

Emotional contagion among secondary school students

¹Azal Abbas Fadel Abd Ail; ²Asst. Prof. Dr. Fatima Diab Malod Saadi

^{1,2} Department of Educational and Psychological sciences
College of Education for Humanities science
Kerbala University - Iraq

Abstract

The current research aims to identify emotional infection among secondary school students, and the statistically significant differences in emotional infection according to the gender variable (males - females) and grade (fifth preparatory, second average). The study sample consisted of (488) male and female students for the academic year (2022, 2021), and to the objectives of the research, the achieve researcher used the descriptive approach, and the researcher adopted the emotional contagion scale for (ANTON MARX.,2020) The psychometric properties of the scale were verified after it was presented to a group of experts. Then the researcher analyzed the data by using the statistical portfolio for social sciences. The results showed the presence of emotional infection among secondary school students, and there are statistically significant differences in infection. Emotional contagion according to the gender variable, and there are no statistically significant differences in emotional contagion according to the grade variable.

Keywords: emotional infection, secondary school students.

First: Introduction

Phenomenon of emotional contagion is one of the important manifestations whose danger to individuals in general, and to adolescents in particular, is clear. The age stage of secondary school students is the stage of adolescence, and this stage is going through a series of psychological changes that affect the course of their thoughts, behavior, and decisions, which generates their readiness to be affected emotionally others, and their feelings, behaviors and opinions, especially in the case of the presence of bad models from peers, so the responses to actions may be illogical and unbalanced in most cases, and its various negative effects (Hussain, 2019: 51). Emotional contagion occurs in individuals through people automatically sending messages about how they feel in daily interactions with people at home, work and society, and receiving emotional messages sent by others at the same time, and recent research has proven that these emotional behavioral signals It affects the moods of each person, and then these feelings positively affect, thus helping to improve their performance and increase production (Freedman, 2007: 7).

, the researcher tries to answer the following question in his research problem:

1. Is there an emotional infection in the research sample?
2. Are there statistically significant differences in emotional contagion according to the variable (type, grade)?

Second: The significance of the Research:

Emotional contagion has become prominent in many social, personal and educational contexts, and has become a focus of interest for many researchers in the fields of group dynamics. Emotional contagion is also important for personal relationships. Because it enhances

emotional synchronization between individuals and their interaction, the process of conscious or unconscious incitement takes place for a group of feelings and behavioral and social attitudes carried out by the individual or group of individuals influencing the feelings or behavior of the individual or a group of people ; The positive energy that a person carries can positively affect the performance of the people around him, whether in the field of work or study, and the sharing of feelings of Others may promote positive social behaviors, enhance affiliation, bonding and empathy, as well as improving social interactions in the best possible way (de Waal, 2012: 17).

Third: Aim of the Research:

The current research aims to identify to:

Emotional infection among secondary school students.

Statistically significant differences in emotional infection according to the variables of type and grade.

Fourth: Limitation of the Research:

The current search is determined with:

Students of the Directorate of Karbala Governorate, For the secondary stage (males - females), and from both the fifth branches (scientific and literary), the second description is average, for the academic year (2021-2022).

Fifth: Definition of terms:

First: Emotional Contagion:

define it:

Hatfield (1994) " Hatfield:

"It is the automatic imitation of synchronizing facial expressions, vocal and verbal expressions, and postures with those of a person. the a kher and synchronize them automatically and with whom the emotional closeness occurs the other person. " (Htfield, 1994: 5).

