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Cognitive Distortions and Their Relationship to Social Phobia Among Middle School Students

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Abstract
The present study aimed to reveal the relationship between cognitive distortions and social phobia among middle school students, and to determine the differences in cognitive distortions according to the variables of gender and birth order (oldest, middle, youngest). To this end, the study adopted the descriptive-analytical method and was applied to a sample of 170 students at the "Mechri Ahmed" Middle School in Tiaret (western Algeria), using the Cognitive Distortions Scale (designed by the researcher) and the Social Phobia Scale developed by the researcher Warda Belhocini (2011). The results revealed the existence of a correlational relationship between cognitive distortions and social phobia among the sample members, together with the absence of statistically significant differences in cognitive distortions attributable to the variables of gender and birth order.
Keywords: cognitive distortions; arbitrary inference; magnification and catastrophizing; social phobia.

Introduction

Social phobia, or social anxiety, is one of the psychological disorders that affect the social life of the person suffering from it, as a result of an intense and persistent fear of social situations, of potential scrutiny, and of negative evaluations by others, which leads the individual to avoid such situations or to endure them with great difficulty. It affects various age groups, including children, adolescents, and adults.

Studies have shown that social phobia is widespread among the population, with prevalence rates reaching 12.1% among adolescents in the United States and 23.5% among Chinese adolescents (Yuting et al., 2025, p. 1). Social anxiety appears early in comparison with many other types of anxiety disorders, most often in early or middle adolescence and usually before the age of (18) (Al-Zarrad & Slit, 2016, p. 313). The person suffering from social phobia experiences intense fear when exposed to social situations and dreads being observed by others, owing to a fear of negative evaluation and of being subjected to criticism and rejection.

The development of social interaction anxiety can arise from various factors, including heightened self-focus, reduced self-concept clarity, hypersensitivity to rejection, negative interpretations of positive social events, and fear of negative evaluation (Yuting et al., 2025, p. 2). Accordingly, the self-focus of the person with social phobia—manifested in a set of safety behaviors that provide temporary relief, such as avoiding eye contact, lowering the head, and stammering—together with intense worry about the negative remarks others might make about them, stems from the dominance of a faulty thinking pattern by which they interpret events and social situations: what is known as

cognitive distortions, which the present study attempts to uncover. Cognitive distortions are faulty patterns of thinking that give rise to many psychological disorders.

Although people suffering from social phobia are well aware of the irrationality of their fears, they are nonetheless unable to abandon their irrational behavior. Epidemiological studies on social phobia have found its lifetime prevalence rate to be 4% (Erkan & Fadime, 2026, p. 2).

1. The Study Problem

Social anxiety, or social phobia, is one of the psychological disorders classified among the anxiety disorders, whereby the affected individual feels intense fear when exposed to social situations that require performance on their part, and dreads being observed by others—mocked, criticized, and ridiculed—which impairs their daily, professional, and occupational life.

Social anxiety is a widespread psychological disorder; studies indicate that its prevalence ranges between (7–14%) in most societies. It is a chronic disorder that disrupts social life, and several terms describe it, including social fear, social anxiety, shyness, and embarrassment in social situations. It is a type of pathological fear that has received greater attention than previously, given that it is a common pathological phenomenon (Jamal, 2023, p. 113).

Social anxiety occupies a place in the classification of the United Nations known as the tenth classification of mental and behavioral disorders (ICD-10), issued by the World Health Organization in 1992, where it is placed within the category of phobic anxiety disorders under the concept of social phobia. It is defined as a disorder that most often centers on the fear of others' gaze and leads to the avoidance of social situations; it manifests in psychological, behavioral, or physiological symptoms and appears in particular social situations; it may extend to social isolation or the avoidance of mixing with others; and it is associated with low self-esteem, fear of criticism, and weak self-confidence (Al-Zahrani, 2024, p. 293).

Recent decades have witnessed a marked increase in studies addressing social anxiety, owing to its rising prevalence rates and to the serious effects it causes—namely the inability to carry out daily life tasks—and to the resulting negative psychological and behavioral consequences, which affect the individual's psychological, social, academic, and professional adjustment and prevent them from living a life full of mental health. This is a consequence of the fear and tension the individual feels in social situations that they cannot face and that constitute a source of threat to them; this fear arises from the individual's mistaken perception that they are not welcomed by others but are, rather, an object of ridicule and criticism (Mosaad et al., 2023, p. 464). Given the dominance of a faulty, negative, irrational thinking pattern—consisting of the anticipated negative evaluation by others, self-focus, and fear of their criticism, mockery, and derision—this becomes a cognitive style by which the person with social phobia or social anxiety interprets social situations and life experiences: what is known as cognitive distortions.

In this regard, numerous studies have addressed these two variables, including the study of Nasir et al. (2011), which aimed to identify the relationship between cognitive distortions and social anxiety among students of the University of Malaya in Malaysia. The study sample consisted of 634 students of the University of Malaya, randomly selected from its twelve faculties, aged between 18 and 22 years. The study used a demographic data form, the Cognitive Distortions Scale, and the Social Anxiety Scale. Among the most important findings were the existence of a positive correlational relationship between cognitive distortions and social anxiety among the sample members, and the possibility of predicting social anxiety through cognitive distortions.

The study of Kuru et al. (2017), for its part, analyzed the differences in cognitive distortions between a group of individuals suffering from social anxiety disorder and a group not suffering from this disorder; the study also aimed to examine the relationship between cognitive distortions and levels of anxiety and depression among those with social anxiety disorder. The study was based on the cognitive model in its explanation of this disorder, which holds that individuals who feel anxious in social environments have certain dysfunctional thoughts and beliefs about themselves and about the ways others judge their behavior. The sample comprised 102 individuals. Assessment was carried out using a sociodemographic data form, the Social Anxiety Scale, the Cognitive Distortions Scale, an anxiety scale, and a depression scale, following an interview with the sample. The results showed statistically significant differences between the social-anxiety group and the other group on the Cognitive Distortions Scale, with most cognitive distortions being markedly higher in the social-anxiety group than in the other group; the results also showed a positive relationship between cognitive distortions and both anxiety and depression among those with social anxiety disorder.

The study of Aslan and Alakuş (2018) sought to reveal the nature of the relationship between cognitive distortions and both social anxiety and certain depressive symptoms among students of Ankara University. The sample consisted of 321 male and female students, and the two researchers used the Cognitive Distortions Scale, the Social Anxiety Scale, and a depression inventory. The results found a significant positive relationship between cognitive distortions and both social anxiety and certain depressive symptoms; differences in cognitive distortions were also found according to the gender variable in favor of males, whereas the differences were in favor of females for the variables of social anxiety and depression.

In addition, the study of Badawi (2019) addressed the modification of cognitive distortions and the detection of its effect on social anxiety among students of the Faculty of Mass Communication at Al-Azhar University, and the verification of the extent to which this effect persisted after the follow-up period, on a sample of 34 students divided into two groups—one experimental and one control—with 18 students in each group. The Cognitive Distortions Scale and the Social Anxiety Scale, both prepared by the researcher, were administered to them. The results revealed statistically significant differences between the mean rank scores of the experimental group on the cognitive-distortions and social-anxiety scales in the pre- and post-measurements, in favor of the post-measurement; statistically significant differences were also found between the mean rank scores of the experimental and control groups on the two scales in the post-measurement, in favor of the experimental group; whereas no statistically significant differences were found between the mean rank scores of the experimental group on the two scales in the post- and follow-up measurements.

