# The Level of Cognitive and Affective Empathy in Light of Gender and Academic Year Variables among 8th, 9th & 10th Grade Students

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## ABSTRACT

The present study aimed to detect the level of cognitive and affective empathy in a sample of students in the eighth, ninth and tenth grades, and to show the impact of gender and academic year variables on the degree of affective empathy. The study sample consisted of (619) students selected from Al-Ahliyya Charity School in Dubai. To achieve the objective of the study, the researcher used the questionnaire of cognitive and affective empathy (QCAE) according to students' self-assessment prepared by (Reniers, Corcoran, Drake, Shriane and Völlm, 2011) after verifying its validity and reliability. The results of the study revealed that the students have a high degree of cognitive affective empathy, and that the average score for students on affective empathy is medium. The results of the study indicated that there are statistically significant differences in affective empathy between 8th and 9th grade students in favor of 9th grade students. The results of the study revealed that there are statistically significant differences at the level of significance (α = 0.05) in the overall score of the cognitive and affective empathy scale and in the sub-domains of the scale between males and females in favor of females.

**Keywords:** Empathy, Cognitive Empathy, Affective Empathy, Secondary School Students

## Introduction

Empathy supports the successful social function of students in schools and is a prerequisite for socially acceptable behavior, and social interaction is important to cooperate in achieving common goals, actively coordinating with others and engaging in altruistic behavior. Students with a high level of affective empathy have less aggression, are more likely to help others and donate to charity at a higher rate (Khanjani, Jeddi, Hekmati, Khalilzade, Nia, Andalib & Ashrafian, 2015). There is evidence that students who engage in inappropriate interpersonal behavior such as aggression and anti-social behavior have problems with affective empathy, a student who cannot accurately determine the distress he or she can cause to another person is more likely to continue the painful behavior that causes stress to the other, and the lack of social interaction is associated with antisocial behavior (Zonneveld, Sonneville, Swaab, Platje & Goozen, 2017).

School students need emotional social skills to help them form and maintain friendships, a form of such skills is the skill of affective empathy: it is the ability to understand and share the emotional state of the other party and to take into account their point of view, which helps in the development of good effective communication and successful conflict management (Wied, Branje & Meeus, 2007). affective empathy is an emotional response that appears in understanding, grasping and understanding the emotional need of the other party and includes feelings similar to those of the other party and those expected to be felt, it is a basic social skill that allows the student to understand and experience the other's point of view and plays a role in the development of social understanding and positive social behaviors, affective empathy is best viewed as a set of interconnected structures that contain cognitive and emotional components, the cognitive component is based on taking into account the view of the other party; the ability of an individual to view the situation from a third perspective by taking into account his or her own perspective and that of the other, the emotional component includes feelings of warmth, kindness and caring for others (Barr & Higgins-d'Alessandro, 2007).

### Empathy

In the social scene, affective empathy is described in different ways and is addressed in a number of definitions, there is some controversy as a personal trait, while some describe it as an emotional, cognitive, and

motivational state. Affective empathy refers to the ability to share, know, experience or imagine the feelings of others. Affective empathy generates the possibility of experiencing happiness when the other person is happy, or suffering when the other is in pain, since are dealing with an emotional infection. Affective empathy is seen as a multidimensional structure with two main dimensions: affective empathy and cognitive empathy. Affective empathy is the ability to feel, consciously or unconsciously, how another person feels; while cognitive empathy refers to the theory of reason or social knowledge and indicates a conscious understanding of others. Affective empathy appears after the experience of cognitive empathy; while cognitive empathy can appear alone. The individual's use of these dimensions may be implied involuntarily, and sometimes explicitly and depending on the intended use of specific operations. People differ in the level of behavior and explicit use of affective empathy, despite diversity and difference; humans need a specific level of cognitive empathy to interact and understand each other (Zoll & Enz, 2005).

Rueda, Fernandez-Berrocal & baron-Cohen (2015) define affective empathy as distinguishing the mental state of others (intention, beliefs, desires and emotions) and the ability to respond to individuals with appropriate emotion, this definition focuses on two factors. There is a long-standing debate about whether affective empathy is an emotional response, or that affective empathy is a cognitive process entirely through the ability of the individual to place himself in the place of the other party and to see the world from the perspective of the other party. Among the traditional models of affective empathy such as Feshbach (1975), where affective empathy is defined as cognitive and emotional processes. There is consensus among scientists to realize and recognize that both dimensions (cognitive and emotional) are important in defining affective empathy. There is a model of three areas of affective empathy, which includes an emotional response to the other, and cognitive ability to take into account the point of view of the other party, and organizational mechanisms allow one to adapt objectively to the other's point of view, so affective empathy includes two basic capacities: the ability to respond appropriately to the other's mental state, and the ability to determine the other's mental state (Khanjani, et al., 2015).

Affective empathy is generally seen as a multidimensional structure, and has been described in psycho-educational literature as an emotional trait. it is the ability to experience and share the emotions of others, and a cognitive trait (cognitive empathy), which is the ability to understand the emotions of others. In both domains, responses to affective empathy are positively correlated with socially acceptable behavior and are negatively correlated with bullying (Ang & Goh, 2010, p. 388). Affective empathy has different definitions, some of these definitions refer to different parts of affective empathy, but most of these definitions share the idea of an individual's response to perceiving someone else's current experience. The use of the word affective empathy in the psycho-educational literature in English is relatively recent, at the beginning of the twentieth century, and the origin of that word from the German word (Ein fühlang) and its translation is sense, and self-return to someone else. Numerous studies have emerged on affective empathy in psychology and client-centered therapy (Migchelbrink, 2015).

