keeping with this, the paradoxical association between levels of social anxiety and levels of collectivism found in the British and Saudi groups requires further thought.

On the other hand, irrespective of the sharp classification of cultural values (i.e., British as more individualist and Saudi as collectivist) some investigation found that participants who classified themselves as holding individualistic cultural values scored higher on levels of social anxiety. Bearing in mind that both individualism and collectivism could exist within the same culture, Heinirchs et al. (2006) suggested that levels of social anxiety could reflect the individual's perception about their cultural social norms, and that these cultural social norms could have been responsible for variations in the degree of social anxiety (Rapee & Spence, 2004) between and within this culture. Heinirchs et al. (2006) also speculate that it is likely that any continuum of social anxiety is greater where individual cultural values place more importance on individuality and where confidence, uniqueness, responsibility and autonomy are highly prized. With these types of individual cultural values, there is emphasis on the individual to achieve these cultural targets (Matsumoto, 1999), presumably leading to the promotion and continuation of social anxiety. Moreover, personal achievement and idiosyncrasies specific to individualistic values could lead the individual to avoid the company

of others, thus causing depression or other types of psychiatric disorders (Caldwell-Harris & Aycicegi, 2006).

Regarding individual cultural values that place more emphasis on harmony, unity and avoiding social slips, social anxiety may be less dominant because these factors may be perceived as positive. Besides that, in individualistic cultures, an individual's social privileges increase as they assert themselves. Any level of social anxiety will be considered as impairment perhaps interfering negatively with their life (Heinirchs et al., 2006; Rapee & Spence, 2004) leading to the individual suffering from more social anxiety. To recap this point, individuals who tend to embrace individualist values are more likely to be prone to being socially anxious as a cost of this attitude.

In sum, the explanations presented in this part of the discussion concerned the results found regarding cultural values (individualism and collectivism) and social anxiety. The difference between groups with regard to the two cultural values was indistinguishable. However, the results revealed that individuals who hold individualistic cultural values are more prone to social anxiety. This result suggested that personal cultural values are responsible for the presence of social anxiety, regardless of nation. However, this is not to suggest that no differences exist between groups in their experience of social anxiety; culture has a significant role to play in shaping the individual's experience of this disorder.

5.3. Further points

Combining the interpretations of the present results, with regard to the findings around social anxiety and cultural dimensions, the perceived role of social anxiety must be considered as one open to interpretation. This argument has risen recently as an area for debate due to inconsistencies in the results from cross-cultural research. For example, it can be argued that if the prevalence of social anxiety symptoms is similar across cultures, do definitions of social anxiety differ according to individualist or collectivist cultures or at least between different nationalities? Do differences around definition work as a means of 'cover-up' thus leading to misinterpretation of the research outcomes? According to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, text revision (DSM-IV-TR): "In certain cultures individuals with social phobia may develop *persistent* and *excessive fears* of giving offence to others in social situations instead of being embarrassed" (DSM-IV, p. 452). The concerns around an acceptable definition of social anxiety and insufficient attention to cultural concerns implies that item interpretation of different instruments differs from one country to another (Heinrichs et al., 2006; Hofmann et al., 2010; Rapee & Spence, 2004;) as well as differences

around levels of application (Fehm, Pelissolo, Furmark, & Wittchen, 2005). However, Dinnel et al. (2002), Choy et al. (2008) and Kleinknecht et al. (1997) found that little difference was found between Eastern and Western cultures regarding social anxiety and *Taijin – Kyofosho* (TKS). Therefore, it is still unclear as to what extent these measures reflect genuine differences between cultures.

This lack of clarity is also apparent in the definition of collectivism and individualism. Definitions are considered overly broad and are brought into question. It is difficult to give the exact meaning of the concept "collectivism" so it is therefore defined as a reflection of individualism. For instance, Oyserman et al. (2002) state that collectivism is considered as "equivalent" to a "low score of individualism". It must be stated that in this study, collectivism and individualism were found to be significantly correlated which ought to be considered when interpreting the findings. It is expected that such positive correlation may have masked, at least partly, the true difference between the Saudi and British groups.

6. Limitations and Conclusion

These findings should be interpreted in the light of several methodological limitations. Despite the fact that the British group had a higher score in social anxiety in comparison to the undergraduate normative sample as discussed previously, an undergraduate group was used in the research. Recruiting a clinical sample and/or a general population sample might be useful, in that most cross-cultural studies do not normally include a clinical sample in their research design. In addition, the sample was drawn from undergraduate students are not likely to be representative of the entire population, neither British nor Saudi. This is expected to limit the generalizability of the study.

This study included more females than males thus limiting the opportunity to present findings based on a representative sample as gender differences within/ between countries may have influenced some of the findings. It must also be considered that some of the different findings in the study, particularly within the Saudi students, may have been at least partly due to Type II Statistical Errors resulting from a small sample size and limited study power. The use of a larger sample size with sufficient statistical power is required in order to assess accurately the impact of social factors and social anxiety. Despite the fact that translations were included, we cannot avoid the minor language issues that could influence the meaning and consequent understanding of the research measures. Finally, for future research it is important to include measures of general emotional distress, for example, apply a scale to measure depression symptoms to control for its affect on social anxiety.

In conclusion, this study has drawn a clear attention to possible cultural variations in social anxiety. The findings conclude that the British sample experienced more social anxiety than the Saudi sample. No difference was found between groups in terms of the cultural dimensions. Nevertheless, more social anxiety is found in people who define themselves as individualistic. However, levels of social anxiety cannot be completely accounted for by cultural dimensions alone. This research focused on social anxiety interactions across two cultures. Future research needs to focus on specific and narrative areas measuring the relationship between social anxiety and culture such as self-criticism, self-evaluation, self-concept, and self-construal, judgments of self and others and self-awareness and the relationship of these with cultural background. It is hoped that this study, despite its methodological limitations, may help to provide useful baseline information to be utilized by future studies dealing with social anxiety and aspects of Saudi culture and other Arabic speaking countries with comparison to another different culture to further understand the individual's experience of social anxiety across culture.

Chapter 5

Cognitive biases in social anxiety: the effects of fear of global evaluation and post–event processing on the maintenance of social anxiety (Study 3)

1. Introduction

Social anxiety is a common but challenging anxiety disorder. It is characterized by a strong desire to make a favourable impression and to gain approval and/or acceptance (Clark & Wells, 1995; Gillbert, 2001; Rapee & Heimberg, 1997). This leads those with social anxiety to suffer from an excessive fear of being evaluated by others regardless of whether this evaluation is perceived negatively (i.e., negative judgment by others) or positively (i.e., positive judgment by others for successful performance) (Gillbert, 2001; Heimberg et al., 2010). According to cognitive behavior models of social anxiety (i.e., Heimberg et al., 2010), this general fear of evaluation, negative and/or positive, leads individuals with social anxiety to hang on to their negative assumptions and their negative mental representations of their own performance. They hold the belief that any audience will evaluate their behaviour negatively as they anticipate a high social standard of performance which often leads those people to engage in unnecessary ruminative thinking or post-event processing following social interactions or in any up and coming events (Brozovich & Heimberg, 2008; Brown, 2011; Fehm et al., 2007). These forms of cognitive process biases, general fear of evaluation and post-event processing, create links between social situations, which in turn leads to the perpetuation of social anxiety around the individual's social life (Heimberg et al., 2010). However, despite the extensive amount of research that has been conducted to investigate these cognitive processes, there has been a general lack of sufficient investigation across different cultural contexts. Most of the studies that have been conducted with reference to social anxiety disorders across cultures have concentrated on the prevalence of social anxiety between cultures (Hofmann et al., 2010; Lewis-Fernandez et al, 2010; Wenzel, 2010) or have focused on the role of cultural background in relation to the development of social anxiety symptoms (Dinnel et al., 2002; Heinrics et al., 2006; Kleinknecht et al., 1997; Schreier et al., 2010). Thus, to close this gap, the present study sought to investigate cross-cultural differences in associations between Social Anxiety Disorder (SAD) and general evaluation, deemed to include Fear of Negative Evaluation (FNE), Fear of Positive Evaluation (FPE), alongside Post – event Processing (PEP) across two different populations, British and Saudi.

1.1. Fear of global evaluation and social anxiety

Current cognitive models of social anxiety propose that in general, fear of evaluation is a fundamental element that impacts on the maintenance of social anxiety, regardless of whether this evaluation is negative (Clark & Wells, 1995; Rapee & Heimberg, 1997) or positive (Gillbert, 2001; Heimberg et al., 2010; Weeks et al., 2008a, Weeks et al., 2008b, Weeks, Thomas, Rodebaugh, Heimberg, Norton, & Jakatdar, 2008c). Rodebaugh, Weeks, Gorden, Lange and Heimberg (2012) suggest that social anxiety is created by both negative and positive evaluations. Fear of negative evaluation signals fear of downward movement in status (low hierarchy status) meaning that the individual believes that he or she will be evaluated unfavourably during social interactions, while the fear of positive evaluation would function as a warning that this person may have to defend a newly acquired status by avoiding any favourable and public evaluation which would put them in the spotlight. These two types of evaluation may increase and endorse social anxiety so that it becomes conspicuous (Rodebaugh, Weeks, Gorden, Lange & Heimberg, 2012; Weeks, Jakatdar, & Heimberg, 2010). Despite work carried out on general evaluation, fear of negative evaluation and positive evaluation are not identical; they differ from each other (Fergus, Valentiner, McGrath, Stephenson, Gier, & Jencius, 2009; Rodebaugh et al, 2012; Weeks et al., 2008a). In order to ensure a clear conceptual understanding of both, the following section will explain research concerning these two constructs in detail.

1.1.1. Fear of negative evaluation

Fear of Negative Evaluation (FNE) has been well documented through empirical psychological research (e.g., Alden & Beiling, 1998; Ashbaugh, Antony, McCabe, Schmidt, & Swinson, 2005; Clark & Arkowitz, 1975; Clark & McManus, 2001; Hacmann et al., 1998, Mansell & Clark, 1999; Suray & Clark, 1998, Stopa & Clark, 1993; Wells & Papageorgiou, 1999). This construct has been described as: "… apprehension about other's evaluation, distress over their negative evaluations, avoidance of evaluation situations, and the expectation that others would evaluate one negatively" (Watson & Friend, 1969, p.449). Consistent with this definition, cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) propose that social anxiety is an inescapable consequence of the individual's negative beliefs that they may be negatively evaluated by others. This negative belief leads individuals to consider social events as threatening, to underestimate their performance and to interpret ambiguous social signs as a mark of others' negative appraisals (Clark, 2005). Similarly, Rapee and Heimberg (1997) suggest that socially anxious individuals pay more attention to

more salient features, experiencing perceived external threat as a type of negative evaluation. In this situation, socially anxious individuals develop a model against which they mentally compare these perceived negative performances. Subsequently, if this perceived negative evaluation is believed to be getting more negative, anxiety symptoms such as somatic features and negative thoughts increase in a maladaptive fashion. That said, the concepts of social anxiety and fear of negative evaluation are unique as constructs in their own right. The individual who experiences fear of negative evaluation holds a sense of being evaluated unfavourably by others in social situations, but social anxiety on its own is a consequence of an increase in levels of social awareness because of this negative evaluation (Weeks, Heimberg, Fresco, Hart, & Turk, 2005). Therefore, the cognitive processing underlying social-self evaluation leads these individuals to experience social anxiety.

Empirical research has been used to investigate associations between social anxiety and fear of negative evaluation. For example, Wells and Papageorgiou (1999) found that from the perspective of being the observer, visualizing oneself from an external point of view, socially anxious people generate negative impressions associated with negative social evaluations. This result parallels the early work of Hackmann et al. (1998), which indicated that socially anxious people with a negative self-image were more likely to picture themselves behaving in a way, which may be negatively evaluated by others. Spurr and Stopa (2003) offered similar evidence when they demonstrated that socially anxious individuals use the observer's perspective to negatively evaluate their own social performances. Socially anxious individuals evaluate their own performance as worse than that of individuals low in social anxiety or those in a control group (Ashbaugh et al., 2005; Stopa & Clark, 1993).

Clark and Arkowitz (1975) investigated the evaluations of interpersonal interactions made by socially anxious individuals. They used both high and low socially anxious participants who were asked to hold a conversation with a female partner. All these conversations were recorded, the participants asked to watch the recordings and rate their performance in terms of their social skills, social anxiety and the female partner's responses towards them. A different research participant taking the role of judge also rated the participant's performance using the same three dimensions. The findings revealed that socially anxious individuals underestimated their positive social performance in comparison to their negative social performance. In addition to this, the socially anxious group was less positive about their social skills.

Along the same lines, Stopa and Clark, (1993) asked individuals to judge their performance after having a short conversation with stranger. Both the participant and independent rater made assessments of this conversation. The results suggested that those

people with social anxiety struggled with two different factors; poor performance in comparison to others and skewed perceptions about their own behaviors. In combination, these might lead to an escalation in fear of negative evaluation and consequent social anxiety resulting in poorer performance. Such inferior performance keeps these individuals isolated, avoiding the company of others, while in response, people behave unsociably towards them. This can lead socially anxious people to decode any social cues as a sign of negative evaluation (Clark & McManus, 2001).

However, there is agreement between all the aforesaid studies in that the performance of high socially anxious individuals is in fact worse than those with low social anxiety. Despite the consistent finding that socially anxious people underestimate their social performance compared to the independent rater, another finding was presented by Dannahy and Stopa, (2007) and Rapee and Lim (1992) where they conclude that no significant differences were found between both high and low socially anxious people on observers' ratings of social performance. However, Rapee, and Lime, (1992) propose that this discrepancy between the self- rating and observer rating of social performance for socially anxious people is possible due to fear of negative evaluation.

By way of analogy, in a study by Alden and Beiling (1998), individuals with high and low social anxiety participated in a task where they had to welcome an acquaintance. Using a self-disclosure paradigm, they were asked to manipulate their responses according to whether they thought their acquaintance was evaluating them positively or negatively. Socially anxious undergraduates were found to develop a variety of safety behaviours for example, acting in such way to protect themselves from any negative outcomes in order to avoid negative social evaluation (Wells et al., 1995). As a result of this however, the more safety behaviour they used to avoid negative outcomes, the more negative reactions they provoked in others (Alden & Beiling, 1998). Thus, the cognitive representations held by the individuals themselves gave rise to fear of negative evaluation, which in turn served to maintain social anxiety.

1.1.2. Fear of positive evaluation

Unlike fear of negative evaluation, the research concerning Fear of Positive Evaluation (FPE) is still in its infancy. The construct has been described as: "…the sense of dread associated with being evaluated favourably and publicly, which necessitates a direct social comparison of the self to others and therefore causes an individual to feel conspicuous and in the spotlight" (Weeks, Jakatdar, & Heimberg, 2010, p.3). According to Weeks et al. (2008b) the cognitive model of social anxiety does not consider fear of positive evaluation as an

important component; it can be said that it ignores this facet. Despite that, the relationship between social anxiety and fear of positive evaluation has a solid theoretical background (Heimberg et al., 2010; Rodebaugh et al., 2012) that confirms fear of positive evaluation as an important element to identify (Fergus et al., 2009). For example, in their evolutionary approach to attempt a better understanding of social anxiety, Gilbert (2001) reported that at social events, indivaduls even when performs well in social interactions, might believe that others do not approve of or accept their performance. This perception causes stress and the anticipation of conflict with others. Individuals may also fear that they are not skilled enough to maintain and defend their successes. Thus, the fear of a successful performance and the individual's need to seek approval from others constitutes an important foundation for socially anxious individuals in order to protect themselves and their relationships with others from any distress. Of course, this is very characteristic of social anxiety disorders (Gilbert, 2001).

To illustrate this, Wallace and Alden (1997) recruited a group of 32 clinical participants with generalized social anxiety and a non-clinical control group also of 32 individuals. This study sought to examine the impact of successful and unsuccessful social interaction on judgment of the self and others and to identify how socially anxious people interact when they are in positive social situations. The results of this study indicated that socially anxious people exhibit inconsistencies between their own judgments around their social abilities and others' judgments of their positive social interactions. Moreover, the socially anxious individual holds an assumption that any positive evaluation of their social performance is likely impact on the other persons' social expectations in future interactions. This investigation clearly suggested that for socially anxious individuals, a positive social situation is less likely to change negative self-evaluations or the perceptions about others' social judgments. Instead, it is inclined to increase social anxiety as these people think that successful social interaction results in an increase in others levels of social expectations (Wallace & Alden (1997).

Weeks et al. (2008b) conducted a somewhat similar study to investigate the relationship between social anxiety and fear of positive evaluation. Their results revealed that a strong positive relationship between fear of positive evaluation and discomfort but only when participants had positive feedback. This was negatively associated with perceptions of feedback accuracy, but not the case for fear of negative evaluation. This investigation established the notion that with socially anxious individuals the fear of performing well would increase their social anxiety.

Taken together, the work of Wallace and Alden (1997) and Weeks et al. (2008b) confirm that the 'fear of doing well' is an important component of social anxiety. This is because

socially anxious people believe that drawing others' attention to themselves could lead to an increase in others' social expectations, leading to an increase in predicted negative outcomes. However, fear of positive evaluation requires more empirical investigation with clinical and non-clinical groups as it is still in the early stages of development.

1.2. Post-event processing

Post Event Processing (PEP) is a cognitive process experienced by socially anxious individuals after social events, often leading to an increase in and reinforcement of social anxiety. It is defined as an involuntary focus on one's negative feelings (Treynor, Richard, & Nolen- Hoeksema, 2003) occurring after both successful and unsuccessful social interactions (Hofmann, 2007). Clark and Wells (1995) found that prior to any engagement in social interactions, socially anxious individuals review or brood in detail about what happened to them at previous social events. They go over their social interaction or social performance, also analysing the reactions of others' in that situation (Heimberg et al., 2010). This behaviour is more likely than not to focus on negative thoughts, the individuals' negative self-perceptions leading them to remember the social interaction as worse than it actually was. This, in combination with the anticipation of the new social occasion, makes these individuals more anxious interpreting social cues in a negative manner (Stopa & Clark, 2000). This means that their expectations around the next social interaction situation become poorer. Through engaging in these cognitive processes, individuals focus on and expand this list of perceived past failures (Clark & Wells, 1995) in more negative way than they were in reality (Heimberg et al., 2010), the result of this making it harder to break this maladaptive cycle. In keeping with this model, Rapee and Heimberg (1997) suggest that because of negative mental self-images born of previous social interactions, the socially anxious individual holds onto their negative perceptions - a maladaptive behaviour - during consequent social interactions. This in itself may be preventing them from acknowledging positive social interactions. This seems to imply that the development of an association between negative self-perceptions of social performance and negative social rumination is unavoidable. The higher the perceived negativity about performance during a social event, the more the individual will engage in negative post-event processing (Abbott & Rapee, 2004).

Consistent with the cognitive models of social anxiety, a number of studies have examined the relationship between post-event processing and the maintenance of social anxiety both with undergraduate (e.g. Dannahy & Stopa, 2007; Rachman, Gruter-Andrew, & Shafran, 2000; Mellings & Alden, 2000; Fehm, Schneider, & Hoyer 2007) and clinical

samples (e.g., Abbott & Rapee, 2004; McEvoy & Kingsep, 2006). For example, Rachman et al. (2000), examined the extent to which socially anxious individuals engaged in post-event processing after social interactions. They used a questionnaire designed to measure post-event processing alongside a battery of other social measures. The results indicated that individuals high in social anxiety engaged in more negative post-event processing and were more likely to avoid interacting in similar social events. They were also more likely to remember negative social situations in comparison to individuals low in social anxiety. However, it is important to note that this study used a self-report questionnaire (PEPQ), which although considered a useful scale to measure post-event processing (Brozovich & Heimberg, 2008), there was no social interaction intervention to assess post-event processing.

Abbott and Rapee (2004), suggested that socially anxious individuals employ more negative rumination about their interactions than non-anxious individuals. They also hypothesised a significant positive relationship between negative thought and post-event processing about speech. Two anxious and one non-anxious groups were invited to give an impromptu speech, which would be assessed by an independent observer. One week after this, the participants completed post-event processing and performance questionnaires to measure their feelings about their speech. The results revealed that the socially anxious group continued to negatively self-appraise their speech for at least a week afterwards in comparison to the control group. The socially anxious group also demonstrated higher levels of pre-occupation with negative post-event processing. That said, a paradoxical finding was obtained by McEvoy and Kingsep (2006). Their socially anxious clinical sample carried out post-event processing but it was not significantly correlated with anxiety or social interaction as measured in their study. However, after controlling for levels of anxiety, stress and depression, the correlation with anxiety was found to be significant. This suggests that post-event processing is not necessarily limited to social anxiety but may simply be linked to elevated anxiety (Brozovich & Heimberg, 2008) and depression (Nolen-Hoeksema, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008).

Dannahy and Stopa (2007) replicated a study by Abbott and Rapee (2004), which examined associations between post-event processing and self-appraisal of social performance. Groups of both high and low levels of social anxiety engaged in conversation with a confederate for 5 minutes. The conversation was videotaped and participant performance evaluated. Following the conversation, the groups filled in various measures including the Daily Thought Questionnaire (DTQ; Dannahy & Stopa, 2007) over a one-week period. One week later, the participants were asked to complete the study measures for a second time, this

time including the modified Daily Thoughts Questionnaire, which is designed to evaluate participant's feelings about their conversation the previous week, and how much this had been on their mind during the following week. The results showed that highly socially anxious individuals experienced more anxiety, anticipated poor performance, underestimated their performance and engaged in more post-event processing than individuals with low anxiety.

Considering both studies together, both agree about the relationship between post-event processing and negative evaluations carried out by socially anxious individuals. However, they found different results when performance was evaluated by a confederate. Abbott and Rapee (2004) found more inconsistencies between performance self-rating and rater appraisal for the socially anxious group. This inconsistency between studies was explained by Rapee and Lim (1992) in that this could occur if judgments were made on overall interaction and not just the one specified.

Fehm, Schneider and Hoyer (2007) aimed to answer the question whether post-event processing was specific to social anxiety or social situations rather than phobic situations (e.g., fear of heights). Undergraduate participants were instructed to think about specific social and phobic situations that had happened in the last six months. Participants then completed all the study measures concerning social fears. The results revealed that there was more post-event processing after social situations in comparison to non-social or phobic situations and that this processing was more prevalent and of longer duration. Following a similar theme, in social situations, fear of negative evaluation was a stronger predictor of post-event processing than in non-social situations, this causing anxiety. A point of interest was that post-event processing was not only seen in those with severe social anxiety or socially phobic individuals; the general population was also engages in post-event processing after an anxiety-provoking event. That aside, the extent and concentration of post-event processing are primary factors in the identification of social anxiety. It must be noted however, that these results were probably due to methodological issues; post-event processing for both social and non-social situations was measured with the same questionnaire, the PEPQ (Brozovich & Heimberg, 2008).

To sum up, the previous section suggests that the negative and detailed post-event processing by which people recall what has happened in past social interactions is a cognitive element of social anxiety. The socially anxious individual is likely to engage in this cognitive process more negatively and to anticipate a negative social interaction in the future, this leading to the maintenance of social anxiety.

1.3. Cognitive processing and social anxiety: the cultural impact

Research on cognitive processing and social anxiety is prolific and includes research on fear of negative evaluation, fear of positive evaluation and post–event processing. Findings from this research have provided further evidence to support cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Gillbert, 2001; Moscovitch, 2009; Heimberg et al., 2010). These models seek to understand and capture the underling processes that might activate and/or perpetuate social anxiety. Cognitive processing therefore plays a significant role in the development and maintenance of social anxiety. There are however many indicators that perceptions of mental wellbeing varies across cultures (Fernandez, 2010) suggesting that culture may be more important than currently thought. It shapes our deep–rooted cognitive perceptions (Hofmann, 2006) influencing individual behaviour and social experience (Kitayama & Uchida, 2003). In a similar vein, Good and Kleinman (1985) suggest that mental illness symptoms are not universal; people from different backgrounds may differ in terms of their anxiety symptoms based on their cultural attributions or cultural desirability (Norton & Weeks, 2010). Despite this, little attention has been given to the relationship between an individual's cultural values and the cognitive processing involved in social anxiety.