The study of Sinem A. (2020) likewise sought to examine the relationship between adolescents' perceptions of their parents and their levels of social anxiety. The study sample consisted of 694 secondary school students in the province of Mersin (324 female and 360 male students), and the results showed a negative relationship between adolescents' levels of social anxiety, their perception of their parents, and self-esteem.

The study of Yasmin Hassan Abu Hilal (2020) concerned the identification of attachment styles and their relationship to cognitive distortions among students of An-Najah National University, and the detection of differences in attachment styles and cognitive distortions attributable to the variables of gender and birth order. The researcher used the descriptive-correlational method, employing the Attachment Styles Scale and the Cognitive Distortions Scale on a sample of 280 male and female

students from An-Najah National University. The results indicated a positive correlational relationship between the anxious style and cognitive distortions, a negative correlational relationship between the secure style and cognitive distortions, and no correlational relationship between the avoidant style and cognitive distortions. They also indicated differences in the anxious style attributable to gender in favor of males, no differences in the secure and avoidant styles attributable to gender, no differences in attachment styles attributable to birth order, differences in cognitive distortions attributable to gender in favor of males, and no differences in cognitive distortions attributable to birth order among the students of An-Najah National University.

The study of Mishal Mohammed (2021) also sought to identify social anxiety and its relationship to irrational thoughts among secondary school students in the Governorate of Al-Hanakiyah in the Kingdom of Saudi Arabia, as well as to reveal the prevalence of irrational thoughts among these students, to reveal their level of social anxiety, and to identify the relationship of both social anxiety and irrational thoughts to the family's economic and living standard. This study was applied to a sample of 487 secondary school students in the Governorate of Al-Hanakiyah, and the researcher used the Irrational Thoughts Scale and the Social Anxiety Scale for secondary school students. The results of the study revealed that the level of irrational thoughts among secondary school students in Al-Hanakiyah was moderate, and that the level of social anxiety among them was low. The study also revealed a statistically significant positive correlational relationship at the 0.01 level between irrational thoughts and social anxiety among these students, no statistically significant relationship in the level of social anxiety at 0.05 attributable to the variable of the family's economic and living standard, and no statistically significant relationship in the level of irrational thoughts at 0.05 attributable to that same variable.

In the same context, the study of Abdulwahed and Hussein (2021) aimed to determine the level of cognitive distortions among university students and their relationship to both social anxiety and Internet addiction, the possibility of predicting these two variables through cognitive distortions, and to test the mediating role of social anxiety between cognitive distortions and Internet addiction. The research sample consisted of 250 students from the Faculty of Education at Al-Azhar University, and the research instruments—the Cognitive Distortions Scale, the Social Anxiety Scale, and the Internet Addiction Scale—were prepared. The results revealed a high level of cognitive distortions among university students, and a positive relationship between cognitive distortions and both social anxiety and Internet addiction, with the possibility of predicting them through cognitive distortions. The distortions (personalization, overgeneralization, and self-minimization) contributed most to the prediction of social anxiety, while the distortions (selective abstraction, dichotomous thinking, overgeneralization, self-minimization, and personalization) contributed most to the prediction of Internet addiction. The results also demonstrated the mediating role of social anxiety between cognitive distortions and Internet addiction.

Furthermore, the study of Mosaad Mohammed and Adda Al-Zahra (2023) aimed to determine the relationship between cognitive distortions and mental health among students of the Psychology Department at the University of Tlemcen in Algeria, on a sample of 100 male and female students, using the descriptive-statistical method and applying the cognitive-distortions and mental-health scales. The results of the study found an effect of cognitive distortions on the mental health of psychology students, a statistically significant correlational relationship between the dimensions of dichotomous thinking and overgeneralization and the level of mental health, a statistically significant

correlational relationship between the dimensions of personalization and catastrophic thinking and the level of mental health, and a statistically significant correlational relationship between the dimension of selective abstraction and the level of mental health among psychology students.

Finally, the study of Shorouq Gharmallah (2024) aimed to reveal the capacity of both cognitive distortions and social anxiety to predict academic burnout among a sample of female university students. The sample consisted of 114 female students at the University of Jeddah, aged between (19–24) years, selected randomly. The Cognitive Distortions Scale (prepared by the researcher), the Social Anxiety Scale (prepared by Abdulwareth, Kurdi & Hussein, 2013), and the Academic Burnout Scale (developed by Maslach and translated by the researcher) were administered to them. The results showed a significant correlation between cognitive distortions and anxiety in predicting academic burnout.

The previous studies demonstrated the influence of cognitive distortions on the emergence of numerous psychological disorders such as anxiety and depression—as in the studies of Kuru et al. (2017) and Aslan and Alakuş (2018)—and on the emergence of social anxiety disorder—as in the studies of Nasir et al. (2011), Mishal Mohammed (2021), and Shorouq Gharmallah (2024). Behind cognitive distortion lie numerous causal factors, among them avoidant and anxious attachment styles, as confirmed by the study of Yasmin Abu Hilal (2020); such factors affect the individual's mental health through the adoption of a faulty thinking pattern by which they interpret life events and situations, drawing them into the cycle of psychological disorder. The populations of these studies varied between adolescents and university students from different specializations, including mass communication and psychology, with large or small samples; the measurement instruments also differed, ranging from scales measuring depression and social anxiety to scales designed to measure cognitive distortions in order to detect the prevailing faulty thinking pattern, which in turn affects the emotional and behavioral spheres. In continuation of the previous studies on the importance of cognitive distortions and their impact on the individual's mental and physical health—being among the important factors contributing to the acquisition and persistence of psychological disorders—we shall attempt to shed light on cognitive distortions, which are a system of faulty, negative, irrational thoughts that may lead to the emergence of social phobia, or social anxiety, in an important population, namely adolescents, particularly during adolescence, the stage at which the search for identity begins and social relationships are formed by joining the peer group. This leads us to raise the following questions:

- Is there a correlational relationship between cognitive distortions and social phobia (social anxiety) among middle school students?
- Are there statistically significant differences in cognitive distortions attributable to the gender variable among middle school students?
- Are there statistically significant differences in cognitive distortions attributable to the birth-order variable (oldest, middle, youngest) among middle school students?

2. Hypotheses of the Study

To answer the questions raised, we formulated the following hypotheses:

- There is a correlational relationship between cognitive distortions and social phobia (social anxiety) among middle school students.
- There are statistically significant differences in cognitive distortions attributable to the gender variable among middle school students.

- There are statistically significant differences in cognitive distortions attributable to the birth-order variable (oldest, middle, youngest) among middle school students.