The term affective empathy has been used to refer to two human abilities: taking into account the mental state of the other party (CE emotional representation), and emotional participation (effective empathy EE). Effective empathy plays a key role in an individual's behavior, as theories usually link affective empathy to socially acceptable behavior (Smith, 2006).

Hoffman (2008, p. 441) defines Empathy representation as an Empathy state triggered by the other party's Empathy state or situation he experienced, where the individual feels what the other party feels in such a situation or what is naturally expected to be felt in such a situation. Batson (2009) identified eight uses of the term Affective Empathy in scientific studies:

1) Knowing the internal state of another party including that person's thoughts and feelings.

2) Adapt the appearance and shape and match it with the responses of the observed person.

3) Reaching the feeling in the same way as the other.

4) Drop or reverse the individual on the same position or circumstance of the other party.

5) Imagine how the other party thinks and feels.

6) Imagine how the individual can think and feel when he is in the other's position.

7) Feeling upset when the other side is suffering.

8) Feeling the other party suffering.

Affective Empathy is the ability to share the other's inner life, and based on this engagement, the reaction is Empathy representation, which can be divided into cognitive and Empathy reactions. Wispé (1986, p. 315) argues that Empathy representation is a person's self-conscious attempt to understand the objective experience of another person and assumes that Empathy representation is a method of knowledge, Empathy representation is a high awareness of the plight of the other person and that he needs support and attention. For Levinson and Ruef (1992, p. 235); Affective Empathy is the ability to reveal how the other party feels. while (Decety & Jackson, 2004, p. 72); Empathy representation is defined as the natural manifestation of the objective experience of similarity in the feelings expressed by the individual and the other party without losing the ability to know to whom those feelings return and to whom they are directed, taking into account that Empathy representation includes not only the actual or supposed Empathy experience of the other party, but also the minimum understanding of the Empathy state of the other. According to Zoll & Enz (2005, p. 166), Affective Empathy is a person's tendency and ability to understand what the other thinks and feels in a particular situation.

## Cognitive Empathy

Cognitive empathy includes different cognitive processes in the observer, ranging from simple processes and learning processes to take into account the other's point of view, and read expressive signals in addition to positional indicators and try to understand the current reactions of the other party. This process takes place based on what is generally known as emotional expressions, the meaning of the situation, the previous reactions of the other party, and motivation. Accuracy and clarity are also important and subjective experience is the basis for every empathetic understanding; it plays a fundamental cognitive role in detecting and identifying the internal reactions to an external stimulus, the cognitive ability to distinguish between oneself and the other is essential for empathy representation. Cognitive empathy representation is associated with the theory of mind, which means the ability to develop an understanding of the mental states of others that cannot be directly observed (knowing that an individual may show emotion while feeling another emotion), setting expectations about the reactions and behavior of others (Zoll & Enz, 2005); many studies have considered that cognitive empathy representation is the theory of mind or social knowledge, which means an individual's ability to understand the other's perspective or mental state of that person, by moving to someone else's mental state and thus better predicting his or her behavior (Migchelbrink, 2015). Cognitive empathy representation is the adoption of the other's point of view by distinguishing and naming his mental state, and the ability to attribute desires, beliefs and intention (Rueda et al., 2015). Cognitive empathy representation facilitates discussion and social experience, and guides the individual during the process of social interaction and gives them the opportunity to recognize when the other party lies and when they have false beliefs (Smith, 2006).

## Affective Empathy

Several studies have pointed to the importance of affective empathy, which is associated with the process of the emergence of emotions in the observer, based on understanding the internal state of the other party (emotions, ideas, and trends). It can be the result of cognitive empathy representation but also can appear far from recognizing the apparent behavior that directly transmits emotional states from another person (emotional infection), in this case similar emotional states appear in the observer resulting from a direct correlation, or the transfer of emotional cases between individuals through verbal indicators. This correlation is useful in facilitating social identity and community adaptation (Zoll & Enz, 2005).

Rueda et al. (2015, p. 87) argue that affective empathy representation is an appropriate emotional response aroused by the emotion of the other, emphasizing that the empathetic response is appropriate, that affective empathy representation is not only an emotional response to the other's emotion, and the emotional response does not need to match the emotion that causes the excitement, but it needs to reflect the observer's attention and care to what the other party feels. Nevertheless, affective empathy representation may not always be helpful, however, it may reduce well-Being, it may inhibit performance, affect decision-making, just as cognitive empathy representation, the affective empathy representation may be associated with emotional distress, and the pity fatigue and internal combustion, and may lead to depression, errors in work, difficulties in interpersonal relationships, and the person may resort to the organization of affective empathy representation, so that it does not reach a stage where the emotional side is overwhelming (Migchelbrink, 2015).

Affective empathy representation increases human motivation for altruistic behavior towards relatives, friends, and strangers. It is under the umbrella of moral growth, and can be the key to curbing violence and helping to strengthen social ties (Smith, 2006). A number of foreign studies have investigated the relationship between cognitive empathy representation and affective empathy representation and some variables. Bakar & Ishak (2018) conducted a study to examine the relationship between eight dimensions of interpersonal skills, leadership skills and empathy representation of talented students in Malaysia. The study sample consisted of (240) male and female students (81) males and (159) females, the results of the study indicated that all interpersonal skills are positively associated with empathy representation. It also pointed out that there is a positive correlation between empathy representation and leadership skills and the most prominent areas of empathy representation that have a strong connection with leadership skills are: political awareness, benefit from diversity, development of the individual's energy, caring for others.