Unquestionably, the important question for cross- cultural studies in social psychology concerns on the individual's self- evaluation or, as it is known in cross-cultural research, self-enhancement or self- regard (Heine, Takata, & Lehman, 2000; Heine & Buchtel, 2009; Hetts, Sakuma, & Pelham, 1999; Heine et al., 1999; Kitayama et al., 1997). Heine and Buchtel (2009) found that individuals from East Asian cultures tend to evaluate themselves more negatively than those from Western cultures. They tend to present themselves more self critically while at the same time, holding a positive view of self (Heine & Buchtel, 2009; Heine et al., 2000).

In light of this, Norton and Weeks (2010) proposed that social evaluation fears might vary with reference to their underling features. They examined both fear of negative evaluation and fear of positive evaluation cross-culturally. The participants were undergraduate students from the US representing four different ethnic groups; African American, Asian, Caucasian and Hispanic\ Latino. Participants completed the Brief Fear of Negative Evaluation-Straightforward scale (BFNE-S: Rodebaugh et al., 2004; Weeks et al., 2005) and the Fear of Positive Evaluation Scale (FPES; Weeks et al., 2008a) online. The results from the study revealed that individuals from different backgrounds in the US experienced different levels of social evaluation concerns. Participants with Asian and Caucasian backgrounds had a fear of negative evaluation more so than African American and Hispanic\ Latino groups. There were

no differences between groups for fear with reference to positive evaluation. This study suggested that social evaluation fears seem to be similar across culture. However, it must be remembered that within each cultural group, there will have been some subgroup variations. There was no specific cultural measure to determine the exact levels of cultural differences between and within the groups, for example levels of collectivistic/interdependent and individualistic/independent cultural attributions.

Kitayama and Uchida (2003) propose that the combination of explicit self-criticism and implicit positive self-evaluation is extremely pervasive in the individual with an Asian background. This collective attitude is a characteristic of daily social interaction, where individuals tend to be explicitly negative in their self- evaluation while at the same time holding positive self- evaluations. This combination is rarely seen in individuals with a North American background. However, the results from this study revealed that together, explicit and implicit self-evaluation is a unique combination, which can be found in both cultures, confirming that both combinations are possible across cultures. Nonetheless, social life interaction and integration may differ according to varying cultural ethos. Underlying cultural mechanisms are still ambiguous and undeniably complicated. For example, there is a compelling argument that in Japanese culture, being self-critical is an on going process in the effort to discover shortcomings and weaknesses in the individual in an attempt to not jeopardize favourable attitudes, social encouragement and the social harmony of significant others (Heine et al., 2000; Kitayama et al., 1997). More precisely, Japanese people are highly motivated to find areas within which they are performing badly (Heine et al., 2000).

Despite cross-cultural research investigating general psychological cultural differences between Westerns and Easterners such as self-evaluation theory, cross-cultural research examining the relationship between post-event processing and psychological functioning is limited. There has been no direct investigation into social anxiety and this type of cognitive processing. Tsai (2010) made cultural comparisons between Asian and European Americans and the association between post-event processing and psychological functions including depressive symptoms and stress. Participants ($n = 422$) were undergraduate students recruited from the Midwestern University. They were recruited online from classrooms and from libraries. The participants completed the following research measures: The Ruminative Responses Scale Questionnaire (RRSQ; Nolen-Hoeksema & Morrow, 1991); Positive and Negative Affect Schedules (PANAS; Watson, Clark, & Tellegen, 1988); (BDI; Beck, Ward, Mendelson, Mock & Erbaugh, 1961); the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) and the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen,

& Griffin, 1985). The results of this study revealed that Asian Americans reported a higher level of post-event processing than European Americans. Significantly, Asian Americans post-event processing was less maladaptive than European Americans and they were found to be as satisfied with their lives as the European Americans. In addition, post-event processing was less correlated with depressive symptoms in Asian Americans than with that in European Americans. These findings indicate that post-event processing may not be as important for personal change in Asian Americans in comparison to European Americans. Given these differences it may be suggested that the reason for post-event processing varies between Asian and European Americans. For Asian Americans, negative post-event processing may not result in as much psychological harm or maladjustment as it does for European Americans. Through use of hierarchical regression analysis, this cognitive processing was found to be a unique predictor for Asian Americans only. That said, Asian Americans may have a different form of post-event processing and may use it more effectively. Consistent with this conclusion, Igor and Kross (2010) hypothesized that Russians have a greater tendency to ruminate over negative experiences than Americans. However, this differs culturally in terms of the emotional costs of the individual's experience. Specifically, Russians who are classified as holding a collectivist attitude, ruminate more over negative feelings with less detrimental effects than Americans who are classified as individualistic. Russians were identified as having more self-distance when picturing earlier experiences from an observer's perspective. They are more likely to evaluate their emotional experiences and their inner thoughts about past events than Americans. Nonetheless, this self- reflection could still appear adaptively or maladaptively throughout the individual's negative experience.

Despite the fact that the previous work in cross- cultural research was not directly linked with post-event processing and social anxiety, it is possible to draw attention to earlier work on cognitive rumination processes, which maintain social anxiety. Bearing in mind the work on self-focused attention (see Suprr & Stopa, 2002), mental imagery and the role of the observer perspective as perpetuating social anxiety (Hackmann, Suraway, & Clark, 1998; Spurr & Stopa, 2003; Vassilopoulos, 2005b; Wells & Papageorgiou, 1999), all have established the significance of negative post- event processing as maintaining social anxiety. On the other hand, cross-cultural studies have revealed that individuals from collectivistic cultural groups (e.g., East Asians and Asian Americans) have a greater tendency to see themselves from the observers perspective when they are at the centre of attention in social events, in comparison to those from Western, individualistic groups (Cohen & Gunz 2002; Wu & Keysar, 2007a, 2007b). Overall, the majority of prior research agrees about the maladaptive role of post- event

processing. However, it has to be noted that for some, rumination or reflection on experience can be a positive experience. According to the Responses Style Theory, which identifies the underling cognitive processes involved in those with depression, Nolen-Hoeksema's (1991) findings illustrated that rumination in depression is a binary process. First, the self-reflection component involves an inward focus engaging in cognitive problem solving to alleviate depressive symptoms. The self-rumination component composes negative feelings around the current situation with comparison to previous unsuccessful social interactions (Treynor, Gonzalez, & Nolen- Hoeksema, 2003; Nolen-Hoeksema et al., 2008). Linking this with social anxiety, Vassilopoulos and Watkins (2009) and Vassilopoulos (2008) propose that these two cognitive processes are not unique to depression but also important when reviewing social anxiety. Self-reflection, the experiential mode of self- focus, is an adaptive strategy focusing on positive thought. It weakens the belief in the self as valueless and inept and accordingly lowers social anxiety or anxious mood. The self- rumination factor, the analytical mode of self-focus, is a maladaptive strategy leading to an increase in global negative self-evaluation. Their prediction was that these two forms of self-focused thinking have a different impact on mood and cognition in highly socially anxious participants as opposed to those low in social anxiety. When socially anxious participants were instructed to think in a neutral way on their symptoms, they reported more positive thoughts than when they thought about the same symptoms in an analytical and evaluative way. For highly anxious individuals, the experiential self-focus condition significantly lowered reports of anxiety, whereas the analytical self-focus condition resulted in no significant change. Interestingly, there was no difference on the one-item self-report measure of current depressed mood from individuals using either modality.

The above research is in line with the view that adaptive strategies differ for people from different cultures. Mesquita and Walker (2003) emphasize that higher levels of social anxiety experienced by people is an adaptive strategy keeping people comfortable within their cultural group preventing them from breaking social norms or from being at personal risk. Similarly, Markus and Kitayama (1991) proposed that when people engage in a social event, to avoid engaging in threatening performances or creating a bad impression and in order to maintain social harmony, Easterners tend to use 'appropriate emotions' to protect themselves, even when they feel different emotions. They adopt the observer perspective, this making them more aware of contextual information, thus maintaining social harmony. In contrast, Western cultures adopt an insider perspective (Cohen, Hoshino-Browne, & Leung, 2007). That said, the relationship between self-rumination and culture is still unclear warranting more research.

In giving the above illustration of the cultural differences in social anxiety cognitive biases, we cannot ignore that most of these studies were conducted in western countries (e.g., USA and Western Europe) and Eastern countries (e.g., Japan and China) as opposed to Arabic countries (e.g., Saudi Arabia). According to Wenzel (2010) there is a need for this kind of cross-cultural research to offer more specific information to help understand the sociocultural mechanisms that contribute to the development of psychiatric disorders such as social anxiety. Yet, social anxiety cognitive bias is not researched in countries such as Saudi Arabia. Most research conducted in Saudi countries has concentrated on the prevalence of social anxiety (e.g., Bassiony, 2005; Chaleby, 1987), the measurement of social anxiety (e.g., Al- Ruwaitea, 2004) and the conceptualization of collectivism and individualism within Saudi Arabia (e.g., Al- Ruwaitea, 2007 and Al- Suwaidi, 2008) as a general approach to grasping the impact of culture on this disorder. All these efforts were in agreement that the individual from a Saudi culture, characterized as a collectivistic culture, is more likely to experience social anxiety in their lifetime. This type of culture could shape the individuals personality in such a way as to make them sensitive to criticism, feel threatened by uncertain issues, focus on their appearance in front of others, hold high standards and social expectations while interacting in social events and to be more pre-occupied about appropriate behaviour in social situations to avoid any negative evaluation by others thus increasing their negative emotions (Al- Khodair, 1997; Al- Ruwaitea, 2004, 2007; Al- Suwaidi, 2008; Chaleby, 1987). As a result, these patterns mean that the individual in this culture focuses more on social needs, concerning themselves with ways that could help them to meet others expectations, which could lead to the adaptation and augmentation of social anxiety within their culture.

1.4. Study objectives

Through drawing this picture about cross-cultural investigations in social anxiety cognitive processing, it can be stated that the relationship between social anxiety cognitive biases (fear of negative evaluation, fear of positive evaluation, and post- event processing) and the individual's cultural differences are to some extent, enigmatic. That is to say that variations in cross-cultural research findings make conclusions about cultural differences in social anxiety cognitive biases debatable and in need of more investigation. In addition to this, the lack of direct investigation into social anxiety cognitive biases in Saudi Arabia speaks for itself.

As such, the principal aim of this study is to extend Study 2's findings of social anxiety between the national groups; British and Saudi, and to include measures to examine the following cognitive aspects in social anxiety: fear of negative evaluation (FNE), fear of

positive evaluation (FPE) and post-event processing (PEP). The rational for this study is concerning three principals. First, the finding obtained from Study 2, which indicated that the British group had greater levels of social anxiety than Saudi group, which raise a question about if there are certain cognitive facets that likely to be found in each culture. This notion leads us to hypothesize that it might be the levels of social anxiety (same data of social anxiety in Study 2 was used in Study 3) could have a certain relationship with the three afore-mentioned cognitive aspects with reference to the British group than Saudi group, taken into account the combination between these cognitive factors (Hirsch et al., 2003; Hirsch et al., 2007). Second, since Study 2 revealed that there were no differences between groups on individualism and collectivism, we take a step forwarded to see the relationship between "national groups; British *vs.* Saudi" in the level of social anxiety and its relationship with the above mentioned cognitive variables. The third rationality to include those measures comes from the theoretical notion around self-view across culture (Heine et al., 1999; Kitayama et al., 1997). The argument here is that there are variations between individuals across cultures regarding self-evaluation. This variation does seem related to specific individual's cultural demand as in general it is considered that the need for self- regard is a Western cultural attitude, whereas self -criticism is an Eastern cultural attitude. Thus, the main objective is to explore whether there are any differences in associations between the levels of fear of negative evaluation, fear of positive evaluation, post-event processing and symptoms of social anxiety in the two cultures, British and Saudi. The prediction is that the three cognitive aspects of social anxiety alone, not depression, will be significant predictors of social anxiety for the British group than Saudi. This prediction is in line with the cognitive models of social anxiety (Clark & Wells, 1995; Heimberg et al., 2010; Rapee & Heimberg, 1997), having implications concerning the role of these cognitive functions as factors, which sustain social anxiety. It is worth noting that the reason behind controlling depressive symptoms was because there is a high comorbidity between social anxiety and depression (e.g., Huppert, 2008; Kashdan & Roberts, 2007; Mineka, Watson, & Clark, 1998; Ohayon & Schatzberg, 2010; Vassilopoulos & Watkins, 2009; Watson, 2005). In addition, the comorbidity between these two disorders could be different between countries. According to Wenzel (2010), the prevalence of social anxiety might be much lowers in some countries than others therefore the probability of overlap with any other disorder (i.e., depression could also be lower). Such variation could shed light on the relationship between social anxiety and depression.

Accordingly, and taken into account that the British group had a higher levels of social anxiety than Saudi group did, as Study 2 had revealed, the current hypotheses were generated

to address the study question that there would be a certain relationships between the levels of social anxiety and the cognitive process, while controlling for depression, as outlined in the cognitive models of social anxiety (Clark & Wells, 1995; Heimberg et al., 2010; Rapee & Heimberg, 1997). Therefore we hypothesized that:

1.   The three cognitive biases together would serve to predict the levels of social anxiety for the British group more than the level of social anxiety of Saudi group, while controlling for depression.

1. Method

It is important to state that the data in the present study are the same as that used in the previous chapter, which was limited to examining the relationships between cultural values (individualism and collectivism) and social anxiety (See Chapter 4 for more details about the research participants). The goal in this study is to use the remainder of the variables, fear of positive and negative evaluation and post event processing, to test the current hypotheses.

2.2. Measures

All measures are described and discussed in detail in translation Chapter 3.

2.3. Procedure

British participants were recruited via a web-based site at the local university whereas the Saudi participants were recruited from lectures. All participants were provided with a research information sheet to read followed by the consent form (see Appendices I). Participants completed all the research questionnaires in order starting with the Hospital Anxiety and Depression Scale (HADS), Social Interaction Anxiety Scale (SIAS), Fear of Negative Evaluation (FNE), Ruminative Responses Style Questionnaire (RSQ), Fear of Positive Evaluation (FPE) and finally the Auckland Individualism and Collectivism Scale (AICA). They were debriefed at the end of the session (see Appendix J). British participants were given six credits for completing the questionnaires. Since the King Saud University has no research credits system for students, no credits were given to these participants.

3. Results

Exploratory data analysis is presented below, this including tests of normality and descriptive statistics. T-tests were applied to explore the differences between the Saudi and British groups on the new study variables. Pearson's Correlation Coefficients were conducted to test for the possible associations between the variables before applying regression analyses. The main aim of this statistical approach is to give a clear picture of the data, which will be

used. To answer the main questions concerning the role of the three cognitive biases; the levels of fear of negative evaluation, fear of positive evaluation and post-event processing would serve to predict social anxiety and trigger it is the maintenance. Hierarchical multiple regression was performed with the three cognitive biases as predictors' variables. Correlation and regression analyses were conducted for each group individually.

3.1. Preliminary data analysis

3.1.1. Tests of Normality

In order to check for normality of distribution, tests of skewness and kurtosis were applied for all variables to examine how far the data deviated from the Gaussian distribution as recommend by Tabachnick and Fidell (2001), Peat and Barton (2005) and as used by Weeks et al. (2008a, 2008b). The skewness and kurtosis test values were found to be within an acceptable range of ±1.96, establishing normality of distribution.

3.1.2. Means, standard deviations and the t-test result

Means, standard deviations and t-test differences between groups are presented in Tables 10. Table 10 shows that levels of social anxiety as measure by the SIAS for the British group were significantly higher than that for the Saudi group, $t(196) = -6.83$, $p < .001$; $d = 1.01$. The effect size for SIAS was found to be exceeding Cohen's (1988) convention for a large effect size which is $d = .80$. This is that same for fear of positive evaluation and post-event processing, $t(196) = 7.51$, $p < .001$, $d = .10$, $t(196) = 2.09$, $p = .04$, $d = .29$ with large to small effect size respectively. However, no significant a difference was found with regard to fear of negative evaluation. Significant differences were found in HADS/ depression with the Saudi group in comparison to the British group, $t(196) = -4.31$, $p < .001$, $d = .62$, with a large effect size.

Table 9

Means, standard deviations and levels of significance between groups for self - report scales

Variables	British ($n = 113$)	Saudi ($n = 85$)		
	M (SD)	M (SD)	$t(196)$	*Sig*
SIAS	31.40 (15.59)	18.34 (9.42)	- 6.83	.001
FPE	40.37 (14.65)	25.61 (12.89)	7.51	.001
FNE	14.25 (3.94)	14.97 (4.33)	-1.22	.22
RRSQ	51.96 (13.19)	48.59 (9.43)	2.09	.04
HADS – D	3.56 (3.37)	5.52 9(2.85)	- 4.31	.001

Note. SIAS = Social Interaction Anxiety Scale; FPE = Fear of Positive Evaluation; FNE = Fear of Negative Evaluation; RRSQ = Ruminative Responses Style Questionnaire; HADS = Hospital Anxiety and Depression Scale (A = Anxiety – D = Depression).

3.1.3 Correlation analysis

Tables 11 and 12 show the Pearson Correlation Coefficients for the study variables, scales and subscales for each group. As these associations could identify a potential relationship between the research variables, this was conducted as the preliminary step before performing the regression analysis. However, as we can seen from these two tables for both groups the correlation between SIAS and the three aspects of cognitive biases is positively significant, which is reflect the strong relationship between these variables. However, the difference between these correlations was statistically significant only for fear of positive evaluation, $Z = 2.64$, $p = .008$, but not for fear of negative evaluation and post- event processing.

Table 10

Pearson correlation coefficients for all variables with reference to the British group

Variables	1	2	3	4	5
1-SIAS	1				
2-FPE	.58**	1			
3-FNE	.53**	.41**	1		
4-RRSQ	.50**	.41**	.41**	1	
5-HADS-D	.53**	.38**	.50**	.43**	1

Note. SIAS = Social Interaction Anxiety Scale; FPE = Fear of Positive Evaluation; FNE = Fear of Negative Evaluation; RRSQ = Ruminative Responses Style Questionnaire; HADS -D = Hospital Anxiety and Depression Scale (D = Depression). *$p< .05$. **$p< .01$.

Table 11

Pearson correlation coefficients analyses for all variables with reference to the Saudi group

Variables	1	2	3	4	5
1-SIAS	1				
2-FPE	.27*	1			
3-FNE	.39**	.27*	1		
4-RRSQ	.38**	.16	.40**	1	
5-HADS-D	.30**	.13	.25*	.35**	1

Note. SIAS = Social Interaction Anxiety Scale; FPE = Fear of Positive Evaluation; FNE = Fear of Negative Evaluation; RRSQ = Ruminative Responses Style Questionnaire; HADS -D = Hospital Anxiety and Depression Scale (D = Depression). *$p< .05$. **$p< .01$.

3.2. Multiple Regressions

The main aim of this study was to explore whether the following cognitive aspects of social anxiety, fear of negative evaluation (FNE), fear of positive evaluation (FPE), and post event processing (PEP), could significantly predict social anxiety, while controlling for symptoms of depression (HADS-D). Hierarchical multiple regression analyses were performed separately for each group. FPE, FNE, PEP and HADS-D were used as predictor variables with social anxiety (SIAS) as the outcome variable. In the two multiple regression analyses predicating social anxiety (SIAS), FNE, FPE and PEP, and HADS-D were entered into two blocks. The Enter method was used with each independent variable. The rational for this particular order is based on the theoretical ground of social anxiety, thus, in block 1, HADS-D was entered first in order to account for the incremental contribution of the variance on social anxiety. This control variable is partialled out before start to enter the rest of variables in blocks (Howitt & Cramer, 2005), as the comorbidity between depression and social anxiety is considerable. In block 2, FNE was entered first followed by FPE, then RRSQ, as these three cognitive variables are considered to be responsible for the maintenance of social anxiety according to the cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010). Accordingly, the combination between these cognitive variables is critical (i.e., Hirsch et al., 2003; Hirsch et al., 2007; Stopa & Jenkins, 2007) to be considered. In addition to that, FNE was entering in the regression model as a first predictor in the block 2 as this cognitive bias is assumed to be a fundamental responsible to the maintenance social anxiety. Finally, SIAS had a strong positive relationship with the three cognitive biases for both group. The assumptions of the regression analyses in terms of linearity, multi-collinearity and homogeneity were satisfactory. The results of the multiple hierarchical regression analyses are detailed below.

3.2.1. Regression analysis predicting social anxiety: British group

The results of the hierarchical regression for the variables predicting social anxiety (SIAS) using fear of negative evaluation (FNE), fear of positive evaluation (FPE), and post- event processing (PEP) as measured by the RRSQ (ruminative responses style questionnaire) while controlling for the effect of depression symptoms (HADS-D), are reported in Table 13 for the British group.

The overall model accounts for 51 % of the variance in social anxiety, $F(4,108) = 28.98$, $p = .001$. Fear of negative evaluation, $t(108) = 2.54$, $p = .01$, $CI_{.95} = .18, 1.46$, fear of positive evaluation, $t(108) = 4.37$, $p = .001$, $CI_{.95} = .19, .52$, and post-event processing, $t(108) = 2.31$, p

= .02, CI.$_{95}$ = .03, .40. Together the three cognitive variables accounted for 23% of the variance in social anxiety. However, While controlling for the effects of depression symptoms in social anxiety, the impact of depression was significant, $t(111) = 2.63$, $p = .01$, CI.$_{95}$ = .24, 1.73, and accounted for 28% of the variance in social anxiety. Although the three cognitive variables were entered in one block, it is worth to mention that when the three cognitive variables were entered each in separate block to account it is variance in social anxiety; the most significant predictor of social anxiety was fear of positive evaluation, which uniquely explained 11% of the variation in this disorder.

Table 12

Summary of hierarchical regression analyses predicting social anxiety (British group)

Variables	R	R^2	ΔR^2	ΔF	Df	β
Model – 1						
HDAS-D	.53	.28	.27	43.41***	1,111	.53
Model – 2						
HDAS-D						.21
FNE						.20
FPE	.77	.51	.50	5.36*	1.108	.34
RSQ						.18

Note. Betas reported are those from the step at which the variable was entered into the equation. FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RSQ = Ruminative Responses Style Questionnaire; HADS = Hospital Anxiety and Depression Scale (D = Depression). *$p < .05$. **$p < .01$.***$p < .001$.

3.2.2. Regression analyses predicting social anxiety: Saudi group

The results of the hierarchical regression for the variables predicting social anxiety (SIAS) using fear of negative evaluation (FNE), fear of positive evaluation (FPE), and post-event processing (PEP) as measured by RRSQ (ruminative responses style questionnaire) while controlling the effect of depression symptoms (HADS-D) are reported in Table 14 for the Saudi group. The overall model accounts for 25% of the variance in social anxiety, $F(4, 80) = 6.99$, $p = .001$. Only fear of negative evaluation, $t(80) = 2.05$, $p = .04$, CI.$_{95}$ = .01, .95, uniquely predicted social anxiety. Notably, neither fear of positive evaluation $t(80) = 1.53$, $p = .12$, CI.$_{95}$ = -.03, .25, post- event processing, $t(80) = 1.94$, $p = .05$, CI.$_{95}$ = -.005, .43, nor HADS-D, $t(83)$ = 1.47, $p = .14$, CI.$_{95}$ = -.17, 1.18, accounted of the variance in social anxiety.

Table 13

Summary of hierarchical regression analyses predicting social anxiety (Saudi group)

Variables	R	R^2	ΔR^2	ΔF	Df	β
Model – 1						
HDAS-D	.30	.09	.08	8.56**	1,83	.30
Model – 2						
HDAS-D						.15
FNE						.22
FPE	.50	.25	.22	.05n.s	1,80	.15
PEP						.21

Note. Betas reported are those from the step at which the variable was entered into the equation. FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; RSQ = Ruminative Responses Style Questionnaire; HADS = Hospital Anxiety and Depression Scale (D = Depression); n.s = non- significant. *$p < .05$. **$p < .01$. ***$p < .001$.

4. Summary of Results

To summarise, the findings from the current study indicate that there are differences in the majority of the variables between the two groups. The British sample reported higher levels of social anxiety, higher levels of the fear of positive evaluation and higher levels of post-event processing. However, *t-* test results found no differences between groups on fear of negative evaluation, with significant differences in depression regarding to the Saudi group. For both groups, correlation analyses revealed that there was a strong positive relationship between social anxiety and the three cognitive biases. Hierarchical regression analyses with the British group indicated that the three cognitive processes are all predicted social anxiety. In addition to that, the effect of depression in social anxiety was significantly observed. With respect to the Saudi group, only fear of negative evaluation uniquely predicted social anxiety. The following section will discuss the results and implications of these in terms of cognitive models of social anxiety. The discussion will focus on the result of the regression analysis.