3. Objectives and Significance of the Study

- To identify the existing relationship between cognitive distortions and social phobia (social anxiety) among middle school students.
- To reveal the differences in cognitive distortions among middle school students according to the variables of gender and birth order.
- The significance of the study is evident in its treatment of certain demographic variables that influence cognitive distortions, such as birth order.
- The results of the study contribute to the design of a cognitive-distortions scale that reveals the faulty thinking patterns liable to lead to social phobia (social anxiety) disorder.
- The applied significance of the study lies in the results it will yield, by identifying the patterns of cognitive distortion—such as dichotomous thinking, overgeneralization, personalization, etc.—involved in the emergence of social anxiety disorder (social phobia), and by working to modify them through the design of preventive and therapeutic counseling plans or programs to treat this disorder, which impairs the student's life and their functional and academic performance.

4. Operational Definitions of the Study Variables

Cognitive distortions: A faulty, irrational thinking pattern by which the student interprets social situations and the events surrounding them. It is expressed operationally by the score the student obtains on the Cognitive Distortions Scale designed by the researcher.

Social phobia: An exaggerated, irrational fear that seizes the student when exposed to social situations and to being observed by others. It is expressed operationally by the score the student obtains on the Social Phobia Scale of Warda Belhocini (2011).

The student: The person pursuing their studies at the Mechri Middle School in Tiaret, western Algeria, during the 2021/2022 academic year.

Part One: The Theoretical Framework of the Study

1. The Concept of Social Phobia (Social Anxiety)

Definitions of this concept have varied. Guelfi et al. defined it as a persistent and irrational fear of social situations in which feelings of embarrassment and anxiety responses appear, leading to the avoidance of those situations or their endurance with evident distress and inner suffering (Abu Al-Tayef, 2021, p. 15). The fifth Diagnostic and Statistical Manual (DSM-5), for its part, defines it as a marked fear or discomfort about exposure to social scrutiny, involving the avoidance of social situations or their endurance with intense anxiety (Mishal, 2021, p. 356). Ahmed Okasha likewise defines social anxiety as "the fear of becoming the object of others' observation, leading to the avoidance of social situations; it is usually accompanied by low self-evaluation and fear of criticism, and it may appear in the form of complaints such as facial flushing, trembling of the hands, and nausea, with the patient convinced that one of these secondary manifestations is their principal problem; the symptoms may develop into panic attacks" (Jamal, 2023, p. 117). It is also defined as an anxiety disorder characterized by an intense and persistent fear of social situations and of negative evaluation by others, which frequently leads to a substantial anxiety response and to the avoidance of social situations (Sabrine et al., 2016, p. 83).

Proceeding from the foregoing definitions of social phobia or social anxiety, it may be defined as a psychological disorder within the anxiety disorders, manifested in an intense fear of negative evaluation by others, of criticism, and of ridicule, which leads the individual to avoid social situations.

2. Symptoms of Social Phobia (Social Anxiety)

Al-Hassan (2020) indicated that the most important symptoms of social phobia are the following:

2.1. Cognitive symptoms: These are the symptoms that distinguish social fear from other disorders. They lie in the rapid detection of indicators of a danger threatening the individual, through internal self-talk to the effect that the individual will be exposed to a danger that will diminish their worth in the eyes of others, even though the situation may be entirely ordinary (Abu Al-Tayef, 2021, p. 16). This component refers to the individual's negative beliefs and thoughts, maladaptive assumptions, and expectations, manifested in negative self-talk, the presence of faulty thoughts, and an exaggerated negative evaluation of social performance (Mishal, 2021, p. 358).

2.2. Physiological symptoms: Certain physiological symptoms appear in individuals with social anxiety when they face a social situation, or even merely think of such situations. These consist of the intense physiological reactions that occur in fear-provoking situations, including facial flushing, trembling of the hands, nausea, sweating, rapid heartbeat, shortness of breath, and stomach cramps. It may be said that these symptoms can appear in some ordinary individuals when facing social situations; the difference between those suffering from social anxiety and ordinary people, however, lies in the degree of intensity with which these symptoms appear (Mishal, 2021, p. 357). They likewise consist of somatic alerts such as facial flushing, accelerated heartbeat, sweating of the hands, and shortness of breath, appearing during or concurrently with the situation (Abu Al-Tayef, 2021, p. 16).

2.3. Behavioral symptoms: These are the symptoms that appear as a result of the cognitive thoughts that have been evoked and of what is felt; they manifest in quietness or silence, reduced eye contact, confusion or stammering, and a tendency toward withdrawal and non-confrontation (Abu Al-Tayef, 2021, p. 17). They include the behaviors that people with social anxiety use in an attempt to control the situation and reduce their level of anxiety, such as the tendency to flee from difficult situations, behavioral avoidance of the situation, and a lack of social skills. Safety behaviors constitute one of the behavioral components of social anxiety: people with social anxiety use safety behaviors such as avoiding eye contact in social situations. Individuals with social anxiety tend to withdraw psychologically or physically from social interactions, and one of the ways and methods they use to withdraw from social interactions is avoiding eye contact with others. The lack of eye contact reduces the individual's self-awareness, because it allows them a degree of psychological withdrawal while remaining physically present; avoiding eye contact also reduces the chances that others will interact with them (Mishal, 2021, p. 358).

The symptoms of social phobia thus comprise a set of cognitive symptoms—consisting of negative thoughts that dominate the sufferer, such as fear of criticism and negative evaluation by others—and emotional symptoms, such as intense fear, anxiety, and tension when exposed to social situations, in addition to somatic symptoms such as sweating and increased heartbeat, which are reflected in the person's behavior, such as scant eye contact, avoidance and withdrawal from others, and stammering in speech.

3. Diagnostic Criteria for Social Anxiety Disorder (Social Phobia) in the DSM-5

To diagnose this disorder, the following criteria must be present:

- 1. Marked fear or anxiety about one or more social situations in which the individual is exposed to possible observation by others.
- 2. Fear of acting in a way that displays anxiety symptoms which will be negatively evaluated (for example, that it will be humiliating or embarrassing, and will lead to rejection by others or offense to them).
- 3. The social situations almost always provoke fear or anxiety. Note: in children, the fear or anxiety may be expressed by crying, tantrums, freezing, clinging, shrinking, or failing to speak in social situations.
- 4. The social situations are avoided or endured with intense fear or anxiety.
- 5. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
- 6. The fear, anxiety, and avoidance are persistent, typically lasting for 6 months or more.
- 7. The fear, anxiety, and avoidance cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- 8. The fear, anxiety, and avoidance are not attributable to the physiological effects of a substance (for example, a drug of abuse or a medication) or another medical condition.
- 9. The fear, anxiety, and avoidance are not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.
- 10. If another medical condition is present (for example, Parkinson's disease, obesity, or disfigurement from burns or injury), the fear, anxiety, or avoidance is clearly unrelated to it or is excessive. (Mosaad et al., 2023, pp. 469–470)

4. Causes of Social Phobia (Social Anxiety)

No specific causes of social phobia can be identified; however, Al-Shahrani (2020) and Al-Kasasbeh (2015) indicated that there are three principal causes of social phobia, namely:

(a) Behavioral and psychological factors: Those with social phobia believe that they grew up in an environment or family inclined toward shy behavior in its life, one that does not strongly encourage social activity or participation in it in general. The parents usually exhibit a high level of fear and alarm concerning their children, which leads to the appearance of social phobia in the children generally, and this condition persists into later stages of their lives (Abu Al-Tayef, 2021, p. 17). Additional factors include general psychological weakness; the feeling of internal or external threat imposed by certain environmental circumstances; severe psychological tension; feelings of guilt; the habit of repression instead of a conscious appraisal of life circumstances; and the failure to accept the ebb and flow of life (Mishal, 2021, p. 359).