Moreto, Santos, Blasco, Pessini & Lotufo (2018) aimed to compare empathy representation and interpersonal relationships among a sample of undergraduate students in medicine. The sample size was (296) students. They were divided into groups based on the school year: the first group (first year and second year), the second group (third and fourth year), the third group (fifth and sixth year). The results showed that the level of empathy representation was the same in the three groups. Concerning interpersonal relationships, the results show that there are statistically significant differences between groups for the third and sixth year students. The results also showed that the greatest impact during the study of medicine specialty is the emotional aspect.

The study of Atan (2017) aimed at comparing the levels of affective empathy in a sample of university students who exercise and who do not exercise in the light of a number of variables, such as age, gender and child arrangement among siblings. to achieve the objective of the study, (200) students from the Faculty of Physical Education who practiced sports participated 4 days a week for at least two hours, students who did not exercise from other colleges also participated. The results showed that there were statistically significant differences in the emotional representation between the group of students who exercise sports and the group of students who do not exercise in favor of the group that exercise sports. The results also show that there are statistically significant differences between males and females in affective empathy in favor of females. Students living with their families received higher scores in affective empathy than students living with friends.

Khanjani et al. (2015) conducted a study aimed at comparing affective empathy, cognitive empathy and social function in different age groups including adolescents, young adults, middle adulthood and late adulthood. The sample of the study consisted of (196) of them (92) males, and (104) females, the ages ranged from (14) years to (85) years. They were divided into (4) groups (adolescence, young adults, middle adulthood stage, late adulthood stage). Participants were asked to fill the affective empathy and cognitive empathy scale and the social function scale. The results of the study showed that there were statistically significant differences among older adults compared to the rest of the groups; where affective empathy increased with age versus a lack of some domains of

cognitive empathy in the older adult group. The results also show that aging is associated with a decline in social function.

Schwenck, Johli, Hof Warink, Freitag and Schneider (Schwenck, Gohle, Hauf, Warnke, Freitag & Schneider, 2014) conducted a study to examine the effect of age, gender and intelligence on cognitive and affective empathy in a sample of school-age children and adolescents. Respondents were exposed to video clips on different forms of social interaction and were asked to respond. The sample of the study consisted of (134) children from the age of (7) to (17) years, and the ability to identify their emotion was examined, and taking into account the point of view of the other party, and affective empathy. One of the most prominent results of the study was that age influenced the elements of cognitive empathy and dimensions and explained from (33.5%) to (39.1%) of the variation. The results also show that gender has statistically significant predictive power of cognitive empathy and that they interpreted (3%), (5%), (8%) and (9%) of the variance. On the other hand, age, gender, and intelligence were not associated with affective empathy.

Dehning, Gasperi, Krause, Meyer, Reib, Burger, Jacobs, Buchheim, Müller & Siebeck (2013) conducted a study entitled Cognitive and Affective Empathy in Medical Students from First Year. The sample size was (126) students from the Faculty of Medicine from the first year, who filled the attachment scale and the cognitive and affective empathy scale. The results of the study showed that there are statistically significant differences in the means of the results of the affective empathy scale between males and females in favor of females. The results also showed that students who preferred specializations that included continuity in patient care received higher scores on the cognitive and affective empathy scale. In general, the level of cognitive and affective empathy among the sample members within the intermediate level.

Ang & Goh (2010) conducted a study aimed at examining the relationship between affective empathy, cognitive empathy, gender, and Cyber bullying. The sample of the study consisted of (396) teenagers from Singapore, aged (12) to (18) years, who responded to the questionnaire of cognitive and affective empathy and the scale of electronic bullying.

The results of this study revealed that the level of affective empathy in males and females is low, and that males and females who had low scores on the affective empathy scale received higher scores in the cyber-bullying scale.

Macaskill, Maltby & Day (2002) conducted a study to examine the relationship between tolerance and affective empathy in (324) male and female students in the undergraduate level (100) males, (224) females aged (18) to (51) Year. Respondents filled the scale of tolerance, which includes two domains: self-tolerance and tolerance towards the other, and the affective empathy scale includes two domains: The kindness to perceive the feelings of others and the individual's attempts to share emotion. The results of the study showed a positive correlation between tolerance towards the other and affective empathy and no correlation between self - tolerance and affective empathy. The results also revealed that there is no statistically significant relationship between age, self-tolerance, and tolerance towards the other and affective empathy. The results also showed that there were no statistically significant differences between males and females in tolerance towards the other and self-tolerance, while statistically significant differences appeared on the affective empathy scale between males and females in favor of females with no statistically significant differences between males and females on the tolerance scale.

**The Problem of the Study and its Questions**

The success of human relationships is determined by an individual's ability to take into account the concerns, goals, and feelings of others. If this individual cannot take into account the other's point of view, he or she is unable to perceive social indicators and know how to respond in social situations. Human relationships require processes, such as identifying others' feelings and emotions, and choosing the right response, which are linked to affective empathy (Frey & Hirschstein, 2000).

The problem of the study is to reveal the level of cognitive and affective empathy among a sample of students of the National Charity School and the differences between the sample in the affective empathy depending on gender and academic year variables. There has been an increase in behavioral and emotional

problems among schoolchildren and the apparent weakness of social relations and communication among students, this affects the behavior of students and their social and school compatibility and academic achievement, the importance of cognitive and affective empathy to develop effective social relations and provide a positive social climate in the school environment.

This study attempts to answer the following questions:

1. What is the level of affective empathy among students in 8th, 9th, and 10th grades in the Al-Ahliyya Charity School (Dubai)?

2. Are there statistically significant differences in the level of affective empathy among students in 8th, 9th, and 10th grades in Al-Ahliyya Charity School (Dubai) due to variables: gender (male, female) and academic year (8th, 9th, and 10th)?

## Objectives of the Study

The present study aims to:

1. To identify the level of cognitive and affective empathy among students in 8th, 9th, and 10th grades in the National Charity School (Dubai).