5. Discussion

The principal aim of the current study was to extend the findings from Study 2 and include measures to examine the following cognitive aspects in social anxiety: Fear of Negative Evaluation (FNE), Fear of Positive Evaluation (FPE) and Post- event Processing (PEP) between two different cultures, British and Saudi. The rationale for this was to determine if these three cognitive aspects of social anxiety would be significant predictors of social anxiety while controlling for depression for both the British and Saudi groups, thus showing consistency with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010). The results of the present study will be discussed and interpreted in light of these cognitive models of social anxiety disorders.

Generally speaking, current cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010) propose that fear of negative evaluation together with fear of positive evaluation as the fundamental component of global fear of evaluation. This fear of evaluation has a significant role reinforcing negative assumptions around the individual's own performance. In addition, it results in individual presenting themselves from a perceived negative self-image standpoint comprising of both negative images and perceptions, leading them to underestimate their personal performance in addition to overestimating others' social expectations. This overwhelming concern about performance in social events leads anxious individuals to ruminate negatively about future social events they engage in, or even when they are simply thinking about another social commitment (Heimberg et al., 2010), this ultimately fuelling the individuals' social anxiety (Brozovich & Heimberg, 2008).

The three afore-mentioned features of cognitive bias are strong predictors of social anxiety (Rodebaugh et al., 2012) and helpful when interpreting causes of the maintenance of symptoms of this disorder. In general, the findings of the current study are consistent with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010) but only for the British group as we predicted. However, the results with respect to the Saudi group were open to interpretation. For simplicity and clarity, the findings of this study for each components; general fear of evaluation (positive and negative evaluation), post-event processing, and depression will be discussed for the British group followed by the Saudi group. This in turn, will be followed by the study limitations and conclusions.

5.1. Cognitive models of social anxiety: the British sample

The prediction regarding this study reflects current cognitive models of social anxiety (Heimberg et al., 2010; Clark & Wells, 1995; Rapee & Heimberg, 1997) with regard to the cognitive factors that perpetuate social anxiety disorders. The three cognitive factors, Fear of Negative Evaluation (FNE), Fear of Positive Evaluation (FPE) and Post- event Processing (PEP) together significantly predicted social anxiety. In addition, depression has an impact on social anxiety, as seen even when depreesion was controlled for in the regression analysis. The results regarding the British sample are consistent with the larger body of research investigating the cognitive elements that endorse social anxiety: Fear of Negative Evaluation (Clark & McManus, 2001; Hacmann, Suray, & Clark, 1998, Mansell & Clark, 1999; Stopa & Clark, 1993; Wells et al., 1995; Wells & Papageorgiou, 1999); Fear of Positive Evaluation (Gillbert, 2001; Rodebaugh et al., 2012; Weeks et al, 2008a, 2008b, 2008c, 2009), and

Ruminative Thinking (Brozovich & Heimberg, 2008; Dannahy & Stopa, 2007; Fehm, Schneider, & Hoyer, 2007; Mellings & Alden, 2000). The discussion for the British group will include:

5.1.1. General fear of evaluation and post- event processing

The results from the British participants support what was described earlier in this chapter, that fear of negative evaluation is considered a core feature regarding the maintenance of social anxiety symptoms. The negative cognitive assumptions that individuals hold about themselves around their performance in social situations elevate the threshold for their levels of social anxiety and maintain this anxiety (Clark & Wells, 1995). These negative assumptions, an individual's high standard of social performance that emphasize the "I should" or "I must" manner of thought, thoughts concerning social evaluation that emphasize the "If I, people will" way of thinking, together with the unconditional negative thought about self emphasizing the "I" in a valueless and insignificant fashion, lead to the persistence of social anxiety (Clark, 2005). These negative beliefs that socially anxious individuals hold around their performance can activate the mental representation of the self once the individual has formed a perception of the audience (Rapee & Heimberg, 1997). The audience is considered a pivotal threat to socially anxious people because anxious individuals hold the belief that others are intrinsically critical and consequently, it is inevitable that any evaluation will be negative (Heimberg et al., 2010). This fear of negative evaluation leads individuals with social anxiety to underestimate the positive facets of their own performance while at the same time overestimating the negative facets of their performance (Clark & Arkowitz, 1975; Stopa & Clark, 1993). This could put them in a position where they believe they are being judged because socially, they are vulnerable and therefore others' social expectations or social standards might be unachievable (Moscovitch, 2009). In turn, the fear of negative evaluation leads to a rise in the cost of the social situation or the probability of negative outcomes (Nelson, Lickel, Sy, Dixon, & Deacon, 2010).

However, while individuals with social anxiety are certainly concerned about thoughts of unfavourable evaluation by others. Favourable or positive evaluation by others in social situations also plays a substantial role in the maintenance of social anxiety. This fear of positive evaluation was seen in the British data and accounted for the variance in social anxiety moreso than fear of negative evaluation. This finding providesadditional evidence for the role of fear of positive evaluation sustaining social anxiety. Social success can increase the individual's anticipation of failure in future social interactions resulting in a consequent

increase in thoughts around the hopelessness of the potential to live up to their initial performance (Rector, Kocovski & Ryder, 2006). In addition to this, following any successful social interaction event, socially anxious individuals then believe that others will expect more of them in the future (Wallace & Alden, 1995, 1997), hence, their thoughts concerning their ability to meet others expectations in any forthcoming social events could also increase their social anxiety (Gilbert, 2001; Heimberg et al., 2010). The individual's perceptions around fear of positive evaluation or the fear of being 'too good' in social occasions means that they believe that 'a good social performance' or 'exceeding social standards' could shift others attention towards them and place them into additional visible competition while they interact with others (Weeks et al., 2008b). Looking at this from a different perspective, Heimberg et al. (2010) assert that positive evaluation that individuals receive about their social interactions, makes socially anxious individuals worry about their social position or status, which ultimately leads them to engage in thoughts about how they can protect themselves from conflict with others or any negative social consequences. They go on to rehearse situations around social competition and how they can increase their worth to others, this further adding to their social anxiety (Gilbert, 2001).

General fear of evaluation, fear of negative evaluation and fear of positive evaluation significantly predicted social anxiety for the British group. That said, it is necessary to point out that each of these two constructs in their own right, contribute strongly to the maintenance of social anxiety. Indeed, there is some overlap between them, however, this overlap might come from the idea that fear of positive evaluation *in essence* is fear of being negatively evaluated by others (Rodebaugh, 2012; Weeks et al., 2008a ; Wallace & Alden, 1995, 1997). According to Rector et al. (2006) both of these cognitive components of social anxiety are "… hypothesized to emanate from similar beliefs pertaining to unrealistic performance standards" (p. 281). These two constructs together provide a useful model to understand social anxiety disorders.

Bearing general fear of evaluation in mind, the British data enhances cognitive models of social anxiety that describe how socially anxious individuals from a self- focused point of view, tend to evaluate their social performance according to their negative assumptions concerning interactions in a social event. It is proposed that following a social event, or when they expect similar social interactions, individuals with social anxiety retrieve details about the negative information processed during the last social event. In addition to this, socially anxious individuals holding a perception of a variety of negative assumptions about their mental self – presentation, feel a sense of unity with the idea that they appear to others as they perceive

themselves (Brozovich & Heimberg, 2008). This apprehensive retrospection and negative recollection of past social events, leads socially anxious individuals to maintain negative perceptions about themselves. These negative thoughts lead to the development of higher anticipation of failure in future impending social events (Dannahy & Stopa, 2007) coupled with lower predictions of social successes (Heimberg et al., 2010). As soon as thought processes are dominated by such maladaptive perceptions, socially anxious individuals who hold their own negative interpretations about social situations can limit their awareness about the positive cues that are present in the social situation (Heimberg et al., 2010; Rapee & Heimberg, 1997). According to this, highly socially anxious people tend to anticipate a trivial self-performance and depreciate their social actions (Abbott & Rapee, 2004; Dannahy & Stopa, 2007).

To reiterate, the British data fits well with these three cognitive aspects of social anxiety emphasizing their contribution to the persistence of social anxiety. However, it is important to note that these three cognitive biases function in complicated vicious circles maintaining social anxiety in an interactive manner. According to Hirsch et al. (2006) and Spokas et al. (2004), these cognitive facets could impact on each other in a reciprocal manner leading to an augmentation in social anxiety. It is however a challenge to determine which of these cognitive biases is more dominant in maintaining social anxiety. There are still many questions which need to be answered about the interaction between cognitive biases in social anxiety, such as: "…whether bias toward threat cues is limited only to certain cognitive processes or whether it is apparent at all stages of information processing, whether automatic or strategic processes dominate anxiety, and whether there is a different bias vigilance or avoidance" (Musa & Lepine, 2000, p. 65). Although this is not within the scope of the present study, the notion of interaction between these cognitive biases is an interesting topic for future investigation.

5.1.2. Social anxiety and depression

The three cognitive biases above clearly support cognitive models of social anxiety with regard to the British sample and provide robust evidence about the efficacy of these models. Moreover, for the British group, depression has a substantial impact on social anxiety. This was not a surprising finding as there is conspicuous comorbidity between social anxiety and depression as most individuals diagnosed with anxiety disorders also meet the criteria for depression disorders (Clark et al., 1994; Watson, Clark & Carey, 1988; Watson, 2005; Huppert, 2009). Watson, Clark and Carey (1988) assert that discrimination between depression

and anxiety disorders is a matter of concern because both of these disorders have common underling diathesis. They go on to provide empirical evidence with reference to this intricacy. Specifically, they propose that there is a relationship between the symptoms and diagnoses of anxiety and depression and general mood-based personality factors, positive affectivity and negative affectivity.

Briefly, positive affectivity is a dimension reflecting the individual level of agreeable and pleasurable engagement with the situation. A high level of positive affectivity is seen and expressed through higher enthusiasm, energy levels, mental alertness, interest and joy, while low levels of positive affectivity result in exhaustion and fatigue. In contrast, negative affectivity is subjective distress incorporating a wide range of negative moods such as fear, anxiety, hostility, scorn and disgust. Watson, Clark and Carey (1988) conclude that clinically, positive affect could be useful in distinguishing between anxiety and depression more so than negative affect. It may be identifiable as the temperamental core underling the consistency between these emotional disorders. Positive affect is a strong predictive factor of depression and can be beneficial for treatment (Clark, Watson, & Mineak, 1994). However, Watson (2005) found that positive affect is not only restricted to depression. It is also consistent with negative associations that indicate social anxiety. The common element, low positive affect, is likely to contribute to the comorbidity between depression and social anxiety, which in turn becomes a link to the interpretation of the role of fear of positive evaluation on the variance of social anxiety with the British group.

As discussed previously, a new line of investigation around the cognitive loop of social anxiety (Gillbert, 2001; Heimberg et al., 2010; Weeks et al, 2008a, 2008b, 2008c) has been proposed to support the idea that the socially anxious individual has a fear of others positive evaluations; the fear of not being able to live up to others' social expectations. Weeks et al. (2010) found that fear of positive evaluation was positively related to social interaction specific positive affect. However, this is not the case with social interaction specific negative affect. Weeks et al. (2008b) conducted series of investigations finding that fear of positive evaluation was significantly correlated with depression but not strongly correlated to social interaction (Study 2). It correlated significantly with the anxiety created by being observed by others and social anxiety interaction but not depression (Studies 2 and 3) (Weeks et al., 2008b). This discrepancy in the results may be due the non-clinical nature of the undergraduate student sample and the possibility that the research measures were inadequate and could not capture the clinical symptoms of these disorders. Despite this, Weeks et al. (2008b) conclude that fear of positive evaluation appears to be exclusive to social anxiety over depression.

Another interesting interpretation can be offered concerning this overlap between social anxiety and depression. Gilbert (2000, 2001) proposes that socially anxious individuals engage in a competitive frame of mind where others will judge their social performance or threaten their social prestige this putting them at risk of rejection. This automatically increases levels of submissive behaviors such as eye contact avoidance, fear grinning, escaping challenges and avoiding making claims. These submissive behaviors work as strategies when the anxious individual believes that they are unable to meet others expectations or social rank which leads them to avoid threat or, at a more advanced stage, use depression as an adaptive function to manage their involvement in social situations (Gilbert 2000; Week et al., 2008c). This point of view proposes that social anxiety is often high in depressed people (Gilbert 2000) or likely to develop before depression (Week et al., 2008c).

To conclude, the data from the British sample is a good reflection of cognitive models of social anxiety, supporting the robustness of the models to deliver a rational interpretation of the maintenance of social anxiety, adding to and strengthening the evidence and understanding of social anxiety. However, this consistency between the result of the British group and cognitive models of social anxiety is encourage us to think around the idea of the role of culture, and if this models are designed to be culturally – related, either be intentional or unintentional. This interesting point will be in our focus in the general discussion of this project.

5.2. Cognitive models of social anxiety: the Saudi sample

Unlike to the results found with the British sample, the Saudi sample tells a different story, one that is open to more than one interpretation. The Saudi results were somewhat different from what is conceptualized about cognitive models of social anxiety (; Heimberg et al., 2010; Clark & Wells, 1995; Rapee & Heimberg, 1997). Fear of Negative Evaluation (FNE) was the only unique predictor of social anxiety. Neither Fear of Positive Evaluation (FPE), Post- event Processing (PEP), nor depression as measured by HADS-D accounted significantly for any of the variance in social anxiety. This finding raises an array of questions including: why did fear of negative evaluation itself exclusively lead to the maintenance of social anxiety with Saudi participants (or in Saudi culture); are there underlying cognitive processes not mentioned by cognitive models of social anxiety, or were the results genuinely culturally – related; are there implicit cognitive processes that pave the way for the existence of fear of positive evaluation and post-event processing and therefore preserve the maintenance of social anxiety symptoms in such a society. Attempting to find answers to these questions is not an

easy task, given that the sense of culture and individual self are more complex than previously thought. Therefore, the next section will discuss the existence of fear of negative evaluation and its role, if any, for both fear of positive evaluation and post-event processing with the Saudi sample. The results will include discussion of the role of fear of negative evaluation as an essential element of fear of positive evaluation and post- event processing before moving on to consider depression and the relationship of all the above with social anxiety.

5.2.1. General fear of evaluation

Saudi Arabian culture tends to be characterized as a collectivistic culture, sharing this assignation with many other East Asian cultures such as China, Japan and Iran, all of which have multi-layered, complex social norms. Intercultural specificity, which has moulded each of these societies, has been taken into account for the current research. According to Al-Ruwaitea (2007), Saudi Arabia is defined as a rigid and critical society. Most people sharing this value are inherently critical at the same time holding concerns about how others might evaluate or criticize them. They can be more sensitive than others to negative opinion or evaluation, something that makes them take care to avoid doing or saying something wrong which might embarrass them. Therefore, they make great efforts to place themselves in a positive position to accomplish others' social expectations. This high social expectation of the individual's social role leaves them open to the possibility of others' negative evaluation.

In addition to this, Saudi Arabians, to a certain degree, tend to be more submissive and conforming to others, to not express or represent themselves positively thus precluding any negative social outcomes. They strive to present themselves in a way that is acceptable in their society to save 'face'. As a consequence of these societal expectations, some people are more predisposed to develop symptoms of social anxiety (Al- Ruwaitea, 2004, 2007). However, according to Markus and Kitayama (1991), this type of social conformity may not reflect the individual's unwillingness to comply with such social expectations or to prevent the maintenance of a sense of self. In its place, conformity might be a highly adapted system in such a society as it denotes the individuals' willingness to be socially responsive, and to regulate the demands and desires on the individual to uphold others' social relationship expectations at the same time protecting the perceived harmony within that particular society. To a certain extent, the latter argument sounds more applicable in the attempt to understand this society.

Along the same lines, Heine et al. (1999) state that self- critical orientation is characteristic of this type of collectivistic culture. People tend to see themselves negatively and

are not socially encouraged to present the positive features of their personality. In this type of culture, there is concentration on the idea that the 'individual must meet the social standard to be good'. This social standard or social expectation as an externalized factor to maintain self-evaluation requires individuals to adopt the attitude to be 'average' and not to be 'too good' because the belief is held that being 'too good' is outwith their reach. Heine et al. (1999) continue to say that positive self-evaluation is motivated by self-critical assessment. This critical self-evaluation benefits the individual, as it requires them to reflect on their social performance and improve it according to accepted social standards thus avoiding any negative social consequences. This might cause them to be more explicit about negative self-evaluation and more implicit about positive evaluation (Heine et al., 2000; Heine & Buchtel, 2009; Kitayama & Uchida, 2003). However, Norton and Weeks (2010) indicate that although negative self-evaluation is more prevalent within Asian cultures (assumed to be more collectivist) in comparison to American cultures (assumed to be more individualist), there is equivalence between these cultures with reference to positive evaluation. This is an issue of value to rise concerning the universal need for positive self - evaluation, as at first glance, this could be a reasonable point applicable to and explaining cultural similarities regarding positive evaluation.

However, by combining the thoughts of Hetts, Sakuma and Pelham (1999) and Heine et al. (1999) around the universal need for positive self- evaluation, the way to present this positivity may differ culturally. These differences serve to explain the absence of fear of positive evaluation and, in turn, the presence of fear of negative evaluation within the Saudi sample. Three different explanations could, to some extent, explain these ideas around self-evaluation. First, in the type of culture which emphasizes high social standards and the importance of others expectations, a more overt, self-critical evaluation is important to fuel self- improvement. This makes the person more sensitive and able to detect any signs of weakness, but may put them at risk of gaining a favourable others positive evaluation or others social acceptance (Heine et al., 2000). In this sense, the more self-critical, the less others' negative evaluation, therefore fewer negative emotions. In the type of culture where social expectation is not so highly rated or valued, the more self-enhancement, the more positive evaluation individuals gain. This however can put people under pressure to emphasize their social abilities and to be in competition with others. Secondly, perhaps both self-improvement (e.g, being more self- critical) and self-enhancement (e.g., having more self- regard) underlie the reasons for not maintaining others' positive evaluation, acting to increase expectations of negative evaluation. Thirdly, turning to culture, this fear of positive evaluation differs in terms

of the fear of positive 'others' evaluations or the fear of positive 'self' evaluation. One could expect that fear of positive self-evaluation (high positive self-expectation) could lead to others' negative evaluation. In the same way, fear of others' positive evaluation (high positive others' expectations) may lead to negative evaluation. Thus, negative evaluation in this case is inevitable: the individual cannot avoid it or the increase in their negative emotions (i.e., social anxiety). In the end, people are more self-critical and slow to observe or advertise their positive performance in order to impede the probability of others' negative evaluation. This leads us to think about what can be called a 'collective' evaluation; an evaluation that comprise both self and others' because self and others work as a unit in this culture. This idea however is a more advanced view that requires further investigation.

Another interpretation of the nonappearance of the fear of positive evaluation and the occurrence of negative evaluation with the Saudi sample is suggested through the work of Kitayama and Uchida (2003) who found that there is a merging of explicit self-criticism and implicit self-positive evaluation within Asian cultures. Individuals belonging to these cultures may be characterized as being self-critical while at the same time having genuine and honest good feelings about themselves. Despite having good feelings about themselves, they conceal them by acting modestly (Kitayama & Uchida, 2003). Indeed, modesty is another reasonable interpretation applicable to the current results. This modesty, also known as 'modest self-presentation', is highly prized in collectivistic cultures. Individuals have a need to present themselves in social events as more modest than they actually are, to avoid any social concerns while they interact with people and to prevent social negative appraisal (Heine et al., 1999) as being 'too good' may incur social costs. Hetts et al. (1999) argue that if the modest act of the individual is representative of how the individual's self is grounded in their own culture, then logically, they act humbly in a way, which is socially desirable. Hence we can say that to achieve this modesty, people may hide positive self-aspects or plan to reduce the prominence of their performance in order to be perceived as 'average'

An alternative interpretation of the current results is consideration about how individuals in Eastern cultures present themselves socially as a public self: individuals who focus on the surrounding milieu or outward or private self: individual focus on themselves or inwards and the role of this in the development of fear of negative evaluation. Markus and Kitayama (1991) mention that in comparison to individualistic cultures, those with a collectivistic sense of self are likely to present a public aspect of self. These individuals are concerned about their social status and role in the surrounding environment as elements vital to maintain social harmony. In this social relationship, they need to verify to themselves that they are fitting in with the

company and are able to engage in appropriate action applicable in any situation. However, achieving this level of social verification and public need for social quality is challenging in this culture. Others high expectations, along with likely exposure to negative evaluation makes self-affirmation a stressful undertaking. Looking to a slightly more recent study with a Saudi sample, Al-Anazi (2001) tested the psychometric properties of the Arabic version of the Revised Self-Consciousness Scale (RSCS; Scheier & Carver, 1985) and the differences between genders within Saudi Arabia. They found that despite the tendency for Saudi culture to be collectivistic and more integrated regarding public and private self-consciousness, the results revealed that these self-features (private self-consciousness and public self-consciousness) were clearly distinguished. Female students scored higher on the private self-consciousness scale in comparison to males, at the same time scoring less on levels of social anxiety. This finding is in stark contrast with the notion that women in Saudi society are concerned with themselves as social objects, thinking often about others' opinions or others' expectations around their social role (Al-Anazi, 2001). An alternative finding from a study by Al-Ruwaitea (2007), found that both the private and public self-consciousness scales correlated positively with social anxiety amongst male Saudi students albeit from a male only sample. It can therefore be suggested that Saudi culture endorses people who are sensitive towards others' evaluations and occupied with more negative thoughts concerning others' social expectations and social impressions. This ultimately raises issues around individual self-focused attention when individuals are at the centre of a social interaction (Al-Ruwaitea, 2007). The terms private self- and public self- awareness have been covered extensively within psychological literature (e.g. Duval & Wicklund, 1972), and specifically their role within social anxiety (e.g. Clark & Wells, 1995; Rapee & Heimberg, 1997; Spurr & Stopa, 2002.)

To recap the issues around fear of evaluation, as we provide this evidence for fear of negative evaluation with the Saudi sample, it appears that in Saudi culture, there is a directional force regarding fear of negative evaluation, a similar phenomenon occurring for hiding positive evaluation. This may be because this type of harsh society does not give individuals any space to be able to express their own positive traits or confident aspects of their personality. Indeed, people in this culture seem cognitively occupied with regulating themselves in order to adhere to social rules, meeting others' exceptions, and fitting in; the ideal situation is where the individual pays more attention to the people surrounding them more so than themselves. This, to some extent, increases the costs for others as ultimately it provides the opportunity for fear of negative evaluation to survive. Thus, we can assume that

the social equation of Saudi culture is that individuals are attentive to the notion that being 'good' or 'positive' in their society places them in a position to receive negative evaluation. Therefore, they engage in more self-critical processes to adjust themselves to social expectations or social standards. More specifically, they adopt a 'collectivistic mentality' by criticizing themselves before receiving others' negative judgment. It may be that this is the only option that they have to avoid any negative evaluation. On the other hand, others' positive evaluation is vague and poor in this society and barely occurs at events; in turn, people tend to shun any positive aspects of the self thus reducing the possibility for negative evaluation. According to this subtle presentation of positive evaluation, the existing fear of positive evaluation becomes complex. At the end of the day, negative evaluation is the fundamental fear individuals strive to avoid, this notion emphasized and cited earlier (e.g., Rodebaugh, 2012; Weeks et al., 2008a; Wallace & Alden, 1995, 1997).

5.2.2. Post- event processing

Similar to fear of positive evaluation, post-event processing presented a far from clear picture regarding its relationship with social anxiety with the Saudi sample. However, the situation seems to be that of a pervasive fear of negative evaluation as central to social life within Saudi culture along with the silent presence of fear of positive evaluation. Given this scenario, the intention is to synthesis this evidence to explain the nature of post event-processing in order to interpret the results of the current study.