(b) Neurotransmitter disturbance: It has been shown that an elevated level of adrenaline in the body—and the use of its receptor blockers, such as propranolol, when facing an embarrassing or difficult social experience such as delivering a speech or sitting a difficult examination—is implicated in social phobia: a greater-than-normal quantity of adrenaline is secreted, producing the state of fear (Abu Al-Tayef, 2021, p. 17).

(c) Heredity: Studies have shown that heredity plays a fundamental role in the predisposition to anxiety. The results have shown that the rate of anxiety in identical twins—who are considered alike in all respects owing to their shared genetic nature—reaches 50%, compared with 45% in non-identical twins, and about 15% in the parents and siblings of social-anxiety patients (Mishal, 2021, p.

359). Moreover, the first-degree relatives of those with social phobia are three times more likely to be affected than individuals without affected first-degree relatives (Abu Al-Tayef, 2021, p. 17).

(d) Social factors: Such as life crises; civilizational, cultural, and environmental pressures saturated with factors of fear, deprivation, loneliness, and insecurity; disturbance of the family atmosphere; harsh parental treatment styles; and failure in life, including academic, professional, and marital failure (Mishal, 2021, p. 359).

The causes leading to social phobia or social anxiety are thus varied, ranging from hereditary factors—particularly its presence among first-degree relatives and in identical twins—to unsound parental treatment styles such as harshness and authoritarianism, as well as the experience of negative social events that leave the person traumatized and lead them to avoid social situations.

5. Aspects of Social Phobia

Debbash (2011) and Al-Khafaji (2009) set out the aspects of social phobia as follows:

(a) A negative aspect: When the individual dreads being in the company of others, which then affects their network of social relationships, resulting in a waste of the individual's energy and a disorder that, when it reaches its peak, requires treatment.

(b) A positive aspect: This consists in protecting the individual from falling into certain problems that could harm some aspects of their life while going to school or work.

(c) Interaction anxiety: This is the fear arising from the anticipated interaction between the individual and others; it occurs as a result of shyness, dating, or interacting with new people or strangers.

(d) Encounter anxiety: This is the fear arising from an unexpected encounter, and it appears in speaking and communication. Social fear most often occurs during social interaction between the individual and others, and it appears in the form of introversion and an unwillingness to interact (Abu Al-Tayef, 2021, p. 18).

Social phobia, or social anxiety, affects many domains of life, such as the academic and professional domains and functional performance, leading the sufferer to avoid important appointments and social occasions—particularly those requiring interaction with others—so that they lose many social skills and the ability to communicate with others, all of which goes back to the dominance of a faulty, irrational thinking pattern: what is known as cognitive distortions.

6. Cognitive Distortions

The idea of cognitive distortions first crystallized at the hands of the physician, psychoanalyst, and cognitive therapist Aaron Beck, in the article published in 1963 entitled "Thinking and Depression." Dissatisfied with the traditional Freudian treatment of depression, he concluded that there was no experimental evidence for the success of Freudian psychoanalysis in understanding or treating depression. He spoke of certain cognitive distortions practiced by people suffering from depression, having observed that his patients exhibited patterns of thinking that appeared systematic yet were erroneous, and that these patterns could give rise to maladaptive behaviors. He described four forms of cognitive distortion, and in 1967 he published three further categories, bringing the total to seven categories of cognitive distortion, in the first edition of his book "Depression: Clinical, Experimental, and Theoretical Aspects." He described those who practice cognitive distortions as perceiving things, people, the world, and their surroundings in a distorted manner, which leads to depression more rapidly (Mohammed & Al-Zahra, 2023, p. 132).

6.1. Definition of Cognitive Distortions

Beck, Williams, and Scown (2002) defined cognitive distortions as a set of mental processes representing errors in thinking that provoke negative thoughts and beliefs, which in turn generate negative feelings and intervene in shaping the pattern of the individual's behavioral responses (Gharmallah, 2024, p. 294). Al-Assar (2015), for her part, defines cognitive distortions as the cognitive misrepresentations and errors in information processing that individuals apply automatically to life events in a negative manner, causing them feelings of distress and pain (Abu Hilal, 2020, p. 156). Ghanama and Nasrawin indicate that they are a system of faulty thoughts leading to erroneous life conclusions in the perception of clear situations, which negatively affects the individual's capacity to confront life pressures and to achieve psychological adjustment with the surrounding environment (Khalfaoui & Brouba, 2021, p. 330). Al-Huwaish likewise views them as a stream of faulty, illogical thoughts characterized by a lack of objectivity, built upon subjective expectations and generalizations and upon a mixture of conjecture, prediction, exaggeration, and catastrophizing; among them are arbitrary inference, selective abstraction, overgeneralization, dichotomous thinking, labeling, mind reading, and magnification and minimization (Osama, 2015, p. 16). Cognitive distortions have also been described as conceptual errors in the interpretation of situations, including personalization, selective abstraction, catastrophic thinking, overgeneralization, and polarized thinking (Shreyas & Ravi, 2023, p. 2). They are, moreover, the erroneous perception or systematic distortion of information, reflecting underlying inaccurate beliefs about the self, the world, and the future (Melina et al., 2018, p. 164). According to the definition of Beck and others, they are cognitive structures that arise when information processing is ineffective or faulty, driven by beliefs or cognitive schemas of importance to the individual. Among the most prominent cognitive distortions are the following: mind reading, catastrophic thinking, all-or-nothing thinking, emotional reasoning, labeling, mental filtering, overgeneralization, personalization, "should" statements, minimizing or discounting the positives, and arbitrary inference (Kuru et al., 2018, p. 98).

Cognitive distortions may thus be defined as faulty, negative, illogical thoughts that affect the individual in their interpretation of events and life situations.

6.2. Characteristics of Cognitive Distortions

Beck enumerated the characteristics of cognitive distortions, which are the following:

- Cognitive distortions are regarded by the individual as absolute, primary, and essential truths.
- They support the self in a negative manner and help it to persist, while at the same time resisting any change occurring to the self.
- They form in the individual during the early years, becoming familiar to them, and for this reason the individual regards any changes that occur as a danger threatening the self.
- The individual attempts to protect the structures and formulations of the cognitive distortions they have adopted, which they regard as fundamental and essential.
- They become active across situations and events of relevance to the individual—that is, the significant events they experience in their life.
- They result from the individual's experiences and prior life history (for example, the individual's relationship with the family and friends, who play an important role in the stages of their development). (Ghanem et al., 2025, p. 322)

6.3. Types of Cognitive Distortions

Cognitive distortions are of many types; we cite, in accordance with the requirements of the study, the following:

(a) All-or-nothing thinking: This occurs when the person cannot find a middle ground: for them, a matter is either white or black, and they see no gray area between the two (Mohammed & Al-Zahra, 2023, p. 134). It means that the individual views things in absolute, black-and-white categories: if their performance falls short of perfection, they see themselves as a complete failure. This type of thinking classifies situations and events in an extremely polarized manner, and it leads to emotional disturbances because the individual cannot obtain the things they want. Cognitive counseling therefore aims to free the individual from these disturbances by lowering the level of extreme and absolute ambitions; negative feelings and fears may fade and weaken once the individual realizes that this absolute or extreme perfection does not exist, and these ideas may apply to everyone and to the external world (Khalfaoui & Brouba, 2021, p. 330). The person thus perceives themselves, others, situations, and the world according to sharp, extreme categories, and this pattern of thinking tends to be absolute, leaving no room for a glimmer of hope (Osama, 2015, p. 16).

