

# A Short Review on the Relationship between Social Anxiety and Empathetic Abilities and Impact on Cognitive Skills and Functions

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**Abstract--***Social anxiety disorder is the most common type of anxiety disorder, and normally starts at an early age. The study aimed to discuss relationship between social anxiety and empathetic abilities and impact on cognitive skills and functions by using review method. Social anxiety disorder is the most common type of anxiety disorder and normally starts at an early age. There are two theories that were used in the past to explain where social anxiety comes from the skills deficit theory and the response inhibition response theory. Meanwhile, being shy could be interpreted as being an introvert, without being labeled as having a disorder. The shyness was invariably associated with lack of empathetic skills and understanding, due to these individuals being so overwhelmed from their own personal feelings to be able to respond positively to the feelings of others. The study found social anxiety negatively affects empathetic abilities, which in turn negatively effects on cognitive functioning.*

**Keywords--***Social anxiety; empathy; cognitive functioning; shyness*

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## I. INTRODUCTION

The anxiety is one of the various types of emotional and behavioral disorders which can manifest in the student's behavior [1]. Social anxiety is excessive fear of being embarrassed and/or rejected by others [2]. Social anxiety represented "a persistent fear or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" [3]. Social anxiety is a common mental disorder with high persistence if untreated [4]. The common feature of social anxiety is fear of being observed [5,6]. In the United States, there is approximately 10.7 percent and 15.6 percent of social anxiety disorder and specific phobia. Meanwhile, the global estimation of social anxiety disorder ranges between 1.9 and 13.7 percent and specific phobia ranges between 7.7 and 15.3 percent [7].

Clinical features for individual with high social anxiety such as poor social relationships, difficulties with emotional regulation and sensitivity to the perceived threat of social isolation [8]. Social anxiety is associated with several impairments, including social, educational, and cognitive functioning [9]. Casually calling it 'being shy' is extremely detrimental to those individuals, and it is of paramount importance that people be taken seriously and diagnosed early, in order to help them cope and live normal lives.

In 2008, social anxiety (or social phobia) was classified in the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V: panel 1), and International Classification of Diseases 10 (ICD-10; panel 2), as a "phobic

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(anxiety) disorder, alongside agrophobia and specific phobias (from which it was first distinguished 40 years ago)" [10].

The social anxiety is classified into four main categories included formal interaction included giving speech, lecture, conference presentation, non-formal interaction such as meeting with stranger and attending a party, interaction that need assertive behavior such as expressing disapproval, rejecting friend requests and being noticed by other people at workplace, eating and writing [11]. This disorder is more prevalent in females than males but males tend to seek help more frequent than females [12].

Shyness is a feeling of apprehension and discomfort which is experienced by anyone which can be problem if a person is unable to cope and overcome shyness in their daily life which impacts personal, social and professional life [13]. The shy people also described as such having excessive attention to their words, actions or behavior, being afraid dealing with others, disapproved by them, greaten to other judgement and avoiding talking or asking questions [14]. Shyness is different from social anxiety and social phobia which continuous of shyness causes social fear, the sequence will go for social anxiety and social phobia [15].

Empathy is one of the most important elements in social cognition, and it is vital in interpersonal and community communicating [16]. Empathy is officially defined as "an effective response that stems from the apprehension or comprehension of another's emotional state or condition" [17]. In other words, empathy refers to the ability to understand and experience how others are feeling, without confusing between yourself and others. The study aimed to review and discuss relationship between social anxiety and empathetic abilities and impact on cognitive skills and functions.

## **II. LITERATURE REVIEW**

### **2.1 Social Anxiety and Shyness**

Shyness is "a core dimension of temperament or personality trait that describes hesitation or discomfort in response to social situations" [18]. There are two theories that were used in the past to explain where social anxiety comes from the skills deficit theory and the response inhibition response theory. The skills deficit model argues that there are relative deficits in a person's repertoire of socially skilled responses that result in social anxiety. This means that when the person with social anxiety acts inappropriately or in a wired way, the other people's negative reaction would cause the person distress. Therefore, according to Lucock and Salkovskis [27], the person with social anxiety can learn new social skills that can use in real situations to ensure more positive outcome and form new relationship. The response inhibition model assumes that social anxiety is classically conditioned, due to similar negative experiences that the person with social anxiety regularly faces.