It was illustrated earlier how the Saudi collectivistic attitude may be seen as a result of a strict and judgmental society with reference to individual social interaction. Individuals are expected to submit themselves, and to match their social performance, with societal norms to gain societal approval. Generally speaking, the 'rigid social script' of this culture leads individuals to adopt a self- critical orientation; this has relevance when it comes to noting any sign of shortcoming or handicap in the individual during social interactions, in order to improve themselves and to be more acceptable in their society (Heine et al., 1999; Kitayama et al., 1997). Self-critical orientation is an imperative component for the individual in this culture because it helps them to 1) modify their responses according to what 'must be done', 2) to meet others social expectations, 3) to save their social value, 4) to fit their 'self' within the group, all this 5) stopping them from facing any negative evaluation.

In general terms, O'Gorman et al. (2008), note that cultural social norms may represent human cognitive biases. Individuals tend to remember and process information that is more relevant to their social environment. This information enhances individuals' attention to

normative social material resulting in a tendency to regulate themselves to use this social knowledge as an adaptive strategy to improve and protect themselves from any negative evaluation, which might result from a lack of compliance to social norms. According to Heine et al. (1999), self-critical orientation in a collectivistic society is exemplified in the individual's daily life through what they call 'the mechanism of self-reflection'. In such a society, people are encouraged to: "…look back over a particular event and focus on what was not done 'ideally' or what she or he 'should' try to improve in the future" (Heine et al., 1999, p. 770) in order to increase their chances of gaining social approval or to prevent facing social disapproval at the next social occasion. However, this can result in an individual becoming more anxious regarding the psychological process of being 'acceptable' but not 'excellent', something which is inherently linked with negative aspects of the self, and this enhanced because of a self-critical approach (Heine et al., 1999).

We can assume that individuals in such a society engage in processing social thoughts (i.e., negative aspects of self rather than the positive features and others' social expectations about their social performance), which encourages them to carry out further self-criticism. This, in turn, could lead to further self-improvement in order to decrease any potential negative emotions. This brief and intensive illustration provides clues about the imprecise or indirect relationship between social anxiety and post- event processing with the Saudi sample. It can be presumed that the Saudi individual pays more attention to 'what society needs' and 'how they can provide their needs', rather than focussing solely on aspects of their own personality. This makes them more engaged in such thoughts recollecting their social performance and interactions, modifying them according to the 'social script' requirements.

However, as mentioned earlier in the introduction of this piece of work, with reference to cross-cultural research that aims to compare two different sets of cultures such as collectivist and individualist, it is important to distinguish between binary cognitive processes of rumination: self- reflection (serve to improve) and self-rumination (serve to criticize). The need to differentiate these is important in order to understand the processes underlying psychological disorders such as social anxiety across cultures. Within Saudi culture, post-event processing seems to serve as an adaptive strategy. Individuals tend to evaluate past social experiences effectively or, to some extent, less negatively (Igor & Kross, 2010; Tsai, 2010) and to regulate and adjust themselves to the norms of their own society (Kim, Chiu, Peng, Cai, & Tov, 2010; Mesquita & Walker, 2003) in such a way as to counteract any possible social negative consequences that could arouse negative emotions (e.g., social anxiety). This self-

regulation relies on social information or 'social scripts' that society has adapted to be available when the individual is in need of guidance to manage social interactions.

Further interpretation is also needed in order to understand the post-event processing results found with Saudi participants regarding the role of religion acting to decrease negative thoughts linked with a variety of psychological disorders. Religion plays a significant role monitoring an individual's social responses and heightening their self-awareness about the surrounding environment. In their review, McCullough and Willoughby (2009) suggest that religion is a potent social force that influences the social act. They introduce two 'self' terms associated with religion 1) self-regulation as defined by Barkley (1997) which refers to: "… any response, or chain of responses, by the individual that serves to alter the probability of the individual's subsequent response to an event and, in doing so, functions to alter the probability of a later consequence related to that event" (McCullough & Willoughby, 2009, p. 72). This is in addition to 2) self-control where individuals engage in behaviours which are designed to temper their responses in such a way that one goal may be suppressed in order to address another which may be perceived to be worthwhile long-term. For example, a religious person is perceived as valuing positive social interactions and social harmony. They make the effort to monitor themselves in order to regulate and control their performance to be more sociable, honest and socially acceptable. They hold the perception that they are observed (whether from God or other people), this leading to an increase in self-awareness as a source directing their behaviour. In addition, the devout engage in religious rituals (e.g., meditation and prayer), which also promote self-regulation. This may be considered an influential attentional variable central to self-regulation, which dispels negative emotions. McCullough and Willoughby (2009) were in agreement with Al- Ruwaitea (2007) who stated that in Saudi culture, religion is considered a vital factor regulating people in their social interactions. In this way, religion might serve to manage and direct the individual's social life, making them more aware of social norms and standards of the society. However, religion considered in such way may force people to adopt effective post- event processing effectively to help them to analyze their thoughts in a successful fashion (improve to be accepted) and to buffer themselves socially thus decreasing the possibility of social disapproval and subsequent negative emotions.

5.2.3. Social anxiety and depression

The deliberations above look like a rational proposition to address the fact that in the present study, although the Saudi sample had high levels of depression in comparison to the British sample, in the regression analysis, depression had no impact on social anxiety despite a

great deal of evidence supporting this comorbidity (Clark, Watson, & Mineak, 1994; Bassiony, 2005; Huppert, 2009; Rashid, Saddiqua, & Naureen, 2011; Watson, Clark, & Carey, 1988; Watson, 2005;). According to Wittchen and Fehm (2003), the prevalence of social anxiety in Asian countries is much lower than in western countries, raising the likelihood that the overlap between social anxiety and depression symptoms could be lower (Wenzel, 2010). The possibility exists that lower rates of social anxiety symptoms implies lower rates of diagnosed depression. In support of this, there is a discrepancy in the prevalence of depression in Saudi Arabia. For example, depression becomes a risk factor in Saudi Arabia and the more common disorder in parallel with social anxiety (Abdel-Fattah & Asal, 2007; Bassiony, 2005; El-Tantawy et al., 2010). In contrast to this, Al-Ibrahim et al. (2010) found that the incidence of depression among Saudi participants was not that high. This was in agreement with Al-Hadi, Al-Gahtani and Salem (2012) regarding lower rates of depression in the Middle East. However, to give an explanation for the relationship between social anxiety and depression among the Saudi sample, Week's et al. (2008c) suggest that the high rate of comorbidity between social anxiety and symptoms of depression may be the result of an overlap in adaptive functioning in that these symptoms are helpful in social situations. Social situations may involve some negative social themes including social expectations, social exclusion and social evaluation placing the individual in a 'trigger' situation where the event is threatening and perceived as difficult to survive. In the current research, the overlap between social anxiety and depression was ambiguous. According to the present findings however, we can assume that the coping strategies (i.e., self-reflection, self-regulation, and self-monitoring) that the individual utilizes in social events, preclude adopting social anxiety so to some extent this might be utilized to manage depressive symptoms as well. This view requires further rigorous research to substantiate it.

Overall, the interpretation of the results of the Saudi sample is challenging due the general lack of research focusing on Saudi society. However, the interesting point is that the results open many doors of investigation regarding social anxiety from a cultural point of view. They also raise many questions concerning the diagnoses and treatment of social anxiety and provide insight about evaluating cognitive models of social anxiety from a cultural perspective. This will be examined in the general discussion at the end of this thesis.

5.3. Limitations and conclusions

This study has several limitations that should be taken into account. First, the results were limited to the three cognitive biases measured: fear of negative evaluation, fear of positive

evaluation and post- event processing and their contribution to the maintenance of social anxiety. To include different factors such as interpretation bias and imagery bias would be of benefit to examine cognitive models of social anxiety across culture and to examine in more depth the way that social anxiety operates within and between cultures. Second, interpretation of the Saudi data set in the present work was restricted, to a certain extent, to information from previous research, which was gathered from other Eastern cultures namely China and Japan, due to the scarcity of research concerning direct investigation of cognitive biases in social anxiety in Saudi Arabia. However, we rely on empirical evidence that supports the notion that these types of cultures will share some similarities, as they are all collectivist. Third, the result concerning the relationship between social anxiety and depression with the Saudi sample was vague requiring further investigation to establish the underlying processes around this relationship. Finally, data was obtained from undergraduate participants, some of who have experienced some clinical levels of social anxiety. However, including a clinical sample would be beneficial, enhancing the robustness and potential generalization of the results.

In summary, the main aim of the present study was to determine if the three cognitive aspects of social anxiety, fear of negative evaluation, fear of positive evaluation, and post-event processing consistent with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010), would be important and unique predictors of social anxiety, but not depression, for both the British and Saudi group. The British participant data was in line with the principals of cognitive models of social anxiety but the Saudi results open the door to more research in the future.

Chapter 6

Negative interpretation bias as a mediator of the relationship between social anxiety and culture in different cultural contexts (Study 4)

1. Introduction

Social anxiety is characterized by a persistent fear of evaluation in social situations or social performance through which the individual may experience humiliation or embarrassment (DSM-IV-TR: American Psychiatric Association, 2000). The social situation itself may be relatively ambiguous and only slightly uncertain but it is the interpretation of social information that decodes that situation in a catastrophic manner (Amir, Foa, & Coles, 1998; Boelen & Reijntjes, 2009; Spokas, Rodebaugh, & Heimberg, 2007; Stopa & Clark, 2000; Clark, 2005). Alongside the fact that interpretation bias is an important cognitive element explaining the maintenance of social anxiety as documented by models of cognitive bias (Clark & Wells, 1995; Rapee & Heimberg, 1997), the role of culture in shaping an individuals' cognitive processing within social anxiety is not well-defined. Hence, in the following section, the research will focus on two main points to explain these relationships: the role of interpretation bias in the maintenance of social anxiety and the cultural impact on the individuals' interpretation of social cues and their experiences of social anxiety.

1.2. Interpretation bias and the maintenance of social anxiety

Two specific cognitive behavioural models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) are considered to be helpful models in order to understand why social anxiety endures, both agreeing that interpretation bias is one of the main factors sustaining it. These two models constitute the theoretical underpinning for most of the research investigating interpretation bias and social anxiety to date (e.g., Amir et al., 1998; Beard & Amir, 2009; Huppert, Foa, Furr, & Filip, 2003; Hirsch & Mathews, 2000; Huppert, Pasupuleti, Foa, & Mathews, 2007; Kanai, Sasagawa, Chen, Shimada, and Sakano, 2010; Stopa & Clark, 2000; Vassilopoulos, 2006, 2010). Amir et al. (1998) and Stopa and Clark (2000) conducted somewhat similar research to examine the interpretation of ambiguous social situations and social anxiety. Participants were asked to read a number of social and non-social scenarios i.e., "*Some people whom you know, are looking in your direction and talking*" (social), and "*A letter marked "URGENT" arrives*" (non-social). After reading each scenario, participants were asked to write down any specific interpretations, which came into their mind. They were then given three alternative interpretations (negative, neutral and positive) for each scenario and asked to rank these in terms of which would be likely to come to mind if they were in a similar situation. The results revealed that participants with social anxiety were more likely to engage

in negative interpretations of ambiguous social situations compared to non-socially anxious individuals.

Using a similar procedure, Kanai, Sasagawa, Chen, Shimada, and Sakano (2010) investigated whether individuals with social anxiety interpret the ambiguous behavior of people negatively or in a more threatening manner while controlling for depression. Participants, undergraduate Japanese students, completed the Japanese versions of the Social Phobia Scale (SPS; Kanai et al., 2004), the Self–rating Depression Scale (SDS; Fukuda and Kobayashi, 1973), the Fear of Negative Evaluation Scale (FNE; Ishikawa et al., 1992), and Interpretation of other people's behavior (Kanai et al., 2010). They were then told they were to make a 4-minute video-recorded speech concerning their 'campus life experience'. They were told that while watching the video, they needed to watch the confederate's behaviors (e.g., '*running fingers through hair*', '*scratching head*'). At the same time, they were told that the confederate would be assessing the quality of their speech. After giving them a short period of time to organize their speech, participants were asked to stand up in front of their confederate and give their speech. After the speech, participants were asked to answer open-ended questions around their interpretations of the confederate's behaviors and then rate their feelings of threat around each behaviour from 1 (extremely positive emotion) to 7 (extremely negative emotion) and 1 (not at all threatening) to 7 (extremely threatening). Furthermore, to examine how consciously participants watched and noticed the confederate's behaviors, participants were asked to rate the extent of this and the extent to which it was easy to notice the confederate's behaviours using a visual analogue scale. The scale was designed such that one anchor of the scale represented 'not at all' (0), the other 'extremely' (100). The results indicated that after controlling for the effects of depression, the participants who were highly socially anxious interpreted other people's ambiguous behaviour to be more negative and threatening in comparison to those low in social anxiety. This indicates that the degree of the impact of social anxiety on negative interpretation is related to the intensity of threat rather than the number of threats (Kanai et al., 2010). These results around negative interpretations and the degree of this interpretation could be indicative of negative self-appraisal when involved in social events. An increase in negative beliefs about the self (e.g., "*She is not interested in my speech*"), triggered the participants' fear of negative evaluation, the very factor considered a core element of social anxiety (Clark & Wells, 1995; Huppert et al., 2007; Franklin, Huppert, Langner, Leiberg, & Foa, 2005).

However, socially anxious negative interpretation of interpersonal encounters is not necessarily specific to threatening, neutral or mildly negative incidents; interestingly, it also

applies to positive social events (Vassilopoulos, 2010). For instance, Huppert et al. (2003) researched the positive interpretation of social cues. Their aim was to establish whether a reduction of positive interpretation plays a part in the increase of negative interpretations and subsequent maintenance of social anxiety. Their results suggested that negative interpretation bias in positive social situations correlates positively with social anxiety. In addition to this, the lack positive social interpretation bias was negatively associated with general negative affect but not with social anxiety *per se*. These results suggest that social anxiety is not therefore associated with the absence or diminution of positive interpretation by itself, but instead is associated more with the presence of negative interpretations. This result suggested there is a need to revise cognitive models of social anxiety to consider both positive and negative interpretations as separate dimensions (Huppert et al., 2003).

Laposa, Cassin, and Rector (2010) provide a different base from which to investigate the interpretation of positive social events. If individuals with social anxiety evaluate ambiguous social events negatively, is it the same when they judge positive social information or events? In other words, to what extent do socially anxious individuals interpret positive social situations negatively? Laposa et al. (2010) assumed that negative interpretation of positive social occasions was positively associated with social anxiety as well as several other cognitive patterns such as rumination, perfectionism and discomfort. In their research, a group classified as clinically anxious according to DSM-IV criteria, completed a battery of measures, the results of which supported their hypothesis. The results supported previous findings that the negative interpretation of positive social situations is associated with social anxiety, while controlling for depression. However, despite their hypothesis that cognitive processes (rumination, perfectionism and causing discomfort to others) would impact on negative interpretation bias of positive events, perfectionism and discomfort predicted interpretation bias moreso than rumination. The reason for this is that perfectionism and causing discomfort to others both have interpersonal consequences. For example, individuals with high levels of perfectionism hold concerns about their social performance. Their need for success only serves to make them more anxious. In addition, they are always concerned about future social events and their performance, worrying about whether or not they can meet others' social standards, this very much in line with the work of Weeks et al. (2008a, 2008b), and Wallace and Alden (1995, 1997). Individuals with social anxiety also have concerns about causing discomfort in others as the physical signs of their anxiety makes others uncomfortable when interacting with them (Rector et al., 2006).

Despite the fact that both perfectionism and causing discomfort to others leads to the interpretation of positive social cues negatively over rumination, ruminative thinking still has its place in the maintenance of social anxiety. According to Heimberg et al. (2010) post-event processing: "…provides the bridge from the socially anxious past to the socially anxious future" (Heimberg et al., 2010, p. 415) facilitating the negative interpretation of positive cues. This cognitive process leads the socially anxious individual to dwell on their ability to control and cope with uncertain cues in future social events (Laposa et al., 2010) ultimately leading to the maintenance of social anxiety. However, this study concluded that socially anxious people are more occupied with post-event processing around negative aspects of social events in comparison to any positive aspects in that event. This finding was in agreement with Dannahy and Stopa (2007) who found that there were no differences between individuals with either high or low levels of social anxiety in positive post-event processing.

In a similar vein, Alden, Taylor, Mellings and Laposa (2008) suggest that socially anxious individuals are likely to exhibit negative interpretation bias of positive social interactions even when positive cues are available. These individuals hold in mind that positive events might increase social cost and other's social expectations, which leads to increased social anxiety. These patterns of negative judgment are not the result of poor performance (Alden, Taylor, Mellings, & Laposa, 2008), negative self-perception (Laposa, Cassin, & Rector, 2010) or a lack of positive cues during social interaction. The simple fact is that socially anxious people tend to be more sensitive to negative social information than positive information (Veljaca & Rapee, 1998). They are also more likely to discount positive social signs and reach negative conclusions in relation to the self and future outcomes (Vassilopoulos, 2006).

The above studies demonstrate that the socially anxious individual is more likely to interpret cues negatively or to discount positive cues when off-line methodologies (self- report questionnaires) are used to assess for interpretation bias in the social interaction. Limitations of off-line measures suggests that there is the need to adopt different methodologies for example, on-line methodologies, to evaluate interpretation bias and capture what participants are doing 'in the moment'. This is important in order to avoid pre-existing memories that the socially anxious individual has about social interactions. An on-line approach was used in the work of Hirsch and Mathews (1997, 2000).

Hirsch and Mathews (1997) recruited individuals with high and low levels of anxiety to read descriptions of an ambiguous but threatening events; such as a job interview. They used a reaction time paradigm to examine responses to the positive and negative interpretations of an ambiguous task (incomplete sentences that required word completion). Their results indicated

that individual with high social anxiety responded more slowly to benign words in comparison to those with low anxiety. However, there were no differences between groups in their responses to negative words. This result was in agreement with Huppert et al. (2007) who proposed that individuals high in social anxiety are more likely to generate negative responses in comparison to positive or natural responses. Hirsch and Mathews (2000) replicated the previous finding with socially anxious patients and a non-anxious group. They used the same procedure whereby incomplete sentences were displayed on a computer screen. At a certain point in the text, the subjects completed a lexical decision task in which they had to quickly decide whether a probe word could complete a target sentence. All the words (threat and non-threat) were possible completions for the ambiguous sentence. Reaction times were recorded for both groups. The results of this study, along with that of Hirsch and Mathews (1997), suggested that socially anxious individuals lack positive interpretations when responding online having a strong tendency to show a negative interpretation bias of social sentences.

The findings from Hirsch and Mathews (1997, 2000), which emphasise the role of a lack of positive interpretation on the maintenance of social anxiety contradicts Stopa and Clark (2000) and Amir et al. (1998) who emphasise the role of negative interpretation. They based their findings on the notion that both positive and negative interpretation bias exist on a single continuum (Huppert et al., 2003). However, there is an argument for the importance of maintaining a distinction between negative and benign interpretation bias and not treating them as single continuum (Huppert et al., 2003; Beard & Amir, 2009).

Although the data presented above illustrate the strength of both negative and positive interpretation bias in social anxiety, the question still remains around the role of the lack of positive interpretation, this making social anxiety extremely difficult to overcome. This topic is still in it is infancy requiring focussed research in the future.

1.3. The cultural impact on the individual's experience of social anxiety and interpretation bias

In the above illustrations, various complementary sources agree that anxious individuals are likely to experience both negative or/and a reduction of positive interpretation of uncertain social events. However, as we stress in the previous chapters 4 and 5 around the relationship between social anxiety, social anxiety cognitive biases, only a limited number of studies have examined the direct and specific impact of culture in connection to the role of interpretation bias in social anxiety. Most cultures hold that individuals will experience different levels of social anxiety when involved in different social situations (Dinnel et al., 2002; Heinrichs et al., 2006; Kleinknecht et al., 1997; Schreier et al., 2010).

Given this, it is possible to state that knowledge of cultural social values is fundamental to understanding human social interaction. Culture may be considered a catchall for the range of different ways the individual thinks, feels and performs socially (Hofstede et al., 2010) in order to galvanize human social involvement and engagement with others. A number of cross-cultural studies in social anxiety (e.g., Heinrichs et al., 2006; Schreier et al., 2010) state that it is important to note that individuals tend to classify themselves as either one of two cultural groups: 1) individualists who consider themselves as independent and distinguishable from others, who emphasize individual desires and tend to have a self-concept which reflects their own aspirations and achievements, or 2) collectivists who consider themselves as dependent on their society, who emphasize group harmony and have a specific self-concept which is a reflection of their relationships and social obligations (Schreier et al., 2010; Wu & Keysar, 2007). It is obvious that in collectivistic cultures, more overt social norms exist to maintain social harmony by regulating social rules and guidelines helping the individual to avoid making social slips. In contrast, in individualistic cultures, individuals express their thoughts and behaviors directly and pay more attention to their own achievements and successes (Hofmann et al., 2010). Undoubtedly, these two cultural values (collectivism and individualism) have to be considered as important factors in the development, expression and preservation of social anxiety in any given culture. (Dinnel et al., 2002; Heinirchs et al., 2006; Kleinknecht et al., 1997; Schreier et al., 2010). Therefore, understanding individuals' social interactions and the interpretations they make during social events are crucial in order to recognize how cultural cognitive structures characterize social anxiety and maintain its existence.

Generally speaking, Gudykunst et al. (2006) proposed that in some social circumstances, interactions with others could be threatening because the event is replete with ambiguity and unpredictability, conditions that tend to increase of anxiety (Hofstede et al., 2010; Gudykunst et al, 2006). However, as indicated earlier, little attention has been paid to the association between social anxiety and interpretation bias from a cultural perspective. Most research to this point has centred on how people interpret social events emotionally (Mesquita & Walker, 2003; Schwarz, 2000) and how they judge social information depending on the self or social context in terms of culture (Norenzayan & Nisbett, 2000; 2002).

However, despite the paucity of such research, a small number of studies have attempted to provide an explanation of the relationship between culture and interpretation bias in ambiguous social situations. For example, these kinds of studies have focused on cultural differences in emotions in an attempt to understand the social human experience (Fernandez,

Carrera, Sanchez, Paez, & Candia, 2000; Markus & Kitayama, 1991; Mesquita & Walker, 2003) as emotions play a significant role in individuals' spontaneous choices when thinking about given situations.

To give an example, Mesquita and Walker (2003) proposed that the cultural values, individualism and collectivism, might help us to understand and predict how the individual contextualizes emotions across different cultures. They stressed that differences in the way that the individual interprets previous social events may have implications across cultures. For example, cultural values that emphasize individuality and self-reliance lean towards a positive interpretation of social events or potential social outcomes (individualistic cultures), as positivity is fostered in daily life thus maintaining a positive view of the self. Cultural values that emphasize social obligations and responsibility and an awareness of the importance of social harmony, might interpret social events in terms of potential negative outcomes (collectivistic cultures), as they have a more self-critical orientation keeping themselves in line with the group (Heine et al., 1999). This could imply that when cultural social information or social regulations are available in certain social events, specific courses of action are viewed as acceptable and normal. The individual is expected to adhere to these conventions, which guide the individual's performance and emotions in a more socially acceptable direction (Chiu & Hong, 2004; Mesquita & Walker, 2003).

Exploring the effect of cultural on an individuals' emotions from a different angle, Hofstede et al. (2010) proposed that a culture that generates elevated uncertainty avoidance: "…the extent to which the member of that culture feels threatened by ambiguous or unknown situations" (Hofstede, Hofstede, & Minkov, 2010, p. 191), will produce individuals who shun ambiguous events. These individuals are more likely to seek structure in their organisations, societies and interactions, which make circumstances understandable, interpretable and predictable. However, even this kind of process can result in competition in order to reduce ambiguity, which in turn leads to the experience of more neurotic emotions including anxiety, depression, anger and self-consciousness. Potential differences are more likely with culture that manifests weak uncertainty avoidance. Those adhering to this cultural model tend to be quiet and less emotional thus avoiding social disproval or disagreement with the social mainstream and in that sense, preventing the experience of social conflict. This cultural values promotes agreeableness, maintains aspects of trust, honesty and tender-mindedness. This cognitive strategy of interpretation of ambiguous social events might give clues to cultural differences in social anxiety. However, these differences at the individual level (i.e., social anxiety), may be better understood under the umbrella of a cultural values rather than

considered as an 'absolute concept' (Mesquita & Walker, 2003; Hofsted, 2001) and could be more prevalent in one culture than another.