2. To reveal the differences between the students in the 8th, 9th, and 10th grades in affective empathy according to gender (male, female) and academic year.

## The Importance of the Study

The importance of the study is illustrated by:

1. The present study aimed to show the level of affective empathy among a sample of students in 8th, 9th, and 10th grades based on their self-esteem, and to benefit from the results of the current study to highlight the importance of the skill of affective empathy and its role in building effective social relations.

2. The present study deals with the issue of affective empathy by pointing out the importance of that skill, which is currently receiving considerable attention in the educational field; as more recently, voices have been raised calling for attention to the emotional social skills of students rather than the traditional view of focusing solely on academic achievement.

3. Through the theoretical framework, this study shows the importance of having a high level of affective empathy, which contributes to the school climate characterized by positive relationships.

## Limitations of the Study

The results of this study are determined by:

- Characteristics of the sample: Students in the eighth, ninth and tenth grades at Al-Ahlia Charity School (Dubai).

- Characteristics of psychometric instruments prepared for the purposes of the present study: Questionnaire of cognitive & affective empathy (QCAE) (Reniers, Corcoran, Drake, Shryane & Völlm, 2011).

- The current study was applied in the second semester of the academic year (2018/2019), and it is therefore difficult to generalize the results of the study to other semesters or years.

## Idiomatic and Procedural Definitions

**Empathy:** An emotional response to the other's emotional state that matches his emotional state, they are more suited to the emotional state of the other party than the emotional state of the individual, and internal processes of a cognitive and emotional nature work together in harmony to produce an affective empathy response (Hinnant & O'Brien, 2007).

Empathy is procedurally defined in this study: it is the total score obtained by the respondent on the scale of affective empathy used in this study, as the items measure the level of Perspective Taking, Online Simulation, Emotion Contagion, Peripheral Responsibility, and Proximal Responsibility.

**Cognitive Empathy:** To infer the emotional state of the other and to maintain the differences between the individual and the other with the consciousness of the individual feeling that the other party is the source of emotion in order to focus on it and facilitate attention to their interests, and to understand his feelings and take into account his point of view.

It is defined procedurally with the degree to which the respondent receives on the two sub-scales, on Perspective Taking, and Online Simulation of the users in the present study.

**Affective Empathy:** shared feelings and emotional response, and showing an emotional state similar to that of the other, and share the others their emotions and experience emotional responses related to affective empathy (Greason & Cashwell, 2009; Pfeifer & Dapretto, 2009; Wied, Branje & Meeus, 2007).

It is procedurally defined to the extent that the respondent obtains on the sub-scales: Emotion Contagion, Peripheral Responsibility, and Proximal Responsibility used in the present study.

### Study Approach

In this study, the researcher adopted the descriptive approach; as it suits the purposes of this study, where the study aimed to identify the level of affective empathy in a sample of students in 8th, 9th, and 10th grades, and the extent of difference in affective empathy depending on the variables of gender and academic year.

### Population of the study

The population of the study consisted of all (860) students of 8th, 9th, and 10th grades at the Al-Ahliyya Charity School (Dubai) according to the statistics of the Admission and Registration Department at Al-Ahlia Charity School (Dubai) in the second semester of the academic year (2018/2019) morning period.

Table (1) shows the distribution of the study population by gender and academic year

### The study sample

The study sample included (619) male and female students. Taken from the eighth grade

(n = 177), the ninth grade (n = 184) and the tenth grade (n = 258). These classes were chosen because they represent an important transition stage for school students. The sample was selected by Stratified Random Sample, because the study population is heterogeneous. Table (2) shows the distribution of the study sample according to its variables.

### Study tool

The study used the questionnaire of cognitive & affective empathy (QCAE) developed by Reniers et al. (2011), after adjusting it to suit the study population. The researcher translated the scale and presented it in its two versions the English and the translated version to a specialist in English and a professor specialized in Arabic. The wording of several items was amended to reflect the observations of the arbitrators. The number of items of the scale in its original form (31) paragraphs, They represent a description of cognitive and affective empathy representation. The items are divided into two main areas and five sub-areas: The first domain: Cognitive Empathy: Perspective Taking (15, 16, 19, 20, 21, 22, 24, 25, 26, 27,), Online Simulation (1, 3, 4, 5, 6, 18, 28, 30, 31). Second domain: Affective Empathy: Emotion Contagion (8, 9, 13, 14), Peripheral Responsibility (2, 11, 17, 29), Proximal Responsibility (7, 10, 12, 23).

### Scale correction

The items of the scale are answered by a four-point scale: (Disagree, Limited disagree, Agree, Completely Agree). The scale included four negative items: (1, 2, 17, 29), and twenty-

**Table (1): Distribution of the study population according to its variables**

| School/Gender | Academic year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 8th grade | | 9th grade | | 10th grade | | Total |
| | Females | Males | Females | Males | Females | Males | |
| **National Charity School - Dubai Branch** | 118 | 112 | 126 | 115 | 188 | 201 | 860 |
| **Total** | 230 | | 241 | | 389 | | |

**Table (2): Distribution of the study sample according to its variables**

| School/Gender | Academic year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 8th grade | | 9th grade | | 10th grade | | Total |
| | Females | Males | Females | Males | Females | Males | |
| **National Charity School - Dubai Branch** | 90 | 87 | 95 | 89 | 126 | 132 | 619 |
| **Total** | 177 | | 184 | | 258 | | |

seven positive items which are ( 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25 , 26, 27, 28, 30, 31), the lowest score the respondent can get is (31), and the highest is (124), the higher the respondent's score, the higher the degree of affective empathy, and vice versa.