(b) Arbitrary inference (random conclusion): This means reaching a particular conclusion from a case, event, or experience, or jumping to conclusions without factual information—for example, predicting that something bad will happen with no evidence for it (Abu Hilal, 2018, p. 22). It is also called arbitrary deduction. Grohol (2011) indicates that jumping to conclusions means that the individual draws negative conclusions without examining whether the conclusion is correct or mistaken. This distortion has two faces: the first is mind reading, whereby the individual believes they know what others are thinking, what they are feeling, and why they behave as they do; the other face is fortune telling, meaning that the individual expects matters to turn out badly and is convinced that this prediction is an established fact. Omaima Mustafa Kamel adds that jumping to conclusions means predicting the unseen, whereby the person acts as though their negative expectations of the future were established facts and proofs (Badawi, 2019, p. 790).

(c) Overgeneralization: Here the individual derives a particular rule on the basis of an experience they have undergone and then generalizes it to all dissimilar situations. For example, a student concludes: since my performance in algebra is poor, my performance in mathematics and science will be poor; or they may say that all their actions are foolish on the basis of criticism from some person (Abu Hilal, 2018, p. 23). The person thinks in this way because they have undergone a bad experience once, so it will always happen to them; they make a sweeping generalization to all situations from a single situation (Osama, 2015, p. 17).

(d) Magnification and minimization: This is one of the cognitive distortions in which the individual tends to magnify events and things in their self-perception while perceiving others as small. The exaggeration of the importance of events is an exaggeration inconsistent with their reality, or the individual detracts from their importance in an inappropriate manner until they appear utterly insignificant. Through this distortion, the anxious individual exaggerates perceptions and beliefs (which may be neutral) in their relations with their relatives, friends, and superiors, perceiving them as frustrating and demeaning; among the mistaken things the individual does is the repetition of their failed or negative experiences (Khalfaoui & Brouba, 2021, p. 331). The individual who adopts this type of thinking, when perceiving themselves, others, or situations, will tend to magnify or exaggerate the negative components while minimizing the positives or dropping them from their calculations

altogether (Osama, 2015, p. 17). The individual likewise evaluates a particular event by exaggerating some defect or minimizing some positive event—for example: because of a slight muscle strain, I will not be able to move today (Abu Hilal, 2018, p. 23).

(e) Personalization: Making some external circumstance unrelated to the individual meaningful to them and connected with them, which causes cognitive distortions—for example: it always rains when I want to go to the university (Abu Hilal, 2018, p. 23). In this type of thinking error, the individual blames themselves for every mistake that occurs, attributing it to their incapacity and personal incompetence, and holds themselves personally responsible for an event that may be entirely beyond their control; the opposite may also occur, whereby the individual casts the blame on others for the problems and circumstances they suffer (Osama, 2015, p. 16). It likewise means establishing a direct and complete causal relationship between events and the individual's self despite the absence of any link between them; these personal interpretations involve the individual holding themselves responsible for events that lie entirely outside their control (Badawi, 2019, pp. 791–792).

(f) "Should" statements (absolutes and imperatives): This is the use of statements denoting imperatives (must, have to, never, always, etc.) as a style of thinking, which leads to an exaggeration of the individual's behavior socially (Abu Hilal, 2018, p. 23). An example of this type of cognitive distortion is when the individual says to themselves, "things and events must happen exactly as I hope or expect them to be." This can be observed in many people who try to compel themselves to perform duties and tasks that are not incumbent upon them, using expressions such as "must" and "should" in order to provide a justification for their behavior (Badawi, 2019, pp. 790–791).

(g) Selective abstraction: The individual devotes attention to a single negative detail and becomes preoccupied with it, ignoring all the positive aspects (Mohammed & Al-Zahra, 2023, p. 136). Selective abstraction rests on understanding the situation by removing the essential detail from the context of the discourse and ignoring all possible positive interpretations; it thus causes the individual to see only the negative things that are destructive to the self and that cause them suffering, isolating the positive characteristics and replacing them with distorted, erroneous ones (Khalfaoui & Brouba, 2021, p. 332). It involves focusing on small details taken out of context while ignoring the other salient features of the situation, and conceptualizing the entire experience on the basis of this fragment (Badawi, 2019, p. 790). The individual thus directs particular attention to a single negative detail and becomes endlessly preoccupied with it, ignoring any other positive conceptions; they do not see the picture as a whole but focus only on its bad side (Osama, 2015, p. 17).

The styles of negative cognitive distortion by which the individual interprets the events around them—and which draw them into the cycle of psychological disorder—are thus varied. Among them is dichotomous thinking, under the dominance of a one-sided mode of thought whereby the individual views events and classifies them in an extreme manner as either white or black, with no room for a middle ground; and overgeneralization, whereby the individual generalizes a bad experience they have undergone to all their other experiences—for example, when the person with social phobia goes through a negative social experience in their life, they generalize it to all other social experiences, which leads them to avoid such situations. In addition, there is the distortion of selective abstraction, through focusing on the negative aspects and neglecting the positive aspects of the situations the socially anxious person passes through, so that they interpret laughter or a glance from others as criticism and mockery of them; likewise arbitrary inference, through judging things without any evidence to support the judgment, so that they judge that those interacting with them will evaluate

them negatively and will mock them. To this are added magnification and catastrophizing, by inflating matters beyond their true size, as well as "should" statements, through the excessive use of the phrase "I must avoid social situations," which affects their functional, professional, and social performance.

Part Two: The Field Framework

Having enriched the topic of our study with the theoretical framework, we now turn to the applied framework in order to answer the hypotheses raised, by following the set of steps below:

1. Method of the Study

Since the aim of the present study is to reveal the relationship between cognitive distortions and social phobia among middle school students, the descriptive-analytical method is the appropriate method for achieving the study's objectives.

2. Population of the Study

The study population consisted of the middle-cycle students of the Mechri Middle School in Tiaret, western Algeria, during the 2021/2022 academic year.

3. Instruments of the Study

The following instruments were relied upon:

3.1. The Cognitive Distortions Scale

This scale was constructed by the researcher and consists of 58 items distributed across the following six dimensions:

- Dichotomous thinking dimension: comprising items (01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11).
- Selective abstraction dimension: comprising items (12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22).
- Overgeneralization dimension: comprising items (23, 24, 25, 26, 27, 28, 29, 30).
- Magnification and catastrophizing dimension: comprising items (31, 32, 33, 34, 35, 36, 37, 38, 39).
- Personalization dimension: comprising items (40, 41, 42, 43, 44, 45, 46, 47, 48, 49).
- Arbitrary inference dimension: comprising items (50, 51, 52, 53, 54, 55, 56, 57, 58).