In a similar vein, Norenzayan, Choi, and Nisbett (2002) assessed individuals' social judgments while interacting in social situations. Korean and American participants were given six scenarios comprised of short sentences that focused on interactions between two people. They were asked to make judgments about observed behaviours in each scenario. The results indicated that there was no difference between Korean and American participants' judgements when the information about others was ambiguous, but when information was available or salient, Korean participants tended to use their judgments about the situational context to interpret the social behaviour of others. They were more sensitive to social information, which focused their attention on the social context compared to other types of information that might be provided throughout the social event (Gorman, Wilson, & Miller, 2008). This study is important as it reveals that cultural differences are more related to the situational context than the individual's cultural values.

Up to this point, the majority of studies on cultural differences in social anxiety have employed Eastern (e.g., Japanese, Korean and Chinese) and Western (e.g., US American and European) participants (Hofmann et al., 2010; Wenzel, 2010). No studies have examined the relationship between social anxiety and interpretation bias in Arabic counties such as Saudi Arabia. However, in the earlier work of Hofstede (1980, 2001) fifty countries were compared on work-related cultural values. Their resulting classification included four values: power distance, uncertainty avoidance, masculinity-femininity and individualism-collectivism. Hofstede has investigated these differences using four of the above values including uncertainty avoidance. He proposed that ambiguity could be experienced in a threatening way in any situation creating a rise in anxiety symptoms. These anxiety symptoms differ from culture to culture in terms of the way they are handled and how potential anxiety is avoided. Looking at the nature of uncertainty avoidance in British and Saudi cultures, British participants had lower scores (35) on uncertainty avoidance compared with Saudi participants who had higher scores (80). Interestingly, in their recent work, (Hofstede et al., 2010) provide a new grouping for countries. On the same scale ranging from 0 to 100, all Asian countries, excluding Japan and Korea, scored from low to medium (8 to 69) with Great Britain scoring 35.

A low uncertainty avoidance country such as Britain is characterized as being calm in ambiguous situations accepting changes as new information becomes available. In such a country there are not many 'societal' rules, which raise anxiety in its population. In contrast,

Saudi Arabia has a preference for avoiding ambiguity. Their high uncertainty is marked by the existence of a restrictive range of beliefs and behaviours and intolerance of more unorthodox behaviour and ideas. There is a need for such rules in these cultures simply to avoid experiencing negative emotions such as anxiety. Precision, punctuality and security are the norm and individuals are more likely to avoid novel situations as a way of avoiding ambiguity. However, it can be argued that because this comparison was made with general quantitative survey data using Hofstede's cultural values designed three decades ago, the findings need updating. With this in mind, Ming-Yi Wu (2006) updated and expanded Hofstede's work collecting data from Taiwan (a collectivistic culture) and the United States (an individualistic culture). Participants were university employees from a Taiwanese university ($n = 156$) and an American university ($n = 147$). The results revealed that both cultures had high levels of uncertainty avoidance. However, both these pieces of research were carried out in the work place or places of intercultural cooperation, tapping in to work related ambiguities. This type of situation is defined by work related protocols, which differ substantially from social interactions, which are not as clearly defined and often inherently indirect and ambiguous (Heimberg et al., 2010). Therefore, there is a need to expand research on how individuals interact and interpret ambiguous situations to include a wider range of situations such as social interaction to investigate the impact of cultural differences on the individual's emotions such as social anxiety.

1.4. Study objectives

Most of the research in the preceding section confirms the idea that human cognition and behavior are context related (Schwarz, 2000). However, differences in social anxiety interpretation bias are not only related to cultural values but also to the level of ambiguity that appears in social situations and how individuals interpret them. The individual's cultural values, to a certain extent, promote specific interpretations of social prompts which in turn, influences the individual's emotions.

In line with previous explanations about cross-cultural research into social anxiety, it appears that the interpretations adopted by the individual in social events, may mediate the relationship between social anxiety and individual's cultural values (individualism and collectivism). Thus, the central aim of the present study is to attempt to examine the role of negative interpretation bias on the maintenance of social anxiety within two different nations, British and Saudi. Different groups of participants were recruited from both countries to investigate this question. The main questions for the current work are as follows:

- Is there a difference between British and Saudi groups in the relationship between social anxiety and interpretation bias?
- Does interpretation bias as measured by the ASSIQ, mediate the relationship between cultural values and social anxiety for both the British and Saudi groups?

2. Method

2.1. Participants

This study involves two groups of participants. The British sample consists of 119 psychology undergraduates (10 males, 107 females and 2 unknown) attending a South England University. The Saudi sample comprises 82 female psychology undergraduates attending a Saudi University. Because all the Saudi participants are females, the males ($n = 10$) were excluded from the British sample. The total number of British participants was 100 after incomplete forms were rejected. The mean age of the British group was 21.7 years, ($SD = 5.4$), the mean age of the Saudi group 21.1 years, ($SD = 1.4$). There was no significant difference in age between the two group, $t(180) = 1.04$, $p = .30$.

2.2. Measures

All the original information pertaining to the psychometric properties of the measures used are explained in detail in Chapter 3.

2.3. Procedure

The British participants were recruited through the web at a local university while Saudi participants were recruited from lectures. All participants were given an information sheet to explain the research objectives and the aim of the research, followed by the consent form (see Appendices I). With reference to the British group, for the Ambiguous Social Situation Interpretation Questionnaire (ASSIQ), because of the questionnaire design, the researcher divided it into three sections to allow participants to complete the scales more easily. Using the original questionnaire, which comprised 24 scenarios in each of the three sections, the questionnaire started with open-ended questions so that an answer could be written for each situation. Once participants completed this section, they moved on to the next part which included the original questions employed in the open-ended task, but now with three alternative responses reflecting negative interpretations, before moving on to the belief rating scales questionnaire. The open-ended questions are not included in this analysis in order to simplify the current investigation. Because this is a cross-cultural investigation, the main focus of the research is to examine the individual's tendency to hold a negative interpretation

bias utilising the ranking data and the belief ratings. However, the open-ended task is in our agenda for future research as an important step to examine negative interpretation bias qualitatively. The social anxiety interaction scale (SIAS) was presented after this followed by the Auckland individualism-collectivism scale (AICS). At the end of the data collection session, participants were debriefed (see Appendix J). British participants were given six credits when they had completed all the questionnaires. No credits were given to the Saudi sample as no such system is in place for them in their university. Ethical approval for the study was obtained from both universities before starting data collection.

3. Results

Tests of normality, means and standard deviations constituting the preliminary analysis, are presented. This is followed by the results of independent t-tests, which aim to explore diffrences between groups. Pearson's correlation coefficients are applied to investigate if there is are differences between groups between social anxiety and interpretation bias, and as a first step in the mediation analysis. The main statistical analyses comprise the mediation analysis, which was used to test the prediction that negative interpretation bias will mediate the relationship between the two aspects of cultural values and social anxiety. A bootstrapping analysis (Preacher & Hayes, 2004, 2008) was also used in this study to estimate the total, direct and indirect effects of cultural values with social anxiety mediated by negative interpretation bias. The bootstrapping analysis has three advantages. Firstly, the SPSS macro is straightforward to use in order to examine any indirect effects and gives the researcher the opportunity to avoid any misapplication or misunderstanding of the test. Secondly, the bootstrapping test was applied to generate Confidence Intervals (CI) for the indirect effect to circumvent the problems associated with normality assumptions. Finally, bootstrapping is very effective in controlling for Type 1 errors, thus preventing inaccurate results (Hayes, 2009; Zhao, Lynch & Chen, 2010).

3.1 Preliminary data analysis

3.1.1 Tests of normality

Tests of skewness and kurtosis of the data were applied to ascertain the normality of the study variables. On the Negative Interpretation bias as measured by (ASSIQ) the Negative Interpretation Ranking Social and Non-social situations for the British group were not normally distributed. For all the other variables, skewness and kurtosis measures for normality were acceptable. Despite this, the present research used the bootstrapping method developed by Preacher and Hayes (2004, 2008) to test the indirect effect of the research variables. This

technique produces an empirical representation of the sample data by repeated resampling to estimate the sampling distribution rather than trusting the traditional normal distribution approach (Hayes, 2009; Zhao, Lynch, & Chen 2009).

3.1.2 Means, standard deviations and group differences

Means, standard deviations and differences between groups as ascertained through independent samples *t*-tests are presented in Table 15. In addition, a mixed design ANOVA was applied as a post hoc analysis to determine if the groups were more likely to interpret social situations negatively in comparison to non-social situations.

The results show the differences between groups regarding social anxiety and the cultural values individualism and collectivism. The findings were consistent with both Studies 2 and 3 which revealed that the British group reported higher levels of social anxiety in comparison to the Saudi group, $t(180) = 4.79$, $p = .001$, $d= .73$ with a large effect size according to Cohen's (1988) convention. There were no differences between groups on individualism, $t(180) = -.55$, $p = .58$, $d= .08$, or collectivism, $t(180) = -.45$, $p = .64$, $d= .06$.

For ASSIQ situations (social and non-social), the results revealed that there were no differences found between groups in their negative interpretation for rankings tasks of social situations, $t(180) = 1.69$, $p = .09$, $d= .24$ but significant differences were found between groups for their negative interpretation for beliefs rating tasks of social situations, $t(180) = 2.62$, $p = .01$, $d= .38$. However, when compared with the British group, the Saudi groups' interpretations of non-social situations were more negative: negative interpretation for ranking tasks of non-social situations, $t(180) = -4.28$, $p = .001$, $d= .62$; negative interpretation for beliefs rating tasks of non-social situations, $t(180) = -3.43$, $p = .001$, $d= .51$ (see Table 15). The effect size was between small to large according to Cohen's (1988) conventions.

A mixed design ANOVA, 2 (situation: social vs non-social) x 2 (culture: British vs Saudi) was applied as post hoc analysis to examine type of situation for both the ranking data and the belief ratings between groups.

For ranking situation (social vs non-social) the results revealed no significant main effect of group, $F(1,180) = .30$, $p = .58$, $\eta\rho^2 = .002$, this indicating that both groups interpretation of both social and non-social situations was similar. However, there was a significant main effect of type of situation, $F(1,180) = 525.39$, $p = .001$, $\eta\rho^2 = .74$. This indicated that both Saudi and British groups interpreted social situations more negatively than non-social situations. A significant interaction was found between type of situation and group, $F(1,180) = 23.03$, $p =$

.001, ηρ² = .11. This interaction suggested that the group scores with reference to type of situation (social vs non- social) are very similar (See Appendix L).

For belief rating situation (social vs non-social), in common with the ranking data, the results revealed no significant main effect of group, $F(1,180) = .09$, $p = .75$, ηρ² = .001, this indicting that both groups interpretation of both social and non-social situations was similar. However, a significant main effect of the type of situation was found, $F(1,180) = 217.63$, $p = .001$, ηρ² = .54. This indicated that both Saudi and British groups interpreted social situations more negatively than non-social situations. A significant interaction was found between type of situation and group, $F(1,180) = 30.60$, $p = .001$, ηρ² = .14. This interaction suggested that the group responses to the type of situation questions are very similar (See Appendix L).

The results obtained from this analysis suggested that both group experienced more negative interpretations of social situations in comparison to nonsocial situations.

Table 14

Mean and standard deviation on self-report scales for the study groups

Variables	British (100)	Saudi (82)	$t(180)$	P
	M (*SD*)	M (*SD*)		
SIAS	30.53 (15.53)	20.32 (12.08)	4.79	.001
NIRS	21.32 (6.17)	20.06 (3.77)	1.69	.09
NIRNS	12.31 (3.45)	14.17 (2.38)	- 4.28	.001
NIBS	43.60 (20.48)	36.15 (17.68)	2.62	.01
NIBNS	18.65 (9.97)	24.81 (13.50)	-3.43	.001
Col	43.01(8.39)	43.59 (8.78)	- .45	.64
Ind	61.93 (11.15)	62.82 (10.73)	- .55	.58

Note. SIAS = Social Interaction Anxiety Scale; NIRS = Negative Interpretation Ranking Situation (Social); NIRNS = Negative Interpretation Ranking Situation (Non-Social); NIBS = Negative Interpretation Belief Situation (Social); NIBNS = Negative Interpretation Belief Rating Situation (Non-Social); Col = Collectivism; Ind = Individualism.

3.1.3 Correlation analysis

Pearson's correlation coefficients were calculated to explore for associations between the study variables for both groups. The primary aim in this section is to explore for possible relationships between cultural values and social anxiety, with negative interpretation bias as a mediator. The correlations will be presented separately for both groups. As we can see from Tables 16, there is a positive relationship between SIAS and all the ASSIQ scales for the British group. For Saudi group only the negative interpretation belief task (social) has a positive relationship with SIAS.

Table 15

Pearson's correlation coefficients between the research variables for the British group (N = 100)

Variables	1	2	3	4	5	6	7
1.SIAS	-						
2.NIRS	.50**	-					
3.NIRNS	.20*	.64**	-				
4.NIBS	.66**	-.70**	.36**	-			
5.NIBNS	.40**	.48**	.55**	.50**	-		
6.Col	.23*	-.01	-.22	.20*	.000	-	
7.Ind	-.20	.01	.005	.004	-.08	.14	-

Note. SIAS = Social Interaction Anxiety Scale; NIRS = Negative Interpretation Ranking Situation (Social); NIRNS = Negative Interpretation Ranking Situation (Non-Social); NIBS = Negative Interpretation Belief Situation (Social); NIBNS = Negative Interpretation Belief Rating Situation (Non-Social); Col = Collectivism; Ind = Individualism.
* Correlation is significant is at .05 ** Correlation is significant at .01.

Table 16

Pearson's correlation coefficients between the research variables for the Saudi group (N = 82)

Variables	1	2	3	4	5	6	7
1.SIAS	-						
2.NIRS	.11	-					
3.NIRNS	-.04	.30**	-				
4.NIBS	.25*	.59**	.25*	-			
5.NIBNS	-.001	.22*	.46**	.56**	-		
6.Col	.12	.09	-.06	-.01	-.01	-	
7.Ind	-.17	-.14	-.07	-.03	.009	.25*	-

Note. SIAS = Social Interaction Anxiety Scale; NIRS = Negative Interpretation Ranking Situation (Social); NIRNS = Negative Interpretation Ranking Situation (Non-Social); NIBS = Negative Interpretation Belief Rating Situation (Social); NIBNS = Negative Interpretation Belief Rating Situation (Non-Social); Col = Collectivism; Ind = Individualism.
* Correlation is significant is at .05 ** Correlation is significant at .0

3.1.4 Mediation analysis: Data analysis procedures and findings

The aim of mediation analysis in the current research is to investigate to what extent the influence of cultural values (individualism and collectivism) on social anxiety might be mediated by negative interpretation bias. This analysis was conducted to test the second reseach question.

To test for any indirect effects, the following steps were used. Firstly, a bootstrapping macro (Preacher & Hayes, 2004) was used to estimate the total effect of cultural values and social anxiety via path *c* without controlling for any interpretation bias factors (see Figure 5). Secondly, the indirect effect of cultural values on social anxiety with negative interpretation bias as a mediator (path *c'*) is presented in Figure 6. This was followed by the generation of

bootstrap confidence intervals around a point estimate using 5,000 bootstrap samples ($z = 5,000$). This was used in all mediation analyses as recommended by Preacher and Hayes (2004, 2009). If zero is not within the 95% CI, the assumption that the indirect effect is significantly different from zero can be accepted. It can then be stated that the effect of the initial variable on the outcome is mediated by the intervening variable. Finally, this analysis of the causal model was executed separately for cultural values paths, individualism and collectivism. Mediation analysis was only conducted for the British group as the correlations analysis for the Saudi group suggested no association between the initial variables (cultural values) and the mediator (negative interpretation bias) (See Table 17). Therefore it was inappropriate to carry out mediation analysis for the Saudi group.

Figure 5. Total effect between the initial variable on the outcome
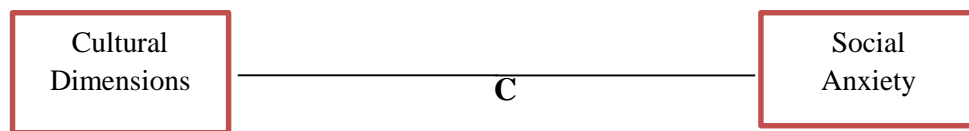
Figure 6. The indirect effect model
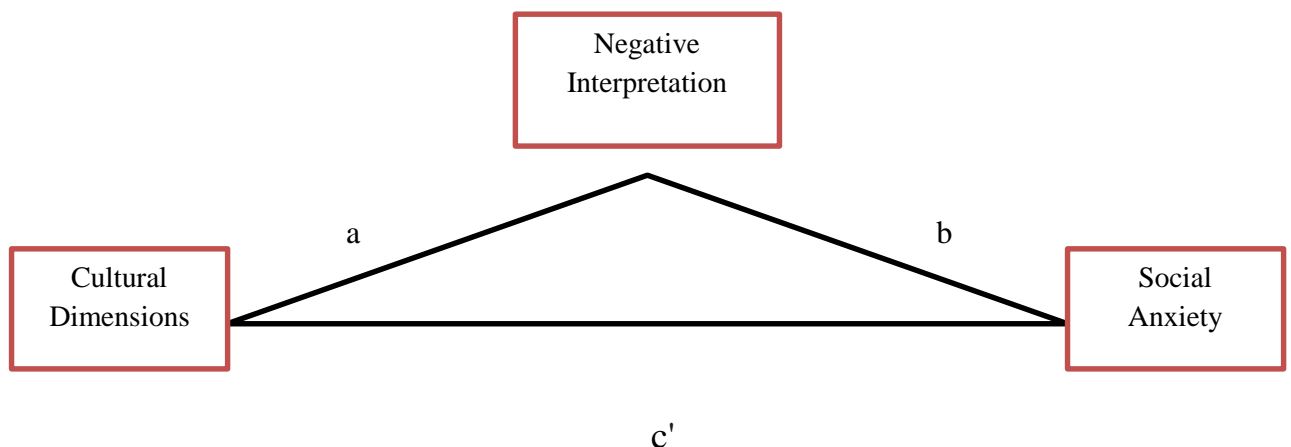
The results indicated that only one task was significant; the negative interpretation belief rating (NIBR) in social situations, but only with the British group (see Figure 7). The NIBR mediated the relationship between collectivism and social anxiety ($z = 2.02$, $p = .04$). A 95% CI was obtained and the indirect effect path c' was between LL = .008 to UL = .52. Because zero is

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not included in the 95% CI, we can surmise that the indirect effect of NIBR is significantly mediated. For more information about the significant and non-significant result for the British group, see Table 18. Given these results, the evidence suggests that negative interpretation bias as measured by the belief rating scale could work partially as a mediating variable explaining the relationship between culture and social anxiety in the British group.

Figure 7. The final model of negative interpretation bias as mediating collectivist cultural scale and social anxiety (British group)
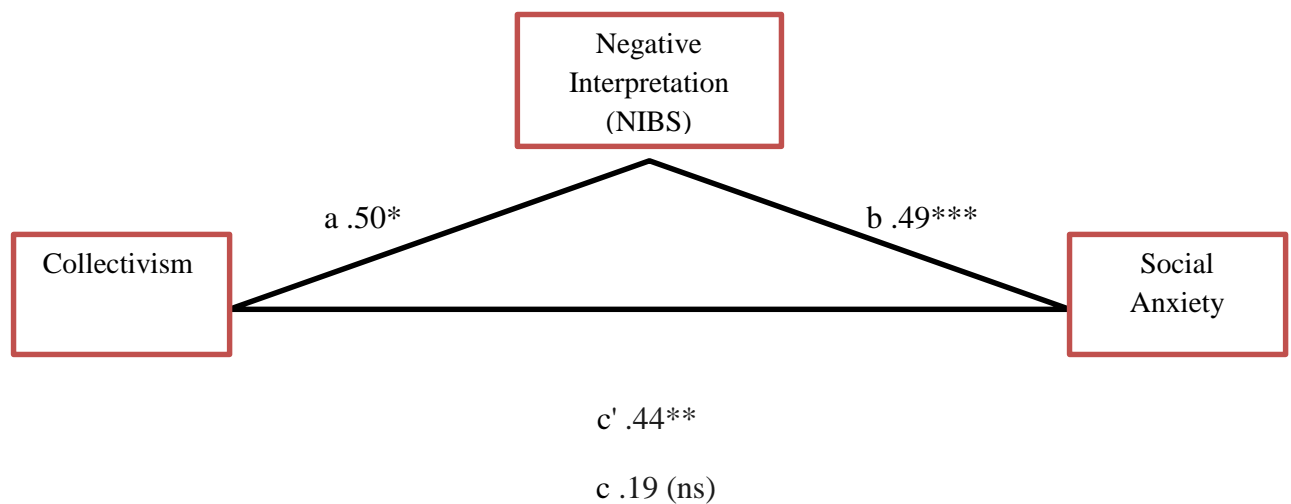
Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.
NIBS; Negative Interpretation Believe Rating.

Table 17
The effect of cultural dimension on social anxiety across negative interpretation bias (British group)

Model	Product of indirect effect			Bootstrapping bias - 95% CI	
	SE	*Z*	*Sig*	Lower	Higher
Mediator [1]					
NIRS	.09	-0.12	.89	-.20	.20
NIRNS	.06	-1.69	.08	-.28	.01
NIBS	.12	2.02	.04*	.008	.51
NIBNS	.07	-0.003	.99	-.17	.15

Note. NIRS = Negative Interpretation Ranking Situation (Social); NIRNS = Negative Interpretation Ranking Situation (Non-Social); NIBS = Negative Interpretation Belief Situation (Social); NIBNS = Negative Interpretation Belief Rating Situation (Non-Social). Mediator [1] is referring to the effect of collectivism on social anxiety across negative interpretation bias; 5,000 bootstrap samples; $N = 112$. * Correlation is significant is at .05.

4. Results summary

The results of this study reveal significant differences between groups regarding social anxiety and negative interpretation bias. However, no differences were found between cultural values, collectivism and individualism. The British group scored slightly higher on social anxiety and some of the interpretation bias tasks in comparison to the Saudi group. However, for the first question concerning differences between groups in the relationship between social anxiety and interpretation bias, the results were clear for the British group but not the Saudi group. Regarding social anxiety and negative interpretation bias, the results indicative of an indirect effect were consistent with the research hypotheses. Negative interpretation bias as measured by the belief rating scale was identified as a mediator between social anxiety and culture, but only for the British group.

5. Discussion

The main goal of the current study was to extend the findings of Study 3 in order to widen our knowledge concerning cognitive bias in social anxiety across two different cultures, British and Saudi, by examining one of the key maintaining processes in social anxiety, namely interpretation bias. According to cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997), individuals with social anxiety have a tendency to interpret ambiguous social cues in a negative manner (Stopa & Clark, 2000) and have a propensity to misinterpret these cues as threatening (Franklin et al., 2005). The presence of negative interpretation bias in an uncertain situation regardless of whether the situational cues are negative or positive is characteristic of the socially anxious individual as cited by large body of research (e.g., Amir et al., 1998, 2012; Franklin et al., 2005; Huppert et al., 2003, 2007; Kanai et al., 2010; Stopa & Clark, 2000). However, the significance of the role of cultural values on the individual's interpretation of the social situation and the impact of this on the maintenance of social anxiety is still unclear. Therefore, to understand the underlying cognitive processes that shape social anxiety within a specific cultural contextual, it was anticipated that negative interpretation bias would mediate the relationship between cultural values (collectivism and individualism) and social anxiety for each group (British and Saudi). In other words, the way that socially anxious individuals interpret social cues could be result for their cultural values. The findings of the present study are in line with the cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) regarding the British group but only partially support the association between social anxiety and interpretation bias with the Saudi group. Regarding the main research question concerning the role of interpretation bias as a mediator,

this was only applicable to the British participants. Accordingly, the discussion will consist of three sections. 1) the relationship between social anxiety and negative interpretation bias of the ambiguous social event for both the British and Saudi group, 2) the impact of culture on social anxiety interpretation bias of the ambiguous social event with respect to the British group. This is followed by the study limitations and conclusions.

5.1. Cognitive bias in social anxiety: interpretation bias

Consistent with our expectations, the findings confirming a relationship between social anxiety and negative interpretation bias are in agreement with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997). These two models suggested that during social interaction, socially anxious individuals have a tendency to interpret ambiguous social cues in a more negative or threatening manner than the non-socially anxious individual.