**The validity of the scale in its Emirati image**

The researcher presented the tool to (4) specialized arbitrators in the field of counseling, mental health and educational

psychology at the University of Jordan, Philadelphia University in the Hashemite Kingdom of Jordan, and Abu Dhabi University - Al Ain Branch, each arbitrator was asked to give his or her opinion on the clarity of the items and its measurement of the concept prepared for it, and its relevance to the sub-scale, the wording of some items was amended to reflect the observations of the arbitrators. Table (3) illustrates some of the amendments made by the arbitrators to the items.

**Table (3): Some of the amendments made by the arbitrators to the items of the scale of cognitive and affective empathy**

| Item No. | Items before the amendment | Items after amendment |
|---|---|---|
| 3 | I try to take into account each person's point of view before making a decision | Before making a decision, I take into account all the views I have received in this regard |
| 8 | I tend to feel nervous when others around me seem nervous. | When I am with nervous people, I feel more stressed |
| 9 | People with whom I stay have a strong influence on my mood | The people whom I am with affect my mood greatly |
| 11 | I often share deeply personal feelings in a movie, play or novel | I deeply embrace deeply the feelings of a character in a movie, play or novel |
| 14 | I am worried when others are worried and terrified | I feel that anxiety is transmitted to me when I see others in anxiety or panic |
| 16 | I can understand it quickly if someone says something but he means something else | I can easily tell if a person is saying something and means something else |
| 17 | It's hard for me to know why some things annoy people so much | It's hard for me to know why people get upset by some things |
| 19 | I am good at predicting what someone will feel | I have a good ability to predict what others feel |
| 20 | I'm quick to discover that someone in the group feels uncomfortable | I can tell that someone in my group feels uncomfortable |
| 24 | I could feel if I snooped, even if the other person didn't tell me | I know myself when I continue to interfere (or intrusive) with someone, even if that person does not show discomfort. |
| 27 | I'm good at predicting what someone will do | I have the ability to anticipate the actions of others |

**Table (4): correlation coefficients of the item with the total score of the domain**

| Perspective Taking | | Online Simulation | | Emotion Contagion | | Peripheral Responsibility | | Proximal Responsibility | |
|---|---|---|---|---|---|---|---|---|---|
| N | Correlation | N | Correlation | N | Correlation | N | Correlation | N | Correlation |
| 15 | 0.59 | 1 | 0.30 | 8 | 0.77 | 2 | 0.47 | 7 | 0.56 |
| 16 | 0.55 | 3 | 0.62 | 9 | 0.66 | 11 | 0.52 | 10 | 0.44 |
| 19 | 0.57 | 4 | 0.51 | 13 | 0.66 | 17 | 0.43 | 12 | 0.64 |
| 20 | 0.47 | 5 | 0.62 | 14 | 0.70 | 29 | 0.56 | 23 | 0.64 |
| 21 | 0.37 | 6 | 0.48 | | | | | | |
| 22 | 0.37 | 18 | 0.46 | | | | | | |
| 24 | 0.51 | 28 | 0.50 | | | | | | |
| 25 | 0.70 | 30 | 0.44 | | | | | | |
| 26 | 0.74 | 31 | 0.61 | | | | | | |
| 27 | 0.81 | | | | | | | | |

The scale was applied to a pilot study sample consisting of (50) a student, a correlation between the item and the domain was confirmed. The results of the analysis showed that all correlation coefficient values are high and statistically significant at the significance level ($α$ = 0.05) in all sub-domains, this enhances the validity of the internal consistency of the items of the scale. Table (4) shows the correlation coefficients for the total score for each sub-domain.

**Reliability of the scale in its Emirati image**

The reliability of the scale was verified by applying it to 50 students, the exploratory sample. The reliability coefficient (internal consistency) was calculated using the Cronbach-Alpha equation; the internal consistency coefficient of the scale was (0.79). While the internal consistency coefficients for the domains were as follows:

Taking into account the other party's perspective (0.78), Online Simulation (0.77), Emotion Contagion (0.77), Peripheral Responsibility (0.75), and Proximal Responsibility (0.73). Table 5 shows these coefficients.

**Table (5): Reliability coefficient through internal consistency using the Kronbach Alpha equation for the Affective Empathy scale in its Arabic version**

| Domain | Reliability |
|---|---|
| Perspective Taking | 0.78 |
| Online Simulation | 0.77 |
| Emotion Contagion | 0.77 |
| Peripheral Responsibility | 0.75 |
| Proximal Responsibility | 0.73 |
| Total | 0.79 |

**Results of the study**

**1.  Results relating to the first question:**

To answer the first question, this states: "What is the level of Empathy representation of students in 8th, 9th, and 10th grades in the Al-Ahlia Charity School (Dubai)?" means and standard deviations were calculated for students' performance on the scale domains, namely: Taking into account the other party's point of view, Online Simulation, Emotion Contagion, Peripheral Responsibility, Proximal Responsibility, and scale as a whole. The following mathematical rule was used to determine the level of Empathy representation: the upper limit of the scale used - the minimum scale used / the number of levels of commonness, thus (4-1) / 3 = 1, which represents the length of one category, They are then combined to the minimum gradient, and therefore the degree of Empathy representation is common among 8th, 9th and 10th graders based on the arithmetic means; which are:

- A (1 - 1.99) indicates a low level.
- From (2 - 2.99) indicates a medium level.
- From (3 - 4) indicates a high level.