Scoring method: The scale is scored according to a five-point Likert gradation (always, often, sometimes, rarely, never), assigning to this gradation the numbers (5, 4, 3, 2, 1) in the case of positive items, with the weights reversed in the case of negative items.

3.2. The Social Phobia Scale

In this study we used the Social Phobia Scale of the researcher Warda Belhocini Houcine (2011), which consists of 36 items distributed across three dimensions, namely:

- Avoidance behaviors and fear of social confrontation dimension: comprising items (1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34).
- Fear of negative evaluation in social interaction dimension: comprising items (2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35).
- Physiological symptoms dimension: comprising items (3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36).

(a) Scoring method: The Social Phobia Scale consists of 36 items distributed across three dimensions. It is scored by assigning three (3) points for the response "applies to me very much," two (2) points for the response "applies to me a little," and one (1) point for the response "does not apply to me at all," across all items of the scale. Accordingly, the lowest theoretical score on the scale is

(36) and the highest score is (108) (Belhocini, 2011). The levels of social phobia were determined as set out in the following table:

Table (01): Levels of social phobia

Levels of social phobia (social anxiety)	Score obtained on the scale
Low	36–60
Moderate	61–84
High	85–108

3.3. Psychometric Properties of the Study Instruments

3.3.1. Psychometric Properties of the Cognitive Distortions Scale

To verify the validity and reliability of the scale, the following procedures were relied upon:

3.3.1.1. Validity of the scale: This was established using the extreme-groups comparison (discriminant validity).

(a) Discriminant validity (extreme-groups comparison): The differences between the means of the upper group (those obtaining the highest scores on the scale) and the lower group (those obtaining the lowest scores on the scale) were computed, after ranking the scores and taking (27%) of the study sample. All the differences proved significant for all the subscales, as shown in the following table:

Table (02): Discriminant validity of the Cognitive Distortions Scale

Scale	Upper group		Lower group		t-value	Significance level
	Mean	SD	Mean	SD		
Cognitive distortions	123.64	8.18	103.48	14.11	6.17	Significant at 0.01

Table (02) shows the existence of statistically significant differences between the mean of the upper group and the mean of the lower group on the Cognitive Distortions Scale, with the t-values proving statistically significant at the (0.01) significance level. From these results we infer that this scale possesses good capacity to discriminate between the two extreme groups; the Cognitive Distortions Scale is therefore valid according to the extreme-groups comparison method.

(b) Reliability of the scale: The reliability of the Cognitive Distortions Scale was computed using the Cronbach's alpha reliability coefficient and the Guttman equation method, and the results were as shown in the following table:

Table (03): Reliability values of the Cognitive Distortions Scale

Method / Variable	Cronbach's alpha	Guttman
Cognitive distortions	0.87	0.94

Table (03) shows that the reliability coefficient of the Cognitive Distortions Scale was estimated at 0.87 by the Cronbach's alpha method, while by the Guttman method the reliability coefficient was estimated at 0.94. From these results we infer that the scale enjoys an acceptable degree of reliability.

3.3.2. Psychometric Properties of the Social Phobia (Social Anxiety) Scale

The researcher Belhocini Warda (2011), in Ouargla (Algeria), designed this scale; in its final form it consists of 36 items, after having originally comprised 44 items, following the verification of its psychometric properties. Validity was verified using face validity (expert-panel validity), discriminant validity, and criterion validity (concurrent validity); as for reliability methods, the researcher used Cronbach's alpha with a value of 0.91, and the split-half method with a value of 0.91, at the 0.01 significance level. We administered the scale collectively to a pilot sample of (40) male and female students at the Mechri Ahmed Middle School in the Wilaya of Tiaret (Algeria) during the 2021/2022 academic year. To verify the psychometric properties of the measurement instrument, we relied on the extreme-groups comparison method (discriminant validity):

3.3.2.1. Validity of the scale: This was established using the extreme-groups comparison method.

(a) Discriminant validity (extreme-groups comparison): The differences between the means of the upper group (those obtaining the highest scores on the scale) and the lower group (those obtaining the lowest scores on the scale) were computed, after ranking the scores and taking (27%) of the study sample. All the differences proved significant for all the subscales, as shown in the following table:

Table (04): Discriminant validity of the Social Phobia (Social Anxiety) Scale

Scale	Upper group		Lower group		t-value	Significance level
	Mean	SD	Mean	SD		
Social anxiety	71.76	8.25	58.92	5.94	6.31	Significant at 0.01

Table (04) shows the existence of statistically significant differences between the mean of the upper group and the mean of the lower group on the Social Anxiety (Social Phobia) Scale, with the t-values proving statistically significant at the (0.01) significance level. From these results we infer that this scale possesses good capacity to discriminate between the two extreme groups; the Social Phobia (Social Anxiety) Scale is therefore valid according to the extreme-groups comparison method.

(b) Reliability of the scale: The reliability of the Social Phobia Scale was computed using the Cronbach's alpha reliability coefficient and the Guttman equation method, and the results were as shown in the following table:

Table (05): Reliability values of the Social Phobia (Social Anxiety) Scale

Method / Variable	Cronbach's alpha	Guttman
Social anxiety (social phobia)	0.80	0.89

Table (05) shows that the reliability coefficient of the Social Phobia (Social Anxiety) Scale was estimated at 0.80 by the Cronbach's alpha method, while by the Guttman method the reliability coefficient was estimated at 0.89. From these results we infer that the scale enjoys an acceptable degree of reliability.

Having computed the psychometric properties of the measurement instrument, it became evident to us that the scale enjoys acceptable psychometric properties permitting its use in the main study.

4. Sample of the Main Study

The sample of the main study consisted of (170) male and female students at the Mechri Ahmed Middle School in Tiaret, western Algeria, during the 2021/2022 academic year. The sample was selected by the stratified random sampling method, focusing on two strata in the population: gender and birth order. The following table presents the characteristics of the study sample.

Table (06): Characteristics of the main study sample

Variable	Gender		Birth order		
	Male	Female	Oldest	Middle	Youngest
Frequency	81	89	49	75	46
Percentage	47.6%	52.4%	28.8%	44.1%	27.1%

Table (06), concerning the distribution of the main study sample, shows that most of the sample members were female, at 52.4%, compared with 47.6% for males. The middle birth-order position also occupied the highest proportion, at 44.1%, followed by the oldest position at 28.8%, and finally the youngest position at 27.1%.

5. Statistical Methods

5.1. Descriptive statistics:

- Frequencies.
- Percentages.
- The arithmetic mean.
- The standard deviation.

5.2. Inferential statistics:

- Cronbach's alpha coefficient.
- Pearson's correlation coefficient.
- The t-test for differences between two independent groups.
- The F-test (one-way analysis of variance).

The statistical processing of the data was carried out using the Statistical Package for the Social Sciences, "SPSS 22".