Regarding the British group, the data obtained from the current investigation was largely consistent with most empirical research that has investigated interpretation bias and its role in sustaining social anxiety (Amir et al., 1998; Franklin et al., 2005; Kanai et al., 2010; Stopa & Clark, 2000). In particular, this result was in agreement with Stopa and Clark's (2000) research in which they used the same measurement instrument as was used in this current study, the AISSQ. The ranking data and belief rating scales in social and non- social scenarios in their study revealed that the socially anxious person has a tendency to interpret ambiguous social cues in a more negative way than the non anxious individual. Similarly, in the present study, these two scales had the same relationship with social anxiety. This, in essence, confirmed the role of negative interpretation bias on the maintenance of social anxiety. It needs to be noted that in Stopa and Clark's (2000) study the ranking scale was more robust supporting the idea that socially anxious individuals are more prone to negative interpretation bias when faced with ambiguous situations in comparison to other anxiety disorders and a control group. That said, the belief rating data indicated that although people with social anxiety had higher levels of negative interpretation, their responses were still similar to other anxiety disorders. Disastrous beliefs about negative consequences are a common cognitive distortion among anxiety disorders (Anderson, Dugas, Koerner, Radomsky, Savard, & Turcotte, 2012; Stopa & Clark, 2000). The British data in the current study revealed similar results for both the ranking and belief scales, but these data were derived from undergraduate students who already scored higher in social anxiety therefore the data limit us from making any comparisons with other anxiety disordered or non-patient group. That stated, this does not affect the contribution of the present findings.

The results found for the British group provide strong evidence for the robustness of cognitive models of social anxiety in explanation of the foundations for the maintenance of this disorder, which incidentally, are along the same lines as Studies 2 and 3. These three studies (2, 3 and 4) together, reinforce the role of these models in explaining the maintenance of social anxiety within the British group.

Turning to the Saudi group, the models of Clark and Wells, (1995) and Rapee and Heimberg, (1997) only partially explain the findings for this group. The results were limited to the belief ratings scales as neither the ranking scale (social and non-social scenarios) nor the belief-rating scale (non-social scenarios) were linked with social anxiety.

At first glance, this is a surprising result given the robustness of current models of social anxiety. However, on closer examination, this result raises questions about the ecological validity of the prompts in the AISSQ for the Saudi group. These questions include what makes ambiguous cues in social situations detectable for socially anxious people in such a society? Are these social cues really negative and thus threatening enough to be perceived by those who have a tendency to be socially anxious? Alternatively, is it another factor, a cultural factor that underlies the results for the Saudi group in comparison to the British group? Having raised these questions, there are still several possible explanations, which may explain the Saudi group results.

With respect to the ranking data, a possible explanation might be that the content of the negative scenarios were not threatening or harmful enough for the Saudi participant to reach the point of adopting a significant negative interpretation response. Amir et al. (2005) stated that levels of ambiguity around the social situation might not be ambiguous enough to induce negative interpretations. Along the same lines, situations, which may be ambiguous for the British group, may not be so for the Saudi group. It is possible that the materials used in this study with the Saudi participants did not reflect genuine social and non-social interactions as seen in this culture, meaning it may be suggested that to a certain extent, culture has had an impact on the results with the ranking data. Franklin et al. (2005) make brief mention of the idea that culture could facilitate bias which directs the individual's social reaction and the valence of interpretation bias for example, negative interpretation meaning that individuals may interpret it as either negative, positive or neutral according to the cultural norms that are infused in the individual. With this in mind, one could expect that the meaning of 'negative terms' is more culturally linked and that this cultural connection may also apply to positive and neutral meanings. This explanation suggests that measurements are cultural products or that an

item is an element of culture, as described by Triandis (1996), that has been created to observe the individual's actions within a certain culture.

Given the ranking data explanations, the reasons underlying the results for the belief ratings about negative social interpretations will now be explained. This outcome may have something to do with the idea that negative beliefs are entrenched in the majority of emotional disorders. According to Mattick and Clark (1998), although the SIAS has a direct positive relationship with some social scales such as Fear of Negative Evaluation (FNE; Watson & Friend, 1969), a robust measurement of social anxiety, there is a speculation that SIAS may also be measuring general emotional distress (i.e., depression and state-trait anxiety) to a certain extent. Likewise, Stopa and Clark (2000) found that socially anxious individuals did not differ in their responses in the belief rating task from those diagnosed with other anxiety disorders (i.e., panic disorder with/ without agoraphobia, simple phobia and post traumatic stress disorder). They refer to this similarity between groups in the belief rating scale as that certain levels of social concerns could be apparent in other emotional disorders. Taking these two findings together, we anticipate that the Saudi participants may present with a certain level of general emotional distress (i.e., anxiety) that may link in a straightforward manner with belief rating data. Another important aspect to take into consideration for this result comes from the work of Clark and Wells (1995) who assert that the dysfunctional assumptions that socially anxious individuals hold about themselves are ingrained in their self-schema in such a manner that stimulates them to interpret ambiguous social situations in a threatening manner. Indeed, negative interpretations of ambiguous cues in social events are more likely for anxious people. Those who evaluate social performance more critically have an increased tendency to exaggerate the cost of the social evaluation and are more preoccupied with these negative beliefs (Kanai et al., 2010). Although the Saudi group had lower levels of social anxiety than the British group, it is not clear if these findings suggest the possibility of the co-morbidity of social anxiety with other emotional disorders or whether social anxiety has its own path within Saudi culture.

Another important finding, not one which was identified in the main aims, was that for both groups, the mean scores for the ranking data and belief ratings tended to be related to social rather than non- social vignettes, this replicating previous research concerning this matter. Furthermore, similar results were found by Constans et al. (1999) where they established that in an interpersonal social event, people with a certain level of social anxiety exhibit more negative interpretation bias of ambiguous cues than in the non-personal situation. A reason for this may be that it is not the case that socially anxious individuals will interpret

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all uncertain signs, social and non-social, negatively (Constans et al., 1999). Negative interpretation bias of social interaction is 'an appropriate representative feature' of the socially anxious individual. Besides, according to Nelson, Lickel, T.Sy, Dixo, and Deacon (2010), the overestimation of the probability of negative social interactions alongside the social cost or negative consequences of social event that socially anxious individuals carry out seems to be more related to the personal social situation. No doubt that is very characteristic of socially anxious individuals; the two cognitive models of social anxiety assert that the evaluation of social events raises the perception of threat when the individual encounter others or the audience. These people have a tendency to over-estimate the consequences of social evaluations during their interactions with others, to expect a higher standard of performance from themselves and be more prone to anticipating their failure in social events in comparison to non-socially anxious individuals (Clark & Wells, 1995; Stopa & Clark, 2000). This makes interpretations of socially ambiguous prompts more negative than they actually are, exacerbating social anxiety as a result. This is a remarkable and normative finding guiding us to think about differences in negative social interpretation bias between these two nations, an attractive topic for future cross- cultural research.

In sum, the result of British group supported the notion that socially anxious individual tend to interpret social situation in negative manner, which is consistent with the cognitive models of social anxiety. However, when the Saudi participant enters in the equation, the current results raise more than one question regarding the role of culture in social anxiety, specifically, the role of culture in the interpretation of ambiguous social cues. This is important as a basic feature of future research, specifically with the Saudi population.

5.2. Interpretation bias in social anxiety, and cultural impact

As can be seen from the above arguments, the results obtained from the present findings support the previously established and accepted relationship between social anxiety and negative interpretation bias. However, this relationship was clearer for the British group than the Saudi group. The findings regarding the role of interpretation bias as a mediating factor between culture and social anxiety was different from expectations. With regard to the British group, the belief-rating scale was the only mediating factor between culture (collectivistic values only) and social anxiety. The case with the Saudi sample was different, as these relationships between the research variables were not found.

Therefore, this discussion will concentrate on the British group's findings, as there was no justification or evidence to carry out mediation analysis with the Saudi group. It is important to

acknowledge that this discussion is restricted to the belief rating scale as it was the only mediating factor for the British group even though the general term 'negative interpretation bias for ambiguous prompts' will be used to explain this finding.

5.2.1. Interpretation bias in social anxiety: British group

Recognizing cultural characteristics in the development of social anxiety is critical to the understanding of underlying cognitive processing involved in social anxiety. For instance, Banaji and Prentice (1994) illustrate that changes, which occur in various social contexts, can produce changes in the individuals' self- concept, resulting in differences in the way people regulate themselves in public environments. This premise suggests a significant role for the cultural context on the individual's reactions. However, regarding the British findings, why did negative interpretation bias (belief rating situation) mediate the relationship between cultural values (collectivism) and social anxiety? It worth mentioning that any interpretation of this outcome may be limited by a lack of direct reseach into the cultural impact on the way that individuals interpret social events. However, a number of explanations can be suggested as interpretation of the results.

Generally speaking, the relationship between social anxiety and interpretation bias has been well established by a large body of research as cited earlier.   Socially anxious individuals tend to interpret social events that they participate in more negatively. While we introduce this notion, attention must be paid to the British sample in the present study who reported higher levels of social anxiety. Bearign in mind the strong relationship between social anxiety and interpretation bias, it seems reasonable to suggest that the way this group interpret any given social situation could be responsible for raised levels of social anxiety according to cognitive models explaining this disorder (Clark & Wells, 1995; Rapee & Heimberg, 1997). Individuals with certain levels of social anxiety are more likely to to interpret the available social information in a more negative and catastropic fashion (Stopa & Clark, 2000), reporting more negative thoughts concerning social evaluation (Stopa & Clark, 1993) this in turn maintaining social anxiety.

However, when this relationship is examined from a cultural point of view, it might be expected that the way that people interpret social situations which leads to a certain level of social anxiety, could be a consequence of cultural structures, which in turnsuggests the important function of interpretation bias as a mediating factor between culture and social anxiety. In some cultures, high levels of anxiety could be the result when people attempt to avoid any ambiguous or uncertain events that could put them in a position, which invokes

anxiety (Hofstede, 2001). A clear structure to these types of events would be important for them to lower their anxiety and save them from any negative evaluation or embarrassment. This illustrates how culture contributes to the individual's experience of social anxiety. To give an example, Hong and Woody (2007) found that cultures that advocate individual self-promotion "Western cultures" the core fear here is that the individual is evaliuated by others as socially inert or uninteresting. In this case, how the individuals presented themselves in a social event depends on how they handle unexpected occurrences. Taking these points together, the results of the current study suggest that culture promotes the way that individuals grasp and interpret the cues available in a social event, which leads them to experience a certain level of social anxiety.

Another important point that could explain the result is that the measurement tools – specifically the ASSIQ, may have included scenarios more appropriate for the British sample in that the scenarios were sufficiently threatening for the British group, invoking their levels of anxiety. In order to ensure that the questionnaire scenarios were robust enough, there was reliance on the theoretical background of social anxiety as it is constructed in Western cultures (i.e., British culture). Whether intentional or unintentional, this cultural ethos was present in the scenarios. The failure to establish a clear picture from the Saudi group data, as previously discussed, constitutes evidence to support this argument. According to Oyserman et al. (2002) what is likely to be in the mind of the individual is the result of differences in cultural focus according to their cultural perspective. Kleinknecht et al. (1997) agree suggesting that there is cultural variation in the individual's perception about what is likely to be considered as a social threat. Most of the tools employed in cross-cultural research concentrate on the individual self and not on in-group relationships. This is a crucial issue in cross-cultural investigations as measurement tools must be constructed and developed according to the presenting cultural context. This was possibly the case with the ASSIQ, the meaning of 'ambiguity' used in the AISSQ reliable only for use with the British sample, which simply works to establish this relationship between the varibles. However, expanding this argument, the current study suggests that with cross-cultural research, it is important to consider the definition of the self or how the individual defines himself or herself when facing social threats. The individual may define themselves as a fragment of their larger social group from a collectivistic point of reference, thinking about others rather than themselves, avoiding conflict with them to save harmony. Alternatively, the individual can define themselves as separate from their social group from an individualistic point of reference, thinking about themselves rather than others, thus avoiding embarrassment for themselves. With this in mind, any measurement of

ambiguous situations must be designed according to these two cultural reference points in order to give a reliable findings.

Another remarkable interpretation is that the belief rating scale mediates the relationship between collectivistic values and social anxiety with the British group. The reason behind this may be that the British sample comprised only of females. As illuminate earlier in Chapter 4, there is the possibility that women have a greater propensity to adopt a more collectivistic attitude than men. Being more interdependent and less assertive and emotionally closer to others is, in general, symbolic of women. Obviously, the search for independence and the related need to be higher up the social hierarchy, drive women to engage in competition to achieve this role. This social desire, being in competition, is much harder for women than men (Triandis, 1998) and can lead them be more anxious in their lives (Arrindell et al., 2004). This latter notion was supported by epidemiological research, which established that females are more prone to social anxiety (Furmark, 2002; Karam, Mneimneh, Dimassi, Fayyad, Karam, Nasser, & Kessler, 2008, Karam, Mneimneh, Karam, Fayyad, Nasser, Chatterji & Kessler, 2006). According to our knowledge, no research has been conducted to compare men and women and the way different genders interpret social cues. However, there is a hypothesis about this phenomenon. Cross and Madson (1997) propose that there is a possibility that individuals with interdependent self-construal, women, are more sensitive to situational cues (i.e., the emotions of closer others) in comparison to individuals with independent self-construal, men. The reason behind this sensitivity is that women pay more attention to the external cues in their relationships with others. Hence, they experience the negative and positive affect of closer others more intensively as well as feeling more guilt. However, these gender differences may be the result of the way the individual structures their self- construal instead of it being a function of gender (Cross & Madson, 1997). This is a further area for future research in order to more fully understand the cultural role of social anxiety between genders.

Overall, the results of the mediation analysis with the British group shed some light on the relationship between interpretation bias in social anxiety and culture. Specifically, the British data revealed that the belief-rating scale only mediated the relationship between social anxiety and collectivism. However, the subsequent discussion suggested the importance of culture in order to deepen our understanding of social anxiety interpretation bias, allowing consideration of social anxiety from a different perspective.

5.3. Limitations and conclusions

This study has a number of limitations, which need to be considered. In terms of the sample, three points are acknowledged. Firstly, a clinical sample would be more powerful in order to reach a strong conclusion concerning social anxiety interpretation bias across-culture. Secondly, the samples in the present study comprise females only, which may be having an impact on the current results; mixed genders are needed in future investigations. Thirdly, a larger sample may help to detect group differences, if any. As there is a degree of comorbidity between social anxiety and depression, it is important to consider controlling for the consequences of depression symptoms by including measures for this purpose. In addition, it is still unclear whether the data provided by the Saudi sample were sensitive to the written scenarios of AISSQ. This methodology raises questions about the use of appropriate material in cross-cultural research. This is an interesting point which needs to be addressed carefully in future for a clearer understanding about the differences in social anxiety across nations.

To conclude, the main purpose of the present study was to examine the role of negative interpretation bias as a mediator between social anxiety and culture. The results shed some light on this relationship with regard to the British group. However, the results with reference to the Saudi group are not as clear.

Chapter 7
General discussion

"There are two statements about human beings that are true: that all human beings are alike, and that all are different. On those two facts all human wisdom is founded"

Mark Van Doren, American poet (1894-1972)

1. Introduction

Social anxiety disorders are characterised by fear of others' negative evaluations, something, which is directly linked to social norms, social standards and others' social expectations. All of these social characteristics are culturally related (Hofmann et al., 2010) in that culture is a result of the social environmental niche (Cohen, 2001). Individual social behaviours are thus adjusted to meet social needs in order to prevent negative social consequences. Cognitive theories of anxiety offer a similar model in that cultural beliefs, attitudes and concepts of the mind and self, may work together in a vicious circle of catastrophic thoughts, inflated feelings of vulnerability and perceived danger which together maintain anxiety (Kirmayer, 1997). Against this background, cognitive biases which are relevant to the social environment could occur, resulting in behaviours which decrease any violation of social norms and decrease negative social costs (O'Gorman et al., 2008).

However, as both cultural and individual behaviours are complex affecting each other in different ways, understanding social anxiety across culture is not straightforward. In addition to this, the causes underlying the maintenance of social anxiety across culture have rarely been investigated. Therefore, the question of whether social anxiety is culturally dependent has been the major thrust of this project.

By recruiting two different samples, a British sample are representative of Western attitudes and a Saudi sample representative of Eastern attitudes, the studies presented in this thesis aim to address two questions in order to identify the relationship between social anxiety (as defined by cognitive models of social anxiety e.g. Clark & Wells, 1995; Rapee & Heimberg, 1997) and two values of culture: individualism and collectivism. These questions are as follows:

1. Do social anxiety disorders differ across cultures? More precisely, is there a cultural difference in social anxiety between countries characterised as either collectivist or individualist or are social anxiety disorders the same across different cultures.

2. Does cognitive bias in social anxiety, as represented by the models of Clark and Wells' (1995) and Rapee and Heimberg (1997), differ according to these two cultural aspects? More specifically, are there cultural differences in the four components, which constitute cognitive bias in social anxiety: fear of negative evaluation, fear of positive evaluation, post- event processing and interpretation of ambiguous social cues.

3. To what extent do cognitive models of social anxiety explain social anxiety culturally? Is there a need to amend these models in light of potential cultural differences?

This chapter opens with a summary of the main findings of the studies, which constitute this thesis. These findings will be discussed in light of the relevant literature with reference to the main aim of each chapter. The main focus of **Chapter 3** (**Study 1**) is the process of translation as applied to the research tools, while the main focus of **Chapters 4, 5 and 6** (**Studies 2, 3 and 4**) is on social anxiety, specifically the four constructs of social anxiety cognitive bias: fear of negative evaluation, fear of positive evaluation, post-event processing and negative interpretation of ambiguous situation, across different cultures. This is followed by discussion of the implications of the findings for theoretical and clinical practice. Suggestions for future investigations are presented along with the strengths of the research, limitations and conclusions.

2. Summary of the research findings

Study 1 (Chapter 3) involved translating the research instruments from English into Arabic as most of the questionnaires relevant to social anxiety and culture are written in English. Translation into the other language and subsequent validation of research tools is of crucial importance when conducting cross-cultural research, because psychological concepts differ from one culture to another (Hui & Triandis, 1985). What is considered as meaningful in one culture may not be meaningful in a different cultural context (Banville et al., 2000). Hence, the application of a rigorous method to translate study tools is extremely important in order to avoid any misinterpretation of the results. To achieve this, Vallerand's (1989) methodology was used to translate the measures from English into Arabic as it is recognized as a rigorous, well defined and appropriate procedure to use within cross-cultural research (Banville et al., 2000; Kristjansson et al., 2003). Use of such a methodology was essential in order to establish if the items in the target language were equivalent in general meaning and psychological purpose in comparison to the original measures items.

The questionnaires were subject to several processes: **1)** Verification of focal concepts of relevance, **2)** Translation of the instrument and development of preliminary versions, **3)** Committee review: evaluation of the preliminary versions, **4)** Pre-testing the instruments, **5)** Pilot-testing the instruments, **6)** Evaluation of concurrent validity and **7)** Evaluation of reliability. The results from **Study 1** revealed that the translated research questionnaires had satisfactory validity and reliability and that comparative overall meaning was achieved. Statistically significant Pearson's correlation coefficients between the English and Arabic versions confirmed similarity while test-retest confirmed a significant correlation between the two Arabic versions.   Cronbach's Alpha was within an acceptable range, between .65 and .88. These results mean that the scales were appropriate to be used with the Saudi sample to address the current research questions.

Through this study, further support has been given to the strength and reliability of Vallerand's (1989) methodology when it comes to the translation of measurement tools into a different language. The present study argues that in cross-cultural research, the modest translation-back translation method is not sufficient on its own to judge the appropriateness of scales. Translation is not just focused on the language *per se*; it is more the cultural meaning of the word or sentence, as differences in meaning may be related to different social contexts. Similarly, conducting cross-cultural research relying solely on the participant's English (in the case of non-native English speakers) could affect the research findings, as level of English language performance does not necessarily reflect a clear understanding of the exact cultural meaning. Metaphors, idioms and colloquialisms may influence the meaning of the questionnaire items (Zenisky et al., 2010) leading to misinterpretation of the task and consequent research results.

To summarize, Study **1** provides an indication of the importance of translation techniques in cross-cultural research. Vallerand's (1989) methodology confirmed the validity and reliability of the questionnaires by applying dependable psychometric procedures. The findings provided adequate evidence that the translated questionnaires were appropriate for use in the current study. However, as this was first time these scales were translated from English into Arabic, further studies would be prudent with a larger sample.

Study 2 (Chapter 4), was designed to investigate social anxiety across two different cultures: a British group assumed to hold individualistic attitudes and a Saudi group assumed to hold collectivist attitudes. The underlying premise of this investigation comes from the notion that in a specific culture (i.e., a collectivistic culture) where social norms, rules and high standards of social expectations are the norm, social anxiety might occur as a consequence of

violating these absolute social demands (Hofmann et al., 2010; Hong & Woody, 2007; Heinrichs et al., 2006; Schreier et al., 2010). However, there is ongoing debate over whether cultural values (individualism and collectivism) genuinely account for the existence of and variations in social anxiety across cultures. A number of studies, for example Schreier et al. (2010) Heinrichs et al. (2006) and Heine and Buchtel (2009), have argued that social anxiety is higher within cultures holding collectivist values. These are cultures where inflexible, punitive norms and values exist and where any social slip may be seen as a catastrophe, thus exaggerating negative social outcomes. To examine this proposal, aim of this study was to explore whether levels of social anxiety differed between British and Saudi groups according to their cultural values. The assumption is that a high level of social anxiety will be found for those in groups who are defined by levels of collectivism (Saudi group) but not with the British group whose background is individualistic. In addition to this, we attempted to explore whether differences in levels of social anxiety for the British and Saudi groups predict cultural values, in this case individualist or collectivist.

The results of **Study 2** revealed three significant outcomes. First, Saudi participants exhibited lower levels of social anxiety than their British counterparts. This was not the expected result as it is in contradiction to some of the previous research concerning collectivist background and social anxiety (Al- Ruwaitea, 2004, 2007; Chaleby, 1989; Heinrichs et al., 2006; Hong & Woody, 2007; Schreier et al., 2010). This result was however in line with research that questions accepted beliefs about social anxiety across different cultures (Dinnel et al., 2002; Heinrichs et al., 2010; Kleinknecht et al., 1997). These first results suggest that the measurement constructs used in the study might be perceived differently across cultures. What constitutes social anxiety in one culture may differ to those in another because of the incumbent cultural social system. Attention also has to be drawn to the role and impact of social desirability on the individual with social anxiety when responding to self-report measures. To a certain extent, each group demonstrated that they were keen to reflect the desires of their society; extreme responses were selected by the British group to reflect their individuality and rareness, while a median response was selected by the Saudi group to reflect their modesty and indifference. This implies that differences in levels of social anxiety between groups could also be result of response style bias. Some social anxiety symptoms (e.g., avoiding interaction with others) may be seen as customary and fairly acceptable in that culture (Hong & Woody; Hofmann et al., 2010; Stein, 2009). On the other hand, in some cultures suffering *per se* can be seen as a mature action (Kirmayer, 1997).

Second, there were no cultural differences between the British and Saudi participants in terms of collectivism and individualism. The importance of this unexpected result is that both cultural values might be found coexisting in each culture (Oyesman et al., 2002). This suggests that defining individuals according to these two values could limit our understanding about the similarities that can be found between people from different cultures. The second outcome leads us to the third that irrespective of culture, social anxiety was more likely to be found in groups who defined themselves as holding individualistic values. Being unique, responsible and independent is highly valued, but it is these very characteristics which cause social distress (Heinirchs et al., 2006). This result supports the notion that both cultural values are found within different cultures implying that it is vital to examine what cultural values individuals' hold when focusing on social anxiety. Study 2 crystallizes the notion that individualism and collectivism are common in any given culture therefore we cannot assume that in collectivistic cultures, social anxiety is a more common disorder in comparison to individualistic cultures. Social anxiety is also seen in people with individualistic values. However, replicating this finding in future with a larger sample and/ or clinical sample is an important step to highlight our understanding of this relationship.