Table (5) shows the level of affective empathy among students in grades eighth, ninth and tenth in the National Charity School (Dubai) in all fields:

Table (5) shows that the arithmetic averages for the five domains ranged from (2.74-3.15); (Proximal Responsibility) ranked first with the highest average of 3.15, while the domain of (peripheral responsibility) came in last rank with an arithmetic average of (2.74), and the arithmetic mean of the tool as a whole (2.99). The result can be explained by the fact that the level of cognitive and affective empathy is moderate among students in grades eighth, ninth and tenth in the charitable school in general, and that the atmosphere in the school is dominated by empathy, and the ability of students to express their feelings and communicate, however, the prevalence of cognitive empathy among students may not be sufficient to achieve a high level of

**Table (5): means and standard deviations of the domains of cognitive Empathy**

| Domains | Mean | Standard deviation | Ranking | Level |
|---|---|---|---|---|
| Perspective Taking | 3.08 | 0.53 | 2 | High |
| Online simulation | 2.99 | 0.49 | 3 | Moderate |
| First domain: Affective Empathy | 3.04 | 0.43 | --- | High |
| Emotion Contagion | 2.83 | 0.68 | 4 | Moderate |
| Peripheral Responsibility | 2.74 | 0.64 | 5 | Moderate |
| Proximal Responsibility | 3.15 | 0.67 | 1 | High |
| Second domain: Affective empathy | 2.91 | 0.46 | --- | Moderate |
| Total score | 2.99 | 0.40 | ---- | Moderate |

cognitive and affective empathy. The result of the high level of cognitive empathy among students can be explained by drawing on the theoretical framework that an individual develops perceptions of the other's thoughts and behaviors, to be used to interpret and predict the actions of the other, with the ability to take into account the other's point of view. The demands of a complex social environment develop cognitive empathy because it develops social function and helps the individual understand and predict the behavior of others based on attribution of mental states (Smith, 2006). The result of this study was consistent with that of (Dehning et al., 2013), and differed with that of (Ang & Goh, 2010).

**2. Results relating to the second question:**

To answer the second question: "Are there statistically significant differences in the level of affective empathy among students in 8th,

9th, and 10th grades in Al-Ahliyya Charity School (Dubai) due to variables: gender (male, female) and academic year (8th, 9th, and 10th)?", means and standard deviations for the level of affective empathy of students were calculated according to the variables (gender and academic year). One Way ANOVA analysis was applied to the domains, and to the tool as a whole to detect differences in the level of cognitive and affective empathy of students in 8th, 9th, and 10th grades depending on the variable of the academic year. Table (6) shows the means and standard deviations.

Table (7) shows the results of using One Way ANOVA on all areas of the cognitive and affective empathy scale according to the academic year variable.

It is clear from Table (7) that the value of "F" reached (3.128) with a level of significance (0.045) for the affective empathy domain. This value is significant at the level of ($\alpha$ = 0.05)

**Table (6): Means and Standard Deviations of Scale Domains by Year Variable**

| Domains | Academic year | No | Mean | Standard deviation |
|---|---|---|---|---|
| **Perspective Taking** | 8th grade | 177 | 3.0073 | 0.61191 |
| | 9th grade | 184 | 3.0755 | 0.54110 |
| | 10th grade | 258 | 3.1213 | 0.46275 |
| | Total | 619 | 3.0751 | 0.53347 |
| **Online Simulation** | 8th grade | 177 | 3.0044 | 0.54836 |
| | 9th grade | 184 | 2.9632 | 0.53488 |
| | 10th grade | 258 | 3.0026 | 0.41712 |
| | Total | 619 | 2.9914 | 0.49299 |
| **Affective Empathy** | 8th grade | 177 | 3.0059 | 0.48221 |
| | 9th grade | 184 | 3.0223 | 0.47048 |
| | 10th grade | 258 | 3.0651 | 0.36663 |
| | Total | 619 | 3.0355 | 0.43397 |
| **Emotion Contagion** | 8th grade | 177 | 2.7613 | 0.72438 |
| | 9th grade | 184 | 2.9158 | 0.71410 |
| | 10th grade | 258 | 2.8275 | 0.63022 |
| | Total | 619 | 2.8348 | 0.68493 |
| **Peripheral Responsibility** | 8th grade | 177 | 2.6723 | 0.67523 |
| | 9th grade | 184 | 2.8057 | 0.62667 |
| | 10th grade | 258 | 2.7510 | 0.62825 |
| | Total | 619 | 2.7447 | 0.64257 |
| **Proximal Responsibility** | 8th grade | 177 | 3.0975 | 0.69139 |
| | 9th grade | 184 | 3.1712 | 0.74560 |
| | 10th grade | 258 | 3.1764 | 0.59660 |
| | Total | 619 | 3.1523 | 0.67080 |
| **Empathy Representation** | 8th grade | 177 | 2.8437 | 0.49041 |
| | 9th grade | 184 | 2.9642 | 0.47697 |
| | 10th grade | 258 | 2.9183 | 0.43063 |
| | Total | 619 | 2.9106 | 0.46383 |
| **Total Degree** | 8th grade | 177 | 2.9431 | 0.42756 |
| | 9th grade | 184 | 2.9998 | 0.42173 |
| | 10th grade | 258 | 3.0083 | 0.32531 |
| | Total | 619 | 2.9871 | 0.38669 |

and lower depending on the year variable. In order to verify the academic year in which the significant differences appear; the Schaffe test for post comparisons was performed. Table 8 shows the results of this analysis.

Table (8) shows that there are significant differences between the students from the 8th, 9th, and 10th grades in the affective empathy domain, in favor of 9th grade students. The

differences between individuals in the growth of neural networks, age-related changes, the impact of these changes on the development of the skill of affective empathy (Schwenck et al., 2014; Khanjani et al., 2015).

The result of this study is consistent with that of Khanjani et al., 2015, and differed with the results of Moreto et al., 2012; Schwenck et al., 2014; Macaskill et al., 2002).