6. Presentation of the Results of the Study

6.1. Presentation of the Results of Testing the First Hypothesis

The first hypothesis states that "there is a correlational relationship between cognitive distortions and social phobia among middle school students." To test this hypothesis, we used Pearson's correlation coefficient, and the results were as shown in the following table:

Table (07): The relationship between cognitive distortions and social phobia

Social phobia	Avoidance behaviors and fear of social confrontation	Fear of negative evaluation in social interaction	Physiological symptoms	Social phobia as a whole
Cognitive distortions	0.22**	0.27**	0.21**	0.26**

** Significant at (0.01)

Table (07) shows the existence of a statistically significant positive correlational relationship between cognitive distortions and each of avoidance behaviors, fear of negative evaluation, and physiological symptoms, with the correlation coefficients ranging between (0.27) for fear of negative evaluation as the highest value and (0.21) as the lowest value—all of which are statistically significant at the (0.01) significance level. From these results we infer that the hypothesis is confirmed.

6.2. Presentation of the Results of Testing the Second Hypothesis

The second hypothesis states that "there are statistically significant differences in cognitive distortions attributable to the gender variable (males/females) among middle school students." To test this hypothesis, we used the t-test for two independent samples, as shown in the following table:

Table (08): Differences in cognitive distortions by the gender variable (male, female)

Variable	Male		Female		t-value	Significance level
	Mean	SD	Mean	SD		
Dichotomous thinking	21.81	4.41	22.33	4.29	-0.76	Not significant
Selective abstraction	20.58	4.81	19.46	4.47	1.57	Not significant
Overgeneralization	14.38	3.54	13.44	3.39	1.77	Not significant
Magnification	17.09	3.39	16.19	3.79	1.50	Not significant
Personalization	19.65	4.55	19.62	5.03	0.04	Not significant
Arbitrary inference	17.59	4.14	17.00	4.26	0.91	Not significant
Cognitive distortions	111.11	21.56	108.03	20.00	0.96	Not significant

Table (08) shows that the t-values ranged between (-0.76 and 1.77) for cognitive distortions and their dimensions—dichotomous thinking, selective abstraction, overgeneralization, magnification, personalization, and arbitrary inference—values that are not statistically significant at 0.01. These differences therefore did not rise to the level of significance, which means that there are no differences between the two genders in cognitive distortions and their dimensions. From these results we infer that this hypothesis is not confirmed.

6.3. Presentation of the Results of Testing the Third Hypothesis

The third hypothesis states that "there are statistically significant differences in cognitive distortions attributable to the birth-order variable (oldest, middle, youngest) among middle school students." To test this hypothesis, we used one-way analysis of variance, as shown in the following table:

Table (09): Results of the one-way analysis of variance examining differences in cognitive distortions by the birth-order variable

Variable	Source of variance	df	Sum of squares	Mean square	F-value	Significance level
Dichotomous thinking	Between groups	2	80.221	40.111	2.14	Not significant
	Within groups	167	3118.626	18.674		
	Total	169	3198.847			
Selective abstraction	Between groups	2	28.260	14.130	0.64	Not significant
	Within groups	167	3640.734	21.801		
	Total	169	3668.994			
Overgeneralization	Between groups	2	41.246	20.623	1.70	Not significant
	Within groups	167	2017.631	12.082		
	Total	169	2058.876			
Magnification	Between groups	2	83.147	41.573	2.81	Not significant
	Within groups	167	2461.000	14.737		
	Total	169	2544.147			
Personalization	Between groups	2	23.546	11.773	0.50	Not significant
	Within groups	167	3865.843	23.149		
	Total	169	3889.388			

Arbitrary inference	Between groups	2	21.527	10.764	0.60	Not significant
	Within groups	167	2970.920	17.790		
	Total	169	2992.447			
Cognitive distortions	Between groups	2	1370.534	685.267	1.60	Not significant
	Within groups	167	71437.966	427.772		
	Total	169	72808.500			

Table (09) shows the absence of differences in cognitive distortions and their dimensions according to birth order (oldest, middle, and youngest), owing to the absence of statistical significance, which means that the birth-order factor does not influence cognitive distortions. The hypothesis is therefore not confirmed.

7. Discussion and Interpretation of the Results of the Study

7.1. Discussion and Interpretation of the Results of Testing the First Hypothesis

The results of the statistical analysis confirmed the hypothesis stating that "there is a statistically significant correlational relationship between cognitive distortions and social phobia among middle school students." The results established the existence of a correlational relationship between cognitive distortions—with their dimensions of dichotomous thinking, selective abstraction, overgeneralization, magnification, personalization, and arbitrary inference—and the emergence of social phobia. When the adolescent suffering from social anxiety (social phobia) passes through social situations that require interaction with others, or that require performance on their part, they begin to feel anxiety and intense fear of exposure to criticism and mockery, which dominate their thinking pattern; they then generalize these situations to the other social situations they encounter, whether at school or outside it, which leads them to adopt avoidance behavior—as well as judging things without any evidence establishing their truth, what is called arbitrary inference. For example, the adolescent with social anxiety interprets the flushing of their face as meaning that others are thinking badly of them, that they do not like them, and that they appear foolish.

Research on this condition indicates that negative self-beliefs, excessive self-monitoring, and the tendency to worry about potential negative outcomes contribute to its emergence (Yuting et al., 2025, p. 2). In this regard, Abdel Sattar Ibrahim (1994) notes that the tendency to generalize from the part to the whole is one of the decisive factors in many social problems, such as national chauvinism, international bigotry, and aggression; it is also a style of thinking associated with many pathological patterns, particularly depression, schizophrenia, and social anxiety, and overgeneralization is regarded as one of the decisive factors in the acquisition of pathological fears (Badawi, 2019, p. 789). In addition, the sufferer magnifies the social situation, treating it as a catastrophe on the grounds that others are observing them and bullying them, which leads them to pass arbitrary judgment on these experiences without any supporting evidence, and to hold themselves responsible for the occurrence

of that frightening, bad experience—all because of the faulty, negative thinking pattern dominating their emotions and behavior. Ahghar (2014) indicates that social anxiety expresses a set of distorted cognitive processes in the individual that cause them distress and social avoidance, among them fear of negative evaluation by others and disregard of their own strengths, leading to the appearance of a set of somatic symptoms of anxiety. Furthermore, the proponents of cognitive theory hold that an individual's engagement in certain negative behaviors may result from errors in their information processing, giving rise to cognitive structures that dominate them and render them incapable of adjustment; these structures are what are known as cognitive distortions, which are a cause of certain negative behaviors (Al-Zahrani, 2024, p. 293). The cognitive model indicates that the person suffering from social anxiety activates a set of negative beliefs and distorted assumptions upon entering the situation they dread. These negative beliefs and faulty assumptions consist of fears of being unable to speak and act in social situations. These cognitive distortions, or unsound assumptions, expose people with social anxiety to the risk of evaluating social situations negatively. On the basis of these assumptions, individuals with social anxiety appraise the given social situation as fraught with danger, expect themselves to be incapable of meeting their own standards of performance, and draw negative conclusions about how they will appear before others and what others' opinion of them will be. According to Kuru E. et al., individuals who feel anxious in social situations hold certain negative beliefs and thoughts about themselves and about the ways in which others judge their behaviors (Khan et al., 2021, pp. 1–2).