In **Study 3** (Chapter 5), the main aim was to expand current knowledge about social anxiety across culture through consideration of the three cognitive elements of social anxiety**:** fear of negative evaluation, fear of positive evaluation and post-event processing. The main objective was to explore whether there were any cultural differences in the relationships between levels of fear of negative evaluation, fear of positive evaluation, post-event processing and symptoms of social anxiety across the two different cultures, British and Saudi. This objective has rarely been addressed in cross-cultural research. The prediction was that the three cognitive aspects of social anxiety alone, not depression, would be significant predictors of social anxiety in both cultures. Our prediction was in line with cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010) with reference to the role that these three cognitive biases play in the maintenance of social anxiety.

The findings from **Study 3** revealed that these three cognitive bias features are robust predictors of social anxiety and of benefit when interpreting reasons for the maintenance of symptoms of this disorder. That said, this was only true for the British group (Clark & Wells, 1995; Heimberg et al., 2010; Rapee & Heimberg, 1997). The findings for the Saudi group were different and in need of further interpretation. The question is how these results can be interpreted with reference to cultural differences.

The findings for the British group provided support for the robustness of cognitive models of social anxiety (Clark & Wells, 1995; Heimberg et al., 2010; Rapee & Heimberg, 1997) in that the three afore mentioned cognitive factors perpetuated social anxiety for this group. Global fear of evaluation (fear of negative evaluation and fear of positive evaluation) alongside post-event processing, significantly predicted social anxiety and contributed to its maintenance. The findings from Study 3 also revealed that depression had an impact on social anxiety. This was not an unexpected result as these two disorders have same underlying diathesis (Watson et al., 1988).

In contrast, **Study 3** findings for the Saudi group were genuinely interesting because they provided new insight into social anxiety. Fear of negative evaluation was the only unique predictor of social anxiety for this group. Neither fear of positive evaluation, post-event processing nor depression accounted significantly for any variance on social anxiety. The question here is why is fear of negative evaluation the only predictor of social anxiety for this culture? The very nature of Saudi culture indicates that as a people, they are deeply critical and have high social expectations. This in turn, heightens the individual's sense of negative evaluation from others (Al-Ruwaitea, 2007). People in this type of culture, according to Heine et al. (1999), have the need to meet others social expectations to be good or to be able to gain social approval. However, this raises the issue of what 'being good' means in this culture. It is suggested that 'being good' means that the individual should be embrace the idea of being 'average' and not too different from others in their society. Thus, in Saudi culture, individuals are highly self-critical in order to ensure that their social performance meets social demands, consequently avoiding others negative evaluation. At the same time, they are expected to conceal any positive aspects of the self and act in a modest way, as a positive presentation of the self has no place in this culture. This could lead to the individual being negatively evaluated by others, which explains why positive evaluation was not one of the research findings. Post-event processing also has its own place in this society. As individuals in this society expect self-criticism, people spend time analyzing and reviewing their social interactions and trying to adjust them according to social expectations. However, for the Saudi sample, this kind of post-event processing may have been more adaptive. Self-reflection that aims to improve the individual's social performance is a more accurate description than self-rumination (Igor & Kross, 2010; Tsai, 2010). This process, post-event processing, also involves religion, which plays a vital role helping to decrease negative thoughts and maintain social harmony. In this sense, religion works to guide individuals how to use self-rumination

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effectively, helping them to analyze their thoughts in a positive manner, to protect themselves socially and to decrease the possibility of social disapproval and consequent negative feelings.

The results from Study 3 also revealed that for the Saudi group, depression had no impact on social anxiety despite the high levels of depression in the Saudi group in comparison to the British group. This is in line with the work of Wittchen and Fehm (2003) who found that the incidence of social anxiety in Asian countries is much lower than in Western countries. This raises the possibility that co-morbidity between social anxiety and depression symptoms may be less likely (Wenzel, 2010). That said, as illustrated in Chapter 5, the coping strategies that the individual uses in social events, for example self-reflection, self-regulation and self-monitoring, prevent social anxiety from occurring. To a certain extent this might also prevent depressive symptoms, which makes it less likely to impact on social anxiety.

Study 3 shed light on social anxiety and the three components, which comprise cognitive biases in social anxiety across culture regarding how these components differ between cultures with reference to social stress. However, because of a lack of research of the different features of cognitive bias in social anxiety as presented by cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997), **Study 4** was designed to include negative interpretation bias as one of the important elements that help maintain social anxiety according to these models.

The rationale behind **Study 4** (Chapter 6), was that individuals with social anxiety are inclined to interpret ambiguous social prompts in a negative manner (Stopa & Clark, 2000), this based on evidence which suggests that negative interpretation bias in ambiguous situations, regardless of whether the situation cues are negative or positive, is characteristic of the socially anxious individual. However, the consequence of the role of cultural values on this individual and the influence of this on the maintenance of social anxiety needs further investigation. Therefore, the aims were to explore if there is a difference in the relationship between social anxiety and interpration bias across nation groups and to investigate if the negative interpretation of social events prompts or could mediate the relationship between social anxiety and cultural values utilizing the Ambiguous Social Situation Interpretation Questionnaire (ASSIQ). This measure includes four scales: **1)** negative interpretation ranking (social), **2)** negative interpretation ranking (non-social), **3)** negative interpretation belief rating (social) and **4)** negative interpretation belief rating (non-social).

The results revealed two points of importance. Firstly, the results were in line with accepted cognitive models of social anxiety regarding the British group. However, they only partially supported the correlation between social anxiety and interpretation bias with the

Saudi group. Secondly, regarding the role of interpretation bias as a mediating factor, this was found to only be applicable to the British participants.

With regards to the first point above, the results concerning the British group provided further evidence for the strength of models of cognitive bias in social anxiety; these models help us recognize the causes of the maintenance of social anxiety. However, only the negative interpretation of belief rating scale (social) correlated with social anxiety for the Saudi group, this result raising a number of points for consideration. It appears that the content of the negative scenarios were less threatening for Saudi participants, thus limiting negative explanations or negative thoughts when responding to the ranking data scales. In addition to this, the relationship between the negative interpretations of belief rating scale - social but not non-social - suggested that a certain level of general distress (i.e., anxiety) might occur. This was more likely to be linked with the belief rating scale. **Study 4** results were also thought-provoking regarding the content-specificity of negative interpretation bias. In line with previous research, negative interpretation bias was more related to social content than non-social content, regardless of culture. This is characteristic of social anxiety and has been discussed in a number of investigations (e.g., Constans et al., 1999; Foa et al., 1996; Nelson et al., 2010). This result was also in line with predictions from cognitive models of social anxiety.

With respect to the second finding concerning the role of negative interpretation bias as a mediating factor between social anxiety and culture (individualism and collectivism), the results were clear for the British group, but far from clear for the Saudi group as no associations were found between the research variables.

The belief-rating task was found to be the only meditating factor between social anxiety and cultural values (collectivism values only) with the British group. While this result suggests a direction for future research, a possible reason for this finding could be because of the levels of social anxiety found with the British group implied the existence of negative interpration bias behind levels of social anxiety. In addition, the strong relationship between social anxiety and negative interpration bias with the British data, but not with the Saudi data raises questions about the role of culture for this relationship.

In addition to this, it is accepted that measurement tools are a product of the culture they are created in, therefore it can be suggested that consciously or not, the AISSQ was designed to include some scenarios that were culturally related. This might mean that the scenarios made more sense for the British group than for the Saudi group. This raises issues around ecologically valid stimuli, a fundamental issue in cross-cultural investigations.

Another possible reason for negative interpretation of ambiguous cues mediating the relationship between collectivistic values and social anxiety is gender. The British sample comprised only of females and it may be suggested that females have a greater tendency to adopt collectivistic attitudes in comparison to males. In addition, it must also be noted that epidemiologically, females are more disposed to social anxiety than men (Furmark, 2002; Karam et al., 2008, Karam et al., 2006). Take the example of the woman who wants to climb the social ladder; she may engage in competition to achieve this, resulting in higher anxiety (Arrindell et al., 2004; Triandis, 1998). Cross and Madson (1997) found that women are more sensitive to situational cues, the emotions of those close to them, in comparison to men because they pay more attention to the external cues in their relationships with others. This means that they experience both the negative and positive emotions experienced by others more intensively as well as feeling more guilt.

Study 4 delivers further evidence for the robustness of the cognitive models of social anxiety under review. The results of the British group are straightforward when considering interpretation bias in social anxiety. However, this investigation raises many questions about these models when we come to study cultural differences and interpretation bias in social anxiety.

Taken together, the findings obtained from Studies 2, 3, and 4 raise many issues around social anxiety and its persistence across culture. How we can understand social anxiety symptoms across different cultures is the biggest challenge when we come to diagnoses and treatment. In the next sections, focus will be on these issues to further our understanding about social anxiety across culture.

3. The present research implications

There is no doubt that cross-cultural research is of substantial interest in psychology; cultural factors are accepted as having an impact on mental disorders (Thakker & Ward, 1998). People from different cultures inherently differ in their thoughts and social values, which are passed from and directed by their cultural 'home' (Hofmann, 2006). However, the majority of cross-cultural studies are based on Western definitions of mental disorders, which is problematic (Thakker & Ward, 1998) when thinking about cross-cultural investigations. This is something, which psychologists are beginning to be aware of; what is considered as a universal in psychology is only applicable in Western cultures and potentially invalid in different cultural contexts (Oyserman et al., 2002; Triandis, 2004).

Given this explanation, there is the need to briefly introduce two important epistemological theories within cross-cultural psychology before considering the theoretical and clinical implications of the present study. These two concepts are universalism and relativism.

Universalism utilizes Western psychological frameworks to identify matches across cultures. Under the assumption that mental disorders, as outlined in Western culture, will be identical and similar in all cultures as all human beings share a common physiology. This approach applies standard diagnostic criteria in order to interpret and categorize psychopathology in different populations. Non-Western populations are usually considered the testing ground for Western concepts and it is only those variables within these populations, which are found to be related to these concepts that are taken into account. Conversely, relativism uses qualitative methodologies, seeing the descriptive approach as the best way to understand psychopathology within a culture and its own social context. The main assumption underlying this approach is that there are cultural differences in beliefs, feelings, performance and social manners. These significant cultural differences may help define a mental disorder, which ultimately leads to differences in psychopathology between cultures (for more details see Thakker & Ward, 1998).

It is essential to be mindful of these two constructs when conducting, analyzing and discussing cross-cultural findings in psychology. Although there are some universal similarities when we consider symptomatology across cultures, going beyond this approach to include relativism is more beneficial, expanding knowledge about mental disorders (e.g., social anxiety) in different cultural contexts.

In the following sections, the implications of the current study will be discussed bearing these two constructs in mind.

3.1. Theoretical implications

Reference to cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) is fundamental when explaining the causes of the maintenance of social anxiety. Over the past decade, these models have inspired many researchers to start examining social anxiety beyond classical methods of observation (i.e., prevalence and symptoms). These studies have lead to a more sophisticated understanding of social anxiety in terms of diagnosis and treatment. However, these diagnoses of social anxiety, according to Dinnel et al. (2002), are still informed by a specific theoretical approach based on the Western conceptualization of individual self-definition and as such, more individualistic in cultural orientation. Therefore,

and until now, we cannot know how these models explain the perseverance of social anxiety in an individual who embraces collectivism.

To a certain extent, cultural and social milieus influence the individual self and their psychological processes (Zhao, 2005). The current research provided the opportunity to raise the question of how these models might help to us understand the maintenance of social anxiety in different cultural social contexts. This included questioning whether there was the need to rethink and / or expand current cognitive models of social anxiety, acknowledging them to be a universal or culture free source explaining social anxiety across culture. At this moment, this is a complex line of enquiry requiring a series of investigations to establish a strong foundation from which to reach a complete and acceptable answer. According to the current findings though, we can offer constructive suggestions that could enhance the aforementioned models thus widening our understanding of social anxiety across different cultures. This encapsulates the 'self' in social anxiety.

In psychology, the term 'self' is a central component. According to Markus (1977), 'self' refers to: "…attempts to organize, summarize or explain one's own behaviour in a particular domain will result in the formation of cognitive structures about the self or what might be called self-schemata" (Markus, 1977, p. 64). These self-schemata are made up of information about the individuals' current knowledge, past experience, philosophies, thoughts, self-related evaluation and imaginary cognitive components (Alden & Regambal, 2010; Markus & Nurius, 1986).

Current cognitive models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997; Heimberg et al., 2010), place emphasis on the role of the self in social anxiety. Self-schema and self-impressions are the main components in these models with reference to how the individual's self contributes to changes in individual cognitions and behaviour (Alden & Regambal, 2010). Moscovitch (2009) argues that the reasons for the maintenance of social anxiety are not negative evaluation, embarrassment or loss of social ranking as consequences of the social situation, but rather attributes of the self and the fear of exposure to critical scrutiny by others. In parallel, Stopa (2009) raised questions concerning why the self is important for the understanding of and treatment of social anxiety. Stopa (2009) stated that the individual self is more complex than cognitive models of social anxiety recognize. The suggestion here is that in order to examine the role of the self in the maintenance of social anxiety, we need to consider the following: **1)** the content of the self, referring here to information about the self the individual holds and how they present themselves according to this information, both verbally and non-verbally; **2)** the structure of the self, referring to how

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this information is organized, and **3)** the process of the self, this referring to how attention is given to self-relevant information and the range of strategies that are used to monitor and evaluate self-information (Stopa, 2009).

One corollary around the aforementioned theories, irrespective of the fact that they differ in how they explain the term 'self', is that the self is a critical component to the understanding of social anxiety. Research regarding social anxiety is in its infancy, however, categorising the definition of the individual self in terms of independence (individualism) or interdependence (collectivism), is a good starting point in order to understand social anxiety across different cultures and to emphasise the relativity of this affective disorder to the individuals' social context. In agreement with Triandis (2004), the current results may be interpreted and understood more clearly if the two cultural elements of individualism and collectivism are kept in mind.

Markus and Kitayama (1991) stress that an individual's self is a social product; both other people and cultural social contexts are important in its formation. However, people differ with respect to how they construe themselves relative to others (Alden & Regambal, 2010). In the collectivistic culture, others are a vital component of the individual self. This sense of self exists within the fabric of others, creating a close relationship between others and self or object and subject. In individualistic cultures, the self is separate from others. This comes from the notion that the self as a whole is a unique entity, meaning that separation from others while still in competition with them, is the pathway to the expression of this uniqueness (Markus & Kitayama, 1991). The individual's self-definition (individualism /independent and collectivism / interdependent) is therefore important, as people tend to organize and structure themselves in relation to others with reference to self-information or self-definition.

In this project, the main emphasis in **Studies 2**, **3** and **4** was on the argument that social anxiety is universal but that an individual's experience may differ according to their cultural self-definition in response to cultural social expectations. An example which can be offered here comes from the work of Heine et al. (1999) and Kitayama et al. (1997), the main theoretical focus in **Studies 2** and **3**. These writers suggest that people define or construe themselves according to cultural expectations (Zhao, 2005). These cultural expectations direct the individual to hide some aspects of the self in order to gain social approval from others. These aspects of the self are self-enhancement, found in independent cultures where there is an emphasis on positivity, and self-criticism, found in interdependent cultures where there is an emphasis on negativity. Interestingly, when a cultural view of the self exists which includes both these components; people's psychological processes are divergent. Therefore, it can be

stated that culture stimulates individuals to adopt either self-enhancement or self-criticism to handle and regulate themselves within their social environment (Heine et al., 1999; Kitayama et al., 1997).

Given the above clarification, it can be seen how the self has a crucial role in understanding social anxiety across different cultures. People tend to structure themselves according to the norms of their society in order to achieve acceptable standards of expected behaviour, thus avoiding negative outcomes. However, the current findings about social anxiety obtained from **Studies 2**, **3** and **4,** attempted to provide an clue about the structure of the self; it is defined by its social surroundings and is the foundation for cross-cultural research in psychology. That said, self-structure was not found to be connected to conceptualizations of cognitive models of social anxiety.

Therefore, the recommendation is that these models need to be expanded to include how socially anxious individuals structure themselves (or their self-schemata) when they enter and present themselves in social situations in different cultural contexts, how they evaluate themselves, interpret social cues and identify what strategies they use to manage their interaction in social occasions with respect to cultural expectations. It is important to acknowledge these differences in social anxiety disorders because culture is enmeshed in an individual's self- schemata. Rapee and Heimberg (1997) stated that the individual has previous experiences stored in their long-term memory, these experiences the result of others' feedback or judgment across different situations. Consequently, individuals have a tendency to mentally represent themselves according to this earlier source of social information. However, this self-related information appears to be of considerable importance and therefore needs more intensive and rigorous research

In sum, cognitive models of social anxiety are beneficial in explaining social anxiety. However, these models are based on Western conceptualisations underpinning the understanding of social anxiety. Due to cultural variations in the individual's psychological cognitive processes, cultural differences must be taken into consideration. Looking to the self according to cultural values was the main focus as a way of expanding these models and therefore widening knowledge with respect to social anxiety across cultures.

3.2. Clinical implications

In the previous section, highlight was on the importance of taking cultural variations into consideration when diagnosing social anxiety according to the available models. Our findings

also suggested that individual cultural variations in social anxiety might also have direct implications for the treatment offered.

Clinical practice which is guided by current cognitive models of social anxiety adopted to inform mental disorders for example, social anxiety, are infused with Western orientation classification criteria and psychopathology. However, it is argued here that as the self is a social product, both the classification and treatments are *products of society* as indicated by Stein (2009). Therefore, treating social anxiety according to a Western framework is somewhat misrepresentative when working with Eastern /Arabic clients. Hofmann (2006) stated that to acknowledge cultural differences in treatment is a pre-requisite for success as ignoring cultural variation is not: "… political misshape, but it can also serious misinterpretation of the study findings" (Hofmann, 2006, p. 243). Therefore, the present research provides some important suggestions to help inform practitioners who work with clients from different cultural backgrounds: **1)** a cultural definition of social anxiety and **2)** psychological therapy within collectivistic cultures.

Firstly, it is important for practitioners to recognize the variety of defining features of social anxiety across cultures. Although there are some similarities between cultures regarding symptoms of social anxiety as seen explicitly through **Study 2** and implicitly in **Studies 3** and **4,** fear of social performance causes the most concern for the person from an individualistic culture, while the main concerns for the person from a collectivistic culture are interpersonal relationships (Lewis-Fernandez et al., 2009), disturbing social harmony and offending others (Stein, 2009). This is what comprises Lewis-Fernandez et al's. (2009) recommendations for DSM-V, that social anxiety can also be defined as a fear of acting in such a way that may cause humiliation, embarrassment or a feeling of being offended by others. This could be used as a mean of tackling issues with the Western definition of social anxiety as a universal definition while providing the opportunity to think about social anxiety in collectivistic cultures.

Secondly, we know that culture is a framework comprising values, beliefs, religion, the sense of self, of individual action and socialization: individuals structure themselves according to this framework (Hofmann, 2006). According to Dwairy (2002), who has clinical experience in psychotherapy working with Arabic clients living in Western cultures, it is important for practitioners to recognize that most of the social personality theories that have been established and practiced within Western cultural frameworks are rather limited when it comes to explaining individual behaviours in collectivistic cultures (Dwairy, 2002). The main focus of these theories is on the individualistic characteristics of the individual. In contrast, individuals

from a collectivistic cultural background tend to be more merged with their culture. Culture controls most aspects of their personality, this making them more aware of external social cues, social expectations and others approval (Dwairy, 2006). Therefore, because we live in a multicultural society, practitioners and/or clinicians must be aware of a number of issues when working with individuals' from/ within collectivistic societies or non-Western clients:

1. Understanding social anxiety within both individualist and collectivistic cultural frameworks rather than focusing only on an individualistic framework to define and treat social anxiety, for example, focusing on the definition of social anxiety within the collectivistic culture to be aware of why this disorder comes to exist and how it develops in such a culture. This is a starting point for the psychology field worker and can pave the way for them to think in more detail about any intervention.

2. Appreciating that the individual is a product of their societal and cultural values, including their family and/or tribe. An accurate understanding of social anxiety can only be reached by taking in to consideration the specific societal context and the context of relationships with other members of that society. It can therefore be suggested that successful work with individuals suffering from social anxiety is only possible when taking the role of culture into consideration (i.e., the impact of the family on the individual's emotions and cognition). In this case, clinicians must take the individual's social network (i.e., family, partners and friends) into consideration when carrying out psychological assessments in order to plan treatment (Kirmayer, 1997).

3. Consideration of the role of religion that the individual embraces. In some cultures (i.e., Saudi Arabia) religion (Islamic religion) influences the prevalence of some psychological disorders (i.e., depression). Some people may consider this emotion a sign of weakness of faith and accordingly shun their feelings or seek help through religious rituals such as prayer.

4. Evaluation of the self is a reflection of the collectivist culture. This must be addressed carefully as critical appraisal of the self in this culture serves to improve the individuals' social behaviour. Self-criticism is used as a tool for self-improvement within the collectivistic society in order to gain social approval. Self regard and self-authentication serves the same purpose in individualistic cultures (Heine et al., 1999). At the end of the day, we are all in need of the approval of others. However, more investigations within this area would be prudent.

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5. It is important to acknowledge that some social anxiety symptoms within this culture are a normal and acceptable sign of maturity, which may be the complete opposite to the diagnostic features specific to an individualistic culture. Here, the clinician's responsibility is to distinguish between what is in reality normal and what reflects genuine social anxiety. This point is highly relevant for the development of any practical guidance or diagnostic criteria for social anxiety (e.g., DSM)

6. Utilization of adaptive strategies is a cognitive technique used by those from a collectivistic value. Managing social impressions, avoiding social clashes and pre-empting negative social consequences are reasons to adopt these strategies in order to maintain social coherence. This would be an interesting area to examine across different cultures to identify which approaches are used within social interactions.

7. Treatments for social anxiety should be revised to include treatment that is consistent with cultural values, specifically within the collectivistic culture. For example, clinicians need to pay attention to how they can establish a balance between individual desires and cultural needs without causing any conflict between them (Dwairy, 2009). According to Dwairy (2006, 2009) clinicians should also be careful not to reveal the content of the client's unconscious. Moving from the conscious to the unconscious befits an indirect approach that sits with the collectivistic self as this self abides within that specific societal framework. Any unwise exposure could impact negatively on the individual.

8. Measurement is another significant area that must be taken into account. As we illustrated in this project, measurements are culturally related, reflecting a long history of investigation and theoretical contributions. This means that measurement items are suffused with cultural elements such as cultural values or cultural self-definitions. Here, attention needs to be given to if and when this form of measurementis applied in different cultures (i.e., Saudi Arabia). To some extent, this should decrease the bias in research findings allowing identification and explanation of the genuine presence of psychological syndromes in that culture.

In sum, the clinical implications of the current study are shaped by the predominance of Western cultural attitudes in the treatment of mental disorders including social anxiety. In the

treatment room, attention must be paid to collectivistic cultural attitudes, this being one of the main thrusts of this research.

4. Research strengths and limitations

The current research has suggested a number of issues, which could be the opening point for future research concerning social anxiety across different cultures. To begin with, this research has identified social anxiety cognitive biases in British and Saudi populations. The United Kingdom and Saudi Arabia were chosen as the countries to be investigated, an important choice as most of the research in social anxiety has focused on American, Japanese and Korean cultures (e.g., Heinrichs et al., 2006; Kleinknecht et al., 1997; Schreier et al., 2010). Of direct relevance to this point and according to our knowledge, no research has tackled an integrated investigation into social anxiety cognitive biases as explained by the major cognitive models of said disorder and cultural values, although mention is made of this by Norton and Weeks (2009) and Hong and Woody (2007). The current research therefore provides a unique view of this under-researched area. In addition, this research is the first to test cognitive models of social anxiety from a cultural point of view.

The current study is also the first to examine the four components of cognitive biases across culture; fear of negative evaluation, fear of positive evaluation, post-event processing and interpretation bias. This examination and findings have identified different cognitive elements of social anxiety such as self-focused attention and mental imagery, thus drawing a more complete picture of cognitive biases across culture. This may stimulate researchers in the field of psychology from different cultures to work collaboratively to consider social anxiety cognitive biases across different cultures.