Dawans et al. [19], had studied influence of social versus physical stress on male respondents in different social anxiety level. There were 152 healthy men aged between 18 years old and 40 years old and completed Social Interaction Anxiety Scale (SIAS). This study found social anxiety was associated with higher subjective stress and higher trust levels [19].

Besides, being shy could be interpreted as being an introvert, without being labeled as having a disorder [19]. However, people are greatly embarrassed about eating alone in restaurants, speaking to people of authority or terrified about giving a speech are not characteristic of being shy but of having a social anxiety disorder in many cases. This is important because if people who suffer from social anxiety were not treated will suffer major consequences such as depression, suicide, and constant conflict with their families and loved ones [19].

Furthermore, Lucock and Salkovskis [27] stated that the people with social anxiety disorder also refers as shy individuals, The people seem shy, quiet in groups, withdrawn in unfamiliar settings and nervous in meeting with new people. Physically speaking, this people might or might not show outward evidence that is shy. For example, blushing or making eye contact, but feel intense emotional and physical symptoms such as intense fear, heart racing, sweating, trembling, lack of concentration, and so on [27]. Although deep down, these people are craving the company of others, they still avoid situations where they feel that they might be ridiculed or judged negatively [19]. These people deal with very low self-esteem and self-worth, have high self-criticism, and in most cases, often deal with depression.

## **2.2 Social Anxiety and Empathy**

Empathy is defined as “a physical phenomenon of reliving the other’s statuses, thoughts and actions, acquired by psychological transposition of the ego into an objective model of human behavior, allowing understanding the way the other construes the worlds” [20]. Findlay et al. [21] described children with social anxiety (or having extreme shyness) as “being trapped in an approach-avoidance conflict” [21]. In their study had explained explains that these children already have the desire to play with other children, and really want to approach the children. However, the children are too apprehensive to be the ones to initiate any kind of social interaction with their peers, thus the children have avoided the situation [21]. Moreover, shyness was found to be linked with having internalized anxiety and perceived low self-worth. Therefore, very shy children (or children with social anxiety) find it very difficult to cope with, interact, or regulate their own negative emotions, along with the negative emotions of others.

According to Gold in et al. [9], people who suffer from social anxiety often feel high levels of social fear, humiliation, and embarrassment. In addition, people also exhibit distorted beliefs about their social self, and always believe that people will ridicule them [9]. A study was made by Auyeung [22], and the findings showed that people with social anxiety demonstrate greater accuracy at emphasizing with other's negative emotions [22]. People with social anxieties have great difficulty developing and maintaining relationships. Moreover, the person did not work or lack empathetic skills and could inhibit participation in social interactions, ultimately leading to a social withdrawal [22]. Moreover, according to Gold in et al. [28], the chances of confusion and misunderstandings will increase during social interaction if there was little empathy with regards to social anxiety. The empathy is associated positively with social interaction meant that more empathy a person exhibits, more positive the social interaction. The person who did not showed empathy will have less pleasant experiences with social interaction which might lead to negative experiences that lead to social anxiety [28].

According to Konstantakopoulou et al. [16], empathy usually coexists with either sympathy or personal distress. The sympathy seeks to improve the other person's emotional state, whereas personal distress ignites a negative reaction from the person such as anxiety, in reaction to the other person's distress. Thus, sympathy and personal distress help to understand more the conceptual framework between empathy and social interaction. Furthermore, the findings of Konstantakopoulos et al. [16], showed that the individuals who generally have high levels of personal distress when being empathetic, tend to be compliant and not very assertive and the way that deal with the negative emotions from the other person is by avoiding the situation all together. In contrast, individuals who show more assertiveness and less compliance were more likely to show sympathy, so they react positively to another person's emotions [16].

The shy children have great difficulty in expressing empathy, rather than not feeling empathy with others. This is because people who find their emotions overwhelming and who are unable to regulate their own emotions, would more likely experience personal distress, rather than sympathy for other people. Therefore, shyness in this case, is invariably associated with lack of empathetic skills and understanding, due to these individuals being so overwhelmed from their own personal feelings to be able to respond positively to the feelings of others. However, there exists a gap in the literature regarding empathy and social anxiety.