The results of our study are consistent with the study of Nasir (2011), the study of Alaa Ali Al-Hijazi (2013), the study of Kuru (2017), the study of Al-Asiri (2018), the study of Aslan and Alakuş (2018), the study of Koo et al. (2018), as well as the study of Duru and Balkis (2019), Mishal Mohammed (2021), the study of Abdulwahed and Hassanein (2021), and the study of Shorouq Gharmallah (2024), in finding a correlational relationship between cognitive distortions and social phobia (social anxiety).

7.2. Discussion and Interpretation of the Results of Testing the Second Hypothesis

The results of the statistical analysis showed that the hypothesis stating that "there are statistically significant differences in cognitive distortions attributable to the gender variable among middle school students" was not confirmed, which means that there is no difference between students—whether male or female—in cognitive distortions and their dimensions. This may be explained by the fact that both genders are marked by the appearance of cognitive distortions, whether male or female, particularly during adolescence, a stage that witnesses numerous physical and psychological changes liable to affect their thinking pattern. This leads them to use distorted cognitive styles such as overgeneralization—passing through minor negative situations and generalizing them to all other situations—and casting blame on others, particularly the parents or their surroundings, for failing to understand their needs, through personalization; and magnifying and catastrophizing things and experiences rather than minimizing them, through outbursts of anger and aggression. In addition, the environment plays a major role in the appearance of cognitive distortions, through the adolescent's interaction—whether male or female—and their acquisition of various values and beliefs from the parents, the school, and the peer group, and through the various experiences and situations they pass through, particularly in adolescence, which affect their thinking pattern through an exaggerated preoccupation with their thoughts, appearance, and behavior.

Based on the cognitive model of social anxiety disorder, the core of social anxiety appears to be a strong desire to convey a particular positive impression of oneself to others, coupled with an intense

insecurity about one's ability to do so. Individuals suffering from severe social anxiety hold certain faulty thoughts and beliefs concerning their behaviors and the ways others judge those behaviors. This mode of interpretation produces cognitive errors through the systematic interpretation of the individual's experiences and the distortion of interpretations. Distorted automatic thoughts (I am blushing; they are thinking badly of me; they do not like me; I look foolish), underlying maladaptive assumptions (if my speech is not perfect and fluent, they will think badly of me), and maladaptive core beliefs (I am inferior; I am uninteresting; I am boring; I am a weak person; I am a failure) constitute stages running from the more superficial to the deeper levels, on which the cognitive model focuses (Kuru et al., 2018, p. 98).

The results of our study are consistent with the findings of previous studies, such as the study of Abdulaziz (2012), the study of Zaher (2016), the study of Karles (2015), the study of Islam Osama (2015), as well as the study of Abu Hilal (2018) and the study of Hani, Abara et al. (2018), in finding no statistically significant differences in cognitive distortions attributable to gender. The results of our study conflict, however, with the study of Abu Shaar (2007), which found irrational thoughts to be more prevalent among males than females, as well as the study of Ahmed (2014) and Al-Ukaili (2015), the study of Bani Khaled (2015), and the study of Aslan and Alakuş (2018), which found differences in cognitive distortions in favor of males; likewise the study of Lahrazi (2018), which indicated differences in irrational thoughts attributable to gender in favor of females, and the study of Ibrahim (2023).

7.3. Discussion and Interpretation of the Results of Testing the Third Hypothesis

The results of the statistical analysis showed that the hypothesis stating that "there are statistically significant differences in cognitive distortions attributable to the birth-order variable (oldest, middle, and youngest) among middle school students" was not confirmed. The results revealed no differences in cognitive distortions and their dimensions according to birth order, which means that middle school students—whatever their birth order, whether they occupy the oldest, middle, or youngest position—resemble one another in cognitive distortions. This result may be explained by the fact that, whatever the adolescent's position in their family—whether the first, middle, or youngest child—they are susceptible to faulty thinking and to cognitive distortions through their reliance on a faulty thinking pattern in interpreting the events and situations to which they are exposed. In addition, life and childhood experiences—including bad and traumatic experiences—play a major role in shaping their cognitive structures, making them afraid to venture into new experiences, so that they interpret reality and events in an irrational manner, which affects the adolescent's thinking pattern and behavior, whether they occupy the oldest, middle, or even youngest position.

Therapists of the cognitive-theoretical orientation consider that individuals' beliefs and thoughts begin to form from early childhood and develop with advancing age. It is children's early experiences that influence and lead to the formation of their beliefs and thinking: the experiences the individual passes through during the stages of their development, from early childhood onward, serve to shape a large number of schemas, some relating to the individual and others to the environment and to dealing with its stimuli; where faulty thoughts and beliefs have formed, cognitive distortions form in individuals (Awawdeh, 2023, p. 12).

The results of our study are consistent with Yasmin Abu Hilal (2020) in finding no differences in cognitive distortions attributable to the birth-order variable, and they conflict with the study of Lin

Ghanem et al. (2025), which found differences in cognitive distortions by birth order in favor of the middle position, followed by the youngest.

Conclusion

Social phobia (social anxiety) is characterized by the presence of intense fears in social situations that require social performance from the individual—such as taking part in conversation, eating or drinking in front of others, or performing before an audience, as in delivering a speech—which make the person feel embarrassed and afraid of facing such situations, so that they avoid them. Many factors contribute to its genesis, such as hereditary factors and psychological factors, among them the cognitive factors that perpetuate the fear of social situations owing to the presence of dysfunctional, faulty thoughts and beliefs. This is what we have attempted to uncover through a field study aimed at revealing the relationship between cognitive distortions and social phobia (social anxiety), and at identifying the differences in cognitive distortions according to the variables of gender and birth order. To achieve this aim, the study was applied to a sample of 170 middle-cycle students at the Mechri Ahmed Middle School in Tiaret, western Algeria. We found a correlational relationship between cognitive distortions and social phobia (social anxiety), and no differences in cognitive distortions by gender or birth order. Cognitive distortions of their various types thus operate to influence the thinking of the adolescent suffering from social phobia, leading them to misinterpret social situations under the dominance of negative thoughts based on magnification, arbitrary inference, and overgeneralization—such as anticipated rejection by others and fear of negative evaluation—which impair their social performance. There remains the task of modifying these cognitive distortions—faulty thinking patterns that distort the thinking of the person with social anxiety and their view of reality—by employing certain cognitive techniques such as Socratic dialogue and the downward arrow, in order to correct those faulty beliefs; likewise encouraging the person to engage in social situations instead of avoiding them, and strengthening self-confidence from childhood onward, particularly on the part of the parents, who instill the core beliefs about the self, others, and the future through their style of upbringing and through sound parental treatment methods based on care and dialogue. We also propose future studies, including: cognitive distortions and personality traits in adolescents suffering from social anxiety; the effectiveness of cognitive-behavioral therapy in eliminating cognitive distortions in adolescents suffering from social anxiety; and differences in cognitive distortions in light of other variables such as marital status and health status.

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