**Table (7): One Way ANOVA Results on All Scale Domains by Year Variable**

| Domains | Source of variance | Sum of squares | Df | Mean | F | |
|---|---|---|---|---|---|---|
| **Perspective Taking** | Between groups | 1.364 | 2 | 0.682 | 2.407 | 0.091 |
| | Within groups | 174.513 | 616 | 0.283 | | |
| | Total | 175.877 | 618 | | | |
| **Online Simulation** | Between groups | 0.209 | 2 | 0.104 | 0.429 | 0.651 |
| | Within groups | 149.992 | 616 | 0.243 | | |
| | Total | 150.201 | 618 | | | |
| **Affective Empathy** | Between groups | 0.412 | 2 | 0.206 | 1.095 | 0.335 |
| | Within groups | 115.976 | 616 | 0.188 | | |
| | Total | 116.388 | 618 | | | |
| **Emotion Contagion** | Between groups | 2.176 | 2 | 1.088 | 2.329 | 0.098 |
| | Within groups | 287.746 | 616 | .467 | | |
| | Total | 289.922 | 618 | | | |
| **Peripheral Responsibility** | Between groups | 1.622 | 2 | .811 | 1.971 | 0.140 |
| | Within groups | 253.548 | 616 | .412 | | |
| | Total | 255.170 | 618 | | | |
| **Nearby responsibility** | Between groups | .747 | 2 | .374 | 0.830 | 0.437 |
| | Within groups | 277.339 | 616 | .450 | | |
| | Total | 278.087 | 618 | | | |
| **Empathy Representation** | Between groups | 1.337 | 2 | 0.668 | 3.128 | **0.045 |
| | Within groups | 131.620 | 616 | 0.214 | | |
| | Total | 132.956 | 618 | | | |
| **Total Degree** | Between groups | 0.487 | 2 | 0.244 | 1.633 | 0.196 |
| | Within groups | 91.921 | 616 | 0.149 | | |
| | Total | 92.408 | 618 | | | |

*** Statistically significant at the level of statistical significance (a = 0.05)*

**Table (8): Schaffeh test results for post comparisons of differences in affective empathy according to the variable of the academic year**

| Domain | Academic year | Mean | 8th grade | 9th grade | 10th grade |
|---|---|---|---|---|---|
| **Empathy representation** | 8th grade | 2.8437 | - | **0.120529 | 0.074590 |
| | 9th grade | 2.9642 | | - | 0.045939 |
| | 10th grade | 2.9183 | | | - |

*** Statistically significant at the level of statistical significance (a = 0.05)*

researcher considers that this finding of the study is consistent with what was referred to in the literature of psychological education that there is evidence of the development of affective empathy with age; older students are different from younger students in their ability to affective empathy with others, because of experience and maturity, taking into account brain imaging studies that have shown

Means and standard deviations were calculated and a T-test was conducted to examine the differences in the level of affective empathy among students in grades 8, 9 and 10 in Al-Ahliyya Charity School (Dubai) attributed to the variable: Gender (Male, Female) as shown in Table (9).

The results in Table (9) indicate that there are statistically significant differences at the level

of significance (α = 0.05) between male and female students in all domains in favor of females. From this we conclude that because of social cognition and gender stereotyping, females may be perceived as more sympathetic than males and consequent that the female self-esteem in the field of affective empathy at a high level, this is based on the fact that some studies that applied self-esteem scales concluded that females showed a high level of cognitive and affective empathy.

educational process such as: self-organization, and social adequacy.

- Prepare training programs to develop affective empathy among males. In general, it is possible to offer structured knowledge about affective empathy in schools and to allow students to participate in training programs aimed at developing cognitive and affective empathy.

**Table (9): Test results for the different affective empathy according to the gender variable**

| Domain | Gender | No. | Mean | Standard deviation | T | Sig |
|---|---|---|---|---|---|---|
| Perspective Taking | Males | 308 | 2.9880 | 0.56420 | 4.095 | 0.00** |
| | Females | 311 | 3.1614 | 0.48692 | | |
| Online Simulation | Males | 308 | 2.9488 | 0.46938 | 2.15 | 0.00** |
| | Females | 311 | 3.0336 | 0.51259 | | |
| Affective Empathy | Males | 308 | 2.9694 | 0.44093 | 3.81 | 0.00** |
| | Females | 311 | 3.1009 | 0.41747 | | |
| Emotion Contagion | Males | 308 | 2.7273 | 0.68806 | 3.93 | 0.00** |
| | Females | 311 | 2.9413 | 0.66597 | | |
| Peripheral Responsibility | Males | 308 | 2.6347 | 0.60712 | 4.30 | 0.00** |
| | Females | 311 | 2.8537 | 0.65892 | | |
| Nearby responsibility | Males | 308 | 2.9773 | 0.62250 | 6.68 | 0.00** |
| | Females | 311 | 3.3256 | 0.67286 | | |
| Empathy Representation | Males | 308 | 2.7798 | 0.39987 | 7.27 | 0.00** |
| | Females | 311 | 3.0402 | 0.48650 | | |
| Total Degree | Males | 308 | 2.8960 | 0.37189 | 5.99 | 0.00** |
| | Females | 311 | 3.0774 | 0.38040 | | |

The current study is consistent with those studies and a self-esteem scales of affective empathy was applied (Schwenck et al., 2014). The results of this study was consistent with those of Dehning et al., 2013; Macaskill et al., 2002; Atan, 2017), and differed with that of Schwenck et al., 2014.

**Recommendations**
Based on the results of the study, the following can be recommended:
- To take advantage of the tool used in the current study, so that the application of the cognitive and affective empathy scale and draw conclusions to guide students later towards positive behaviors that lead to help others and take care of them.
- Conduct studies on the relationship between cognitive and affective empathy and some variables of importance to the

**References**
- Ang, R. & Goh, D. (2010). Cyberbullying among adolescents: The role of affective & cognitive empathy and gender. *Child Psychiatry, 41* (1): 387-397.