### **2.3 Relationship of social anxiety and empathy toward cognitive functioning**

According to Tibi-Elhanany and Shamay-Tsoory [23], an individual who has social anxiety being very self-focused on the way people is perceived to other which may come off as lacking empathy. However, their study revealed that individuals with social anxiety in fact do show sensitivity and heightened attentiveness to another person's state of mind [23]. Their hypothesis predicted that highly socially anxious people will portray very high mental (cognitive) and empathetic abilities [23]. Their study goes under the assumption of individuals with social anxiety tend to be so preoccupied with the impression that people give, and it is very important to make a good impression, as not to be ridiculed by others [23]. Hence, the study showed that people with social anxiety do have heightened self-awareness and are very alert to other people's social signals. Therefore, their study stated that individuals with social anxiety do display high levels of empathy, because people are very in tune with what the other person is thinking and believing [23]. Empathy in this sense, is being regarded as the ability to be in tune with how other people feel, more so than with being sympathetic.

According to Atoui et al. [24], a very important factor of social cognition is the person's ability to empathize. The cognitive empathy component required ability to assume another person's emotional perspective which meant understanding another person's feeling without necessarily being in the affective state of other person [24]. In addition, the study by Khanjani et al. [25] stated that empathy involves two major abilities. These abilities are an integral aspect including the ability to respond with an appropriate emotion to another's mental state and ability to identify another's mental state and often used as synonymous with theory of mind [25]. When empathy is looked at from a social cognitive point of view, individuals with social anxiety would most certainly have very high levels of empathy [25]. The empathy is looked from an emotional point of view, where the person with social

anxiety feels and has sympathy for another's distress, and then this person will show low levels of empathy. This study also reveals that people with social anxiety do have high levels of cognitive functioning [25].

Gold et al. [9] study found that cognitive behavior therapy (CBT) worked wonders for people with social anxiety. This is because CBT tackled the person's negative self-image and turned it over to a more positive self-image. The study also found that people with high social anxiety have very high levels of cognitive functioning, because their mind is on 'overdrive', where they are so afraid of making such a bad impression, that they analyze every situation and response cognitively. Hence, this showed that people with social anxiety do display very high levels of social cognition, or cognitive empathy [9].

In addition, there are some studies that indicate that people with social anxiety have low levels of cognitive functioning. A study by Eysenck et al. [26] found that having social anxiety, anxiety in general, impaired the functioning of goal-directed attention system, or cognitive functioning. The same study also found that social anxiety may not necessarily impair the performance quality in people who have social anxiety [26]. People with social anxiety would perform very well if working on their own. Cognitive functions would not be affected. The problem lies when these people want to interact with other people, and cognitive functioning would be decreased [26].

Recently, studies have also found that emotional and cognitive processes are involved in empathy and empathetic abilities. A study done by Nordgreen et al. [11] on the relationship between empathy and cognitive functioning in patients with schizophrenia, showed that empathy was positively associated with neuro cognitive and social cognitive tasks. In addition, the study found that cognitive deficits (such as processing speed and theory of mind) affected general performance, but not empathy [11].

## **2.4 The cognitive function of social anxiety**

One of the main cognitive functions in the human brain, though might not be so obvious, is worrying. According to the study done by Mathews [29], worry is especially intensified in a person with social anxiety, particularly because these individuals have high levels of vigilance for personal danger. Being afraid triggers a biological reaction of rapid flight and having anxiety and fear are important characteristics of cognitive processing, because alerts the person with anxiety of any possible 'danger' [29]. Furthermore, Mathews [29] found that people, who have social anxiety, generally report themselves as having problems with removing worrisome thoughts from their minds. Cognitively speaking, people have a heightened awareness of levels of danger, even though there may not be any.

Therefore, social anxiety causes more worry in people. The cognitive factors play important role in social anxiety and explained some people with social anxiety who know in behave appropriately and fail in certain situations [29]. Likewise, Mathews [29] stated that the people have very high levels of anxiety evaluate their interaction with people more negatively than people with lower level of social anxiety and more likely to underestimate their own social and interpersonal skills, and report very low self-esteem. Similarly, people who have

very high levels of social anxiety have greater levels of negative cognitions, especially in very stressful situations [29].