The translation of the research questionnaires, those related to both social anxiety and culture, may be considered a landmark in this study. Having carried out these translations, the opportunity now exists to establish a rigorous methodology to ensure that all measures are appropriate for Saudi populations. The robustness, validity and reliability of those instruments have increased the strength of the current research. Finally, this research provides the opportunity to start to think about and to debate generalizations about levels of social anxiety in collectivistic cultures by focusing on cognitive biases in this disorder. Such focus broadens our knowledge about the existing characteristics of social anxiety across different cultures. In addition, this draws attention to the over-simplified approach to studying social anxiety by only comparing levels of this disorder between cultural groups without focusing on underline cultural cognitive processes.

This research also has a number of limitations, which need to be considered. Although the present results offer clear evidence with respect to social anxiety cognitive biases across different cultures, this work used non-clinical samples. This means that care must be taken to avoid misinterpretations or/ and generalizations regarding clinical populations. It would be prudent to replicate this research with clinical samples from both cultures to enhance the generalizability of the results. The current research also comprised more females than males, something which may also be influencing the results. Epidemiological and social-culture research agree that women experience more social anxiety than men. That said, a gender comparison is needed. Although the research measures achieved an acceptable level of psychometric validity, it must be acknowledged that measurement tools in cross-cultural research are extremely sensitive. This is not only relevant to the languages used but also the content of the measures bearing in mind the definition of social anxiety and what is culturally customary and nature as opposed to what is pathological (Dwairy, 2006). It would be prudent to re-evaluate the measures in the light of the present results to check their appropriateness.

Attention needs to be given to the research questionnaire procedures for both groups. The British group answered the questionnaires online, whereas Saudi participants used pencil and paper. As described in Study 1, this may have given the British group the opportunity to be more spontaneous in their responses. It can be argued that this may not be the case for the Saudi group. The present research also utilized a quantitative methodology. Repeating the study using a different methodology, for example a qualitative approach, to enable a more detailed investigation of social anxiety and cultural social norms would be appropriate. This could also address the problematic issues with self-report instruments.

It must be acknowledged that this is a lack of accessible recorded historical information about the incidence of social anxiety in Saudi Arabia. This limitation has impacted on interpretations of the current findings. Finally, in an ideal world, in this type of research it is beneficial to work with a team of researchers from different backgrounds in order to avoid interpretation bias of the findings. Future investigations ought to consider this in order to resolve the limitations of the current study.

5. Conclusion

The present thesis investigated social anxiety cognitive biases in light of cognitive models across different cultures. The results indicated that social anxiety is a common disorder but that it is necessary to investigate social anxiety within specific social cultural contexts to further improve our understanding. The current project is robust enough to use as a

foundation for further work concerning social anxiety across culture. However, as with other research concerning humans, limitations are inevitable but which could be the starting points of further cross-cultural research.

We are fortunate in that we live in a multicultural world and have all the benefits that this brings. However, this also brings with it the need to acknowledge that different cultures see the world in different ways which suggests that generalized and previously accepted 'truths' about disorders such as social anxiety require re-visiting and re-evaluating. Reflecting on this very idea, Triandis (1996, p407) states: "If psychology is to become a universal discipline it will need both theories and data from the majority of humans".

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Appendix A
The Auckland Individualism-Collectivism Scale (AICS)

The purpose of this questionnaire is to find out how you think or behave in regard to yourself and to groups to which you belong.

Please read the following questions and answer each question by indicating how often you would think or behave as described in each of the following

No.	Items	Never or almost	Rarely	Occasionally	Often	Very often	Always
1	I define myself as a competitive person.	1	2	3	4	5	6
2	I enjoy being unique and different from others.	1	2	3	4	5	6
3	Before I make a major decision I seek advice from people close to me	1	2	3	4	5	6
4	Even when I strongly disagree with my group members, I avoid an argument.	1	2	3	4	5	6
5	I consult with superiors on work-related matters.	1	2	3	4	5	6
6	I believe that competition is a law of nature.	1	2	3	4	5	6
7	I prefer competitive rather than non-competitive recreational activities	1	2	3	4	5	6
8	Before taking a major trip, I consult with my friends.	1	2	3	4	5	6
9	I sacrifice my self-interest for the benefit of my group.	1	2	3	4	5	6
10	I consider my friends' opinions before taking important actions	1	2	3	4	5	6
11	I like to be accurate when I communicate.	1	2	3	4	5	6
12	I consider my self as a unique person separate from others.	1	2	3	4	5	6
13	It is important to consult close friends and get their ideas before making a decision	1	2	3	4	5	6
14	Without competition, I believe, it is not possible to have a good society	1	2	3	4	5	6
15	I ask the advice of my friends before making career related decisions	1	2	3	4	5	6
16	I prefer using indirect language rather than upsetting my friends by telling them directly what they may not like to hear	1	2	3	4	5	6
17	It is important for me to act as an independent person.	1	2	3	4	5	6

18	I discuss job or study-related problems with my parents/ partner	1	2	3	4	5	6
19	I take responsibility for my own actions.	1	2	3	4	5	6
20	I do not reveal my thoughts when it might initiate a dispute	1	2	3	4	5	6
21	I try to achieve better grades than my peers	1	2	3	4	5	6
22	My personal identity independent of others is very important to me.	1	2	3	4	5	6
23	I enjoy working in situations involving competition with others.	1	2	3	4	5	6
24	I consult my family before making an important decision.	1	2	3	4	5	6
25	Winning is very important to me	1	2	3	4	5	6
26	I see my self as "my own person".	1	2	3	4	5	6

Appendix B

Social Interaction Anxiety Scale (SIAS)

For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows:

0 = Not at all characteristic or true of me

1 = Slightly characteristic or true of me

2 = Moderately characteristic or true of me

3 = Very characteristic or true of me

4 = Extremely characteristic or true of me

Items	Not at all	Slightly	Moderately	Very	Extremely
1. I get nervous if I have to speak with someone in authority (teacher, boss).	0	1	2	3	4
2. I have difficulty making eye-Contact with others.	0	1	2	3	4
3. I become tense if I have to talk about myself or my feelings.	0	1	2	3	4
4. I find difficulty mixing comfortably with the people I work with.	0	1	2	3	4
5. I find it easy to make friends of my own age.	0	1	2	3	4
6. I tense-up if I meet an acquaintance in the street.	0	1	2	3	4
7. When mixing socially, I am uncomfortable.	0	1	2	3	4
8. I feel tense if I am alone with just one other person.	0	1	2	3	4
9. I am at ease meeting people at parties.	0	1	2	3	4
10. I have difficulty talking with other people.	0	1	2	3	4
11. I find it easy to think of things to talk about.	0	1	2	3	4
12. I worry about expressing myself in case I appear awkward.	0	1	2	3	4
13. I find it difficult to disagree with another's point of view.	0	1	2	3	4
14. I have difficulty talking to attractive persons of the opposite sex.	0	1	2	3	4
15. I find myself worrying that I	0	1	2	3	4

won't know what to say in social situations.					
16. I am nervous mixing with people that I don't know well.	0	1	2	3	4
17. I feel I'll say something embarrassing when talking.	0	1	2	3	4
18. When mixing in a group, I find myself worrying I will be ignored.	0	1	2	3	4
19. I am tense mixing in a group.	0	1	2	3	4
20. I am unsure whether to greet Someone I know only slightly.	0	1	2	3	4

Appendix C
Fear of Negative Evaluation Scale (FNE)

This questionnaire is composed of 30 statements regarding your confidence with other people. Circle YES if you consider that the statement if true of your feelings most of the time. Circle NO if you consider that the statement is rarely true of you. Remember that this information is completely ***confidential***

Items	Please circle	
1. I rarely worry about seeming foolish to others	YES	NO
2. I worry about what people will think of me even when I know it doesn't make any difference	YES	NO
3. I become tense and jittery if I know that someone is sizing me up	YES	NO
4. I am unconcerned even if I know that people are forming an unfavourable impression of me	YES	NO
5. I feel very upset when I commit some social error	YES	NO
6. The opinions that people have of me cause me little concern	YES	NO
7. I am often afraid that I may look ridiculous or make a fool of myself	YES	NO
8. I react very little when other people disapprove of me	YES	NO
9. I am frequently afraid of other people noticing my shortcomings	YES	NO
10. The disapproval of others would have little effect on me	YES	NO
11. If someone is evaluating me I expect the worst	YES	NO
12. I rarely worry about what kind of impression I am making on someone	YES	NO
13. I am afraid that others will not approve of me	YES	NO
14. I am afraid that others will find fault with me	YES	NO
15. Other people's opinions of me do not bother me	YES	NO
16. I am not necessarily upset if I do not please someone	YES	NO
17. When I am talking to someone, I worry about what they may be thinking of me	YES	NO
18. I feel that you can't help making social errors sometimes, so why worry about it	YES	NO
19. I am usually worried about what kind of impression I make	YES	NO
20. I worry a lot about what my superiors think of me	YES	NO
21. If I know someone is judging me, it has little effect on me	YES	NO
22. I worry that others will think I am not worthwhile	YES	NO

23. I worry very little about what others may think of me	**YES**	**NO**
24. Sometimes I am too concerned with what other people may think of me	**YES**	**NO**
25. I often worry that I will say or do the wrong things	**YES**	**NO**
26. I am often indifferent to the opinions others have of me	**YES**	**NO**
27. I am usually confident that others will have a favourable impression of me	**YES**	**NO**
28. I often worry that people who are important to me won't think very much of me	**YES**	**NO**
29. I brood about the opinions my friends have about me	**YES**	**NO**
30. I become tense and jittery if I know I am being judged by my superiors	**YES**	**NO**

Appendix D
Fear of positive evaluation scale (FPES)

Read each of the following statements carefully and fill in a numbered bubble on the answer sheet to indicate the degree to which you feel the statement is characteristic of you, using the following scale. For each statement, respond as though it involves people that you do not know very well. Rate each situation from 0 to 9. Please fill in only one bubble for each statement.

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
	Not at all true				**somewhat true**					**Very true**

1. I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

2. It would make me anxious to receive a compliment from someone that I am attracted to.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

3. I try to choose clothes that will give people little impression of what I am like.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

4. I feel uneasy when I receive praise from authority figures.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

5. If I have something to say that I think a group will find interesting, I typically say it.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

6. I would rather receive a compliment from someone when that person and I were alone than when in the presence of others.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

7. If I was doing something well in front of others, I would wonder whether I was doing "too well".

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

8. I generally feel uncomfortable when people give me compliments.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

9. I don't like to be noticed when I am in public places, even if I feel as though I am being admired.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

10. I often feel under-appreciated, and wish people would comment more on my positive qualities.

⓪   ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨

Appendix E
Ruminative Responses Style Questionnaire (RRSQ)

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

   1 almost never   2 sometimes   3 often   4 almost always

1. Think about how alone you feel.

2. Think "I won't be able to do my job if I don't snap out of this"

3. Think about your feelings of fatigue and achiness.

4. Think about how hard it is to concentrate.

5. Think "What am I doing to deserve this?"

6. Think about how passive and unmotivated you feel.

7. Analyze recent events to try to understand why you are depressed.

8. Think about how you don't seem to feel anything anymore.

 9. Think "Why can't I get going?"

10. Think "Why do I always react this way?"

11. Go away by yourself and think about why you feel this way.

12. Write down what you are thinking about and analyze it.

13. Think about a recent situation, wishing it had gone better.

14. Think "I won't be able to concentrate if I keep feeling this way."

15. Think "Why do I have problems other people don't have?"

16. Think "Why can't I handle things better?"

 17. Think about how sad you feel.

18. Think about all your shortcomings, failings, faults, mistakes.

19. Think about how you don't feel up to doing anything.

20. Analyze your personality to try to understand why you are depressed.

21.go someplace alone to think about your feelings.

22. Think about how angry you are with yourself.

Appendix F
Hospital Anxiety and Depression Scale (HADS)

Patients are asked to choose one response from the four given for each interview. They should give an immediate response and be dissuaded from thinking too long about their answers. The questions relating to anxiety are marked "A", and to depression "D". The score for each answer is given in the right column. Instruct the patient to answer how it currently describes their feelings.

A	I feel tense or 'wound up':	
	Most of the time	3
	A lot of the time	2
	From time to time, occasionally	1
	Not at all	0

D	I still enjoy the things I used to enjoy:	
	Definitely as much	0
	Not quite so much	1
	Only a little	2
	Hardly at all	3

A	I get a sort of frightened feeling as if something awful is about to happen:	
	Very definitely and quite badly	3
	Yes, but not too badly	2
	A little, but it doesn't worry me	1
	Not at all	0

D	**I can laugh and see the funny side of things:**	
	As much as I always could	0
	Not quite so much now	1
	Definitely not so much now	2
	Not at all	3

A	**Worrying thoughts go through my mind:**	
	A great deal of the time	3
	A lot of the time	2
	From time to time, but not too often	1
	Only occasionally	0

D	**I feel cheerful:**	
	Not at all	3
	Not often	2
	Sometimes	1
	Most of the time	0

A	**I can sit at ease and feel relaxed:**	
	Definitely	0
	Usually	1
	Not Often	2
	Not at all	3

D	**I feel as if I am slowed down:**	
	Nearly all the time	3
	Very often	2
	Sometimes	1
	Not at all	0

A	**I get a sort of frightened feeling like 'butterflies' in the stomach:**	
	Not at all	0
	Occasionally	1
	Quite Often	2
	Very Often	3

D	**I have lost interest in my appearance:**	
	Definitely	3
	I don't take as much care as I should	2
	I may not take quite as much care	1
	I take just as much care as ever	0

A	**I feel restless as I have to be on the move:**	
	Very much indeed	3
	Quite a lot	2
	Not very much	1
	Not at all	0

D	**I look forward with enjoyment to things:**	
	As much as I ever did	0
	Rather less than I used to	1
	Definitely less than I used to	2
	Hardly at all	3

A	**I get sudden feelings of panic:**	
	Very often indeed	3
	Quite often	2
	Not very often	1
	Not at all	0

D	**I can enjoy a good book or radio or TV program:**	
	Often	0
	Sometimes	1
	Not often	2
	Very seldom	3

Appendix G
Ambiguous Social Situation Interpretation Questionnaires (ASSIQ)

Here are some outline descriptions of situations in which it is not quite clear what is happening. Read each one, and then answer the question below it very briefly. Write down the first thing that comes into your mind without thinking too long about it. Please write down what you think is happening before you turn over the page. Be as specific as possible.

When you have done that, turn over the page and you will see three possible explanations for the situation. Arrange these in the order in which they would be most likely to come to your mind if you found yourself in a similar situation. So the one that you would consider most likely to be true should come first, and the one that you would consider least likely to be true should come third. Do not think too long before deciding. We want your first impressions, and do not worry if none of them fits with what you actually did think.

1.   You have a sudden pain in your stomach.

        Why?

1.   a)   You have appendicitis or an ulcer.

      b)   You have indigestion.

      c)   You are hungry.

            1st ………… 2nd ………… 3rd …………

2.   You ask a friend to go out for a meal with you in a couple of days' time and they refuse.

      Why?

Social anxiety and culture

2.	a)	They are trying to economize.

	b)	They don't want to spend the evening with you.

	c)	They've already arranged to do something else.

	1st …………	2nd …………	3rd …………

3.	You have been eating normally but have recently lost some weight.

	Why?

3. a) You have cancer.

    b) It's normal fluctuation.

    c) You have been rushing about more than usual.

    1st ………… 2nd ………… 3rd …………

4. You go into a shop and the assistant ignores you.

    Why?

4.   a)   They are bored with their job, and behave rudely.

        b)   They are concentrating on something else.

        c)   You are not important enough for them to bother with.

        1st ………… 2nd ………… 3rd …………

5.   You notice that your heart is pounding, you feel breathless, dizzy and unreal.

    Why?

5.   a)   You have been exerting yourself and are overtired.

b)   Something you ate disagreed with you.

c)   You are dangerously ill.

1st ………… 2nd ………… 3rd …………

6.   Not long after starting a new job your boss asks to see you.

Why?

6.   a)   He wants to make sure you have settled in alright.

     b)   You haven't been doing the job properly.

     c)   He is going to tell you how well you have been doing.

          1st …………   2nd …………   3rd …………

7.   A letter marked "URGENT" arrives.

     What is in the letter?

7.   a)   It is a circular designed to attract your attention.

        b)   You forgot to pay a bill.

        c)   News that someone you know has died or is seriously ill.

                1st ………… 2nd ………… 3rd …………

8.   A friend over hears your telephone conversation and starts to smile.

        Why?

8.   a)   You've said something amusing.

         b)   You're making a fool of yourself.

         c)   They're remembering a joke.

         1st ………… 2nd ………… 3rd …………

9.   You wake up with a start in the middle of the night, thinking you heard a noise, but all is quiet.

        What woke you up?

9. a) You were woken by a dream.

    b) A burglar broke into your house.

    c) A door or window rattled in the wind.

    1st ………… 2nd ………… 3rd …………

10. You have visitors round for a meal and they leave sooner than you expected.

    Why?

10.   a)   They did not wish to outstay their welcome.

      b)   They had another pressing engagement to go to.

      c)   They were bored and did not enjoy the visit.

              1st …………   2nd …………   3rd …………

11.   You are having a conversation with some friends. You say something and there is a long pause.

      Why?

11. a)   You said something foolish.

     b)   They are thinking about what you said.

     c)   There was nothing more to say.

     1st ………… 2nd ………… 3rd …………

12. A member of your family is late arriving home.

     Why?

12.   a)   They have had a serious accident on the way home.

        b)   They met a friend and are talking with them.

        c)   It took longer than usual to get home.

        1st …………   2nd …………   3rd …………

13.   You are in the middle of answering a question at an interview. The interviewers suddenly interrupt and ask you another question.

    Why?

13. a) They were satisfied with your answer and wanted to move on to another question.

b) They are bad interviewers.

c) They thought that you were talking rubbish.

1st …………   2nd …………   3rd …………

14. Your chest feels uncomfortable and tight.

Why?

14. a) You have indigestion.

     b) You have a sore muscle.

     c) Something is wrong with your heart.

         1st ………… 2nd ………… 3rd …………

15. You join a group of colleagues for lunch at work. As you sit down, two people in the group get up to leave without saying anything.

     Why?

15.   a)   They have got some work to finish.

        b)   They don't much like you.

        c)   They have to go to the bank.

        1st …………   2nd …………   3rd …………

16.   A stranger approaches you in the street.

        Why?

16.   a)   He's lost and wants directions.

            b)   You have done something wrong and are about to be told off.

            c)   He wants to ask some questions for a survey.

1st ………… 2nd ………… 3rd …………

17.   You feel short of breath.

    Why?

17.   a)   You are developing flu.

       b)   You are about to suffocate or stop breathing.

       c)   You are physically "out of shape".

              1st …………   2nd …………   3rd …………

18.   You are talking to an acquaintance who briefly looks out of the
       window.

       Why?

18. a) Something outside has caught their attention.

     b) They are bored with you.

     c) They are tired and can't concentrate.

        1st ………… 2nd ………… 3rd …………

19. Some people whom you know are looking in your direction and talking.

     Why?

19.   a)   They are criticizing you.

       b)   They are being friendly and want you to join them.

       c)   They just happen to be looking your way.

       1st …………   2nd …………   3rd …………

20.   You feel lightheaded and weak.

       Why?

20. a)   You are about to faint.

     b)   You need to get something to eat.

     c)   You didn't get enough sleep last night.

     1st ………… 2nd ………… 3rd …………

21. You've made a tentative arrangement to go to the cinema with a friend and then they tell you that they can't go.

     Why?

21. a)   They don't feel well.

    b)   You've done something to offend them.

    c)   They've arranged something else by mistake and are too embarrassed to tell you.

          1st ………… 2nd ………… 3rd …………

22. You are talking to someone at a party. They excuse themselves to go and get a drink and then start talking to someone else.

    Why?

22. a)   They are just being sociable.

     b)   You are boring them.

     c)   They saw someone whom they haven't seen for a long
             time.

             1st …………   2nd …………   3rd …………

23. You suddenly feel confused and are having difficulty in
     thinking straight.

     Why?

23.   a)   You are going out of your mind.

          b)   You are coming down with a cold.

          c)   You've been working too hard and need a rest.

                1st …………   2nd …………   3rd …………

24.   You walk past a group of tourists and they start laughing.

       Why?

24. a) Their guide said something amusing.

    b) You look odd.

    c) They're enjoying their holiday.

    1st ………… 2nd ………… 3rd …………

Now you have answered the preceding questions we would be grateful if you would answer one more question about each of the ambiguous situations. Please return to the start of the booklet and then rate the extent to which you think each of the three explanations for a situation would be likely to be true if you found yourself in that situation.

Use the scale below for your ratings. Put a number between 0 and 8 next to each explanation in the text. Do not worry if your ratings appear to be different from your previous answers, and please do not change any of your original answers.

0---------1---------2---------3----------4---------5---------6---------7---------8

Not at all   A little   Moderately   Very   Extremely

Appendix H
Self-evaluation Test

Name

Age

Gender

Level of education

Major

Please chose one from the following options

	Very little 1	Little 2	Well 3	Very well 4
I understand English				
I read English				
I write English				
I speak English				
I understand Arabic				
I read Arabic				
I write Arabic				
I speak Arabic				

Appendix I
Debriefing Statement

The aim of this study was to investigate the cross-cultural differences between Saudi and British culture in terms of social anxiety.

Your data will help our understanding to find out the differences between both cultures and the relationships among the study variables within each culture.

Once again, the results of this study will not include your name or any other identifying characteristics, and no one else will look at your answers. The data is for use only for the current research purposes.

The research results are not yet available, but if you need any information about the research data, or if you have any questions about your participation in this research, please do not hesitate to contact me:

Ghada Al- Khodair
PhD Student
School of Psychology
University of Southampton SO17 1BJ
gak1g08@soton.ac.uc

Additionally, if you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ.
Phone: (023) 8059 5578.

Thank you for your participation in this research.

Participant Name …………………………………

Signature…………………………………….................

Date………………………………….....................

Appendix J
Consent Statement

Study title:

Researcher name:
Study reference:
Ethics reference:

Please fill in the following boxes if you agree with the statements:

1- I have read and understood the information sheet and have had
   the opportunity to ask questions about the study

2- I agree to take part in this research project and agree for my data to
    be used for the purposes of this study

3- I understand my participation is voluntary and I may withdraw
    at any time without my legal rights being affected

Participant Name: ……………………………………………
E-mail: ………………………………………………………..
Signature: …………………………………………………….
Date: ………………………………………………………….

Appendix K
Groups Characteristics in Social Anxiety

Groups Characteristics High in Social Anxiety SIAS (*n* = 100)

Variables	High social anxiety (SIAS)			
	British (N = 77)	Saudi (N= 23)		
	M (SD)	M (SD)	*t* (98)	*p*
SIAS	40.02 (10.25)	30.47 (5.59)	- 4.27	.001
Collectivism	44.33 (7.75)	40.90 (7.73)	- 1.86	.65
Individualism	59.74 (9.43)	58.76 (12.08)	- .40	.68
Individualism and Collectivism Subscales				
Advice	29.46 (6.11)	26.30 (6.36)	- 2.15	.03
Harmony	14.87 (3.31)	14.59 (3.16)	-.34	.72
Competition	25.36 (6.43)	26.96 (6.97	1.02	.30
Unique	16.72 (2.92)	15.91 (4.11)	- 1.06	.29
Responsibility	17.64 (3.08)	15.88 (3.20)	- 2.37	.02

Note. SIAS = Social Interaction Anxiety Scale.
Bonferroni correction adjustment, *p* = .01

Groups Characteristics Low in Social Anxiety SIAS (*n* = 98)

Variables	Low social anxiety (SIAS)			
	British (N = 36)	Saudi (N= 62)		
	M (SD)	M (SD)	*t*(96)	*p*
SIAS	12.97 (6.10)	13.83 (5.89)	.69	.49
Collectivism	42.05 (8.46)	43.21 (9.72)	.59	.55
Individualism	65.72 (10.25)	64.55 (12.42)	- .47	.63
Individualism and Collectivism Subscales				
Advice	29.16 (6.51)	27.92 (7.28)	- .84	.40
Harmony	12.88 (3.47)	15.28 (3.80)	3.10	.03
Competition	27.33 (7.22)	28.08 (7.69)	.93	.35
Unique	18.44 (3.33)	17.56 (4.06)	- .1.10	.27
Responsibility	19.94 (2.20)	18.18 (3.47)	- 2.73	.003

Note. SIAS = Social Interaction Anxiety Scale.
Bonferroni correction adjustment, *p* = .01

Appendix L

Interaction between Type of Situation and Group