- Atan, T. (2017). Empathy levels of university students who do and not do sports. *Universal Journal of Educational Research, 5* (3): 500-503

- Bakar, A. & Ishak (2018). The relationship of interpersonal & leadership skills with empathic understanding among Malaysian gifted students. *Journal of the Education of Gifted Young Scientists, 6* (2): 30-38

- Barr, J. & Higgins–d' Alessandro, A. (2007). Adolescent empathy and prosocial behavior in the multidimensional context of school culture. *Journal of Genetic Psychology, 168* (3), 231–250.

- Batson, C. (2009). These things called empathy: Eight related but distinct phenomena. In J. Decety & W. Ickes (Eds.), *Social neuroscience. The social neuroscience of empathy* (pp. 3-15). Cambridge, MA, US: MIT Press.

- Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews, 3* (1), 71-100

- Dehning, S., Gasperi, S., Krause, D., Meyer, S., Reib, E., Burger, M., Jacobs, F. Buchheim, A., Müller, N. & Siebeck, M. (2013). Empathy & cognitive empathy in first year medical students. *ISRV Psychiatry, 2013* (1): 1-6

- Feshbach, N. D. (1975). Empathy in children: Some theoretical and empirical considerations. *The Counseling Psychologist, 5*(2), 25-30

- Frey, K. S. and Hirschstein, M. K. (2000). Second step: Preventing aggression by promoting social competence. *Journal of Empathy and Behavioral Disorders, 8* (2), 102-113.

- Greason, P. & Cashwell, C. (2009). Mindfullness and counseling self–efficacy: The mediating role of attention and empathy. *Counselor Education and Supervision, 49* (1), 2-19.

- Hinnant, J. & O'Brien (2007). Cognitive and Empathy control and perspective taking and their relations to empathy in 5-year-old children. *The Journal of Genetic Psychology, 168* (3), 301-322.

- Hoffman, M. L. (2008). Empathy and prosocial behavior. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 440-455). New York, NY, US: The Guilford Press.

- .Khanjani, Z., Jeddi, E., Hekmati, I., Khalilzade, S., Nia, M., Andalib, M. & Ashrafain, P. (2015). Comparison of cognitive empathy, Empathy empathy & social functioning in different age groups. *Australian Psychologist, 50* (1): 80-85.

- Levenson, R. & Ruef, A. (1992). Empathy: A psychological substrate. *Journal of Personality & Social Psychology, 63* (2): 234-46

- Macaskill, A., Maltby, j. & Day, L. (2002). Forgiveness of self & others and Empathy empathy. *The Journal of Social Psychology, 142* (5): 663-665

- Migchelbrink, L. (2015). *Is empathy always a good thing? The ability to regulate cognitive & affective empathy in a medical setting.* (Master dissertation, The Leiden University Institute of Psychology, Leiden). Retrieved from https://core.ac.uk/download/pdf/43502275.pdf

- Moreto, G., Santos, I., Blasco, P., Pessini, L. & Lotufo, P. (2018). Assessing empathy among medical students: A comparative analysis using two different scales in a Brazilian medical school. *Medical Education & Humanism, 19* (52): 162-170

- Pfeifer, J. H., & Dapretto, M. (2009). A mirror in my mind: Empathy and the mirror neuron system. In J. Decety & W. Ickes (Eds.), *The Social Neuroscience of Empathy* (183-198). Cambridge, MA: MIT Press.

- Reniers, R., Corcoran, R., Drake, R., Shryane, N. & Völlm, B. (2011) The QCAE: A questionnaire of cognitive & affective empathy, *Journal of Personality Assessment, 93* (1): 84-95

- Rueda, P., Fernandez-Berrocal & Baron-Cohen, S. (2015). Dissociation between cognitive & effective empathy in youth with asperger syndrome. *European Journal of Developmental Psychology. 12* (1): 85-98.

- Schwenck, C. Gohle, B., Hauf, J., Warnke, A., Freitag, C. & Schneider, W. (2014). Cognitive & Empathy empathy in typically developing children: The influence of age, gender & intelligence. *European Journal of Developmental Psychology, 11* (1): 63-76

- Smith, A. (2006). Cognitive empathy & Empathy empathy in human behavior & evaluation. *The Psychological Record, 56* (1): 2-21.

- Van Zonneveld, L., Platje, E., Sonneville, L., Van Goozen, S., & Swaab, H. (2017). Affective empathy, cognitive empathy & social attention in children at high risk of criminal behavior. *Journal of Child Psychology & Pschiatry, 58* (8): 913-921

- Wied, M., Branje, S. & Meeus, W. (2007). Empathy & conflict resolution in friendship relations among adolescents. *Aggressive Behavior, 33*(1), 48-55.

- Wied, M., Branje, S. & Meeus, W. (2007). Empathy and conflict resolution in friendship relations among adolescents. *Aggressive Behavior, 33* (1), 48-55.

- Wispé, L. (1986). The distinction between sympathy and empathy: To call forth a concept, a word is needed. *Journal of Personality and Social Psychology, 50*, 314-321

- Zonneveld, L., Sonneville, L., Swaab, H., Platje, E. & Goozen, S. (2017). Affective empathy, cognitive empathy & social attention in children at high risk of criminal behavior. *Journal of Child Psychology. 58* (8): 913-921.

- Zoll, C. & Enz, S. (2005). A questionnaire to assess affective and cognitive empathy in children. *Journal of Child Psychology, 15* (1), 165-174

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