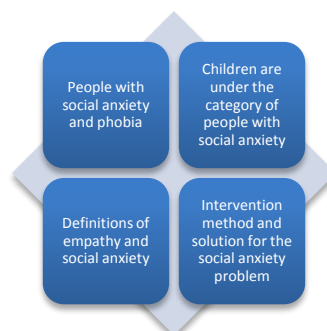
### III. DISCUSSION

The findings were generally mixed, as some studies proved that a person who has social anxiety has high levels of empathy, and other studies showed that people have low levels of empathy. In this study, the following hypothesis that stated, "social anxiety negatively affects empathetic abilities, which in turn, negatively effects cognitive functioning" was deduced. In this study, empathy is categorized into many different definitions and also cognitive functioning. If the study focused on empathy that states that a person would be more in tune with how another is thinking, feeling, and acting physically, there was more empathy in socially anxious people, because people was constantly monitoring for any information that would tell them how the other person is judging them (if at all). Therefore, empathy in this case would depend of which definition of empathy you would be using. If individual chose to adopt the definition that states that empathy makes a person more sympathetic, then hypothesis would be correct. On the other hand, if the study adopted the cognitive definition of empathy, then the hypothesis would be incorrect.

Moreover, due to all this critical analysis, cognitive functioning in a person with social anxiety would also be high. However, cognitive performance is not affected with social anxiety because if the person was alone and still able to perform well. The problem is when they are faced with a social situation. The cognitive functioning of the individual is negatively affected due to over analyzing, worrying, and expecting a negative outcome. Thus, these individuals will not process the social cues accurately. This is because the previous studies have claimed that cognitive functioning is affected by social anxiety, and it decreases as social anxiety increases.

#### 3.1 Similarities among studies

There were few similarities between the studies as shown in Figure 1. Based on Figure 1, the similarities include namely the subjects of the studies included people with social anxiety and phobia. Though in some studies that subjects were children still under the category of people with social anxiety. The introduction in most studies always included a brief description of the definitions of what the study would be about, for example, definitions of empathy and social anxiety, before moving on to different researches that were found. Other similarities included that most of the studies had some sort of intervention method that helped solve the social anxiety problem. Finally, the studies reviewed could be categorized under two main themes, which are a review and an experimental study.

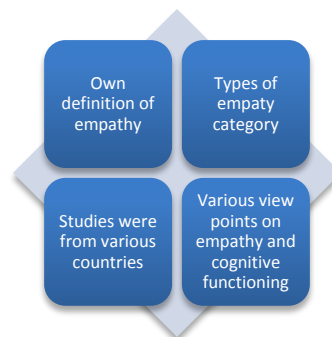


**Figure 1:** Similarities between the reviewed studies

### 3.2 Differences among the studies

The differences among the reviewed studies are summarized in Figure 2. Based on Figure 2, one of the main differences was that each study had their own definition of empathy. Most of the studies found defined empathy to mean having sympathy to another person's feelings and emotions. Other studies defined empathy as being able to relate to another's perspective, without being emotionally involved. There were also some studies that categorized empathy as cognitive empathy, in contrast to emotional empathy. Cognitive empathy was being careful and taking extra note of how the other person was reacting, and analyzing all their meanings, in order to conclude whether that person is ridiculing them or not.

Differences in results could also be explained by having various studies made in different countries. Each country will have their own way of defining anxiety, and each culture will have differences in what the person will be anxious about. Moreover, more recent articles are more articulate in defining terms such as social phobia and anxiety and give a lot more detail to their definitions. Various conclusions could have also developed due to each study adopting different definitions of empathy and cognitive functioning. For example, a study that would adopt the sympathetic empathy definition, would get different results than a study that tested cognitive empathy on social anxiety.



**Figure 2:** Differences between the reviewed studies

## IV. CONCLUSION

In conclusion, the findings found social anxiety negatively affects empathetic abilities, which in turn negatively effects on cognitive functioning. In this study, empathy is categorized into many different definitions and also cognitive functioning. For future studies, the impact of social anxiety and empathy can be analyzed using a quantitative method and include a number of interventions that are known to be effective in helping people with social anxiety.

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