Theoretical definition:

The researcher Tan adopted the definition of " Hatfield " (Hatfield, 1994) as a theoretical definition of emotional infection."

procedural definition:

The degree to which the respondent obtains on the paragraphs of the "Marx's emotional contagion scale " (Anton Marx, 2020) used in the study.

theoretical framework for the concept of emotional contagion:

The concept of passive contagion dates back to the year (400) BC, when he noticed Hippocrates, the founder of medicine, says that some women seem to transmit Hysteria refers to each other, as it is Hysteria is a strong form of emotional contagion, which describes the effect on some imitative behaviors resulting from the suggestion and the effect of the word, and thus tends to imitate others emotionally. By the eighteenth century, researchers began to discover that individuals reflect the smiles and sadness they see on another person's face, The individual can be affected by emotions in several cases, and scientists and researchers had previously explained that rational thinking, analysis and conscious imagination cause and explain this phenomenon. For example, the economic philosopher " Adam Smith " noted as early as (1759) that " With no one under torture, we imagine ourselves in his position, rather we imagine that we are suffering torment." We share with him (his anguish) as if we are inside his body, and we become with him to some extent one person, and then we have an idea of

some of his feelings. We are completely different from him, albeit to a lesser degree. (MS, Denney.C, 1995: 98).

Therefore, psychologists pay attention to the observation Emotional contagion In practice, this process is very important in interpersonal relationships: Emotional contagion takes people one step further, as it enables them to follow other people's feelings and intentions moment by moment, even when they are not paying attention to this information. (Carison and, Hatfield, 1992: 32).

One of the most important theories that explain emotional contagion is the theory of Elaine Hatfield (Hatfield, 1994):

American social psychologist Eileen Hatfield " the first to address the concept of emotional contagion using scientific techniques to study the effect of facial, verbal and bodily expressions on others within a number of scientific and social contexts, when she noticed that at the end of her psychotherapeutic sessions for her patients, she was feeling the same feelings that the patient was feeling and expressing, she determined " Hatfield and colleagues (1994) Primitive emotional contagion is the tendency to automatically mimic and synchronize facial expressions, sounds, postures, and movements with those of another person. In theory, " Hatfield " with many scientists and researchers from various scientific disciplines conducted a lot of studies to identify the impact of emotional infection on various aspects of life. People automatically send emotional messages to others expressing their feelings about their daily interactions at home, work and society, and in return they receive other people's emotional messages as well, and these emotional and behavioral messages or signals affect individuals' emotional states and feelings, which affects their performance of workers, and in their behavior as well (Freedman, 2007: 8).

Emotional Infection Mechanisms:

points out (Hatfield & Rapson), In addition, emotional infection is affected by several mechanisms, and these mechanisms may cause Or explain the phenomenon of emotional infection, and this was confirmed by many experiments and studies confirming that people tend to mimic the verbal (voice) and facial expressions of others and the movements of the body, and that being affected by these emotions occurs as a result of feedback. (Carlson & Harfield, 1992: 31).

1. Simulation:

can occur during the process of interaction between a group of people, as the individual automatically and constantly mimics vocal, facial and vocal expressions, body positions and behaviors. And other behaviors and synchronize their movements during the conversation with each other. (Hatfield & Cacippo & Rapson, 1994: 17), and simulation takes many forms, including:

a) Facial simulation:

The process of simulating the faces of others is one of the facts that has been researched and studied by many researchers and scientists specializing in neuroscience, social and psychological physiology, and they indicated that That people are able to notice and follow the minute changes moment by moment, and that this type of kinetic simulation is characterized by being very fast and accurate so It does not cause a noticeable change in facial expressions. (Lundqvist, LO, 1995: 141).

b) Verbal simulation:

synchronize verbal expressions with other people, at their level of difference they prefer different types of interaction, People also mimic and synchronize verbal expressions Different people prefer different interactions When partners interact Their speech cycles should become mutually exclusive if things go right OK, there is a great deal of evidence in a controlled interview setting that supports the influence of speakers on speaking durations, speech rate, and response times. (Chapple, 1982: 31-52).

C) simulation of the position of the body: The individual may mimic and synchronize with the posture of the body and the movements of the opposite person ; Simulation here may occur unconsciously or unintentionally, this process is very fast and complex, Davis (Davis, 1985) tried to prove that this effective and accurate synchronization occurs through complex processes that occur in brain structures and on several levels of the axis This condition may already exist in the individual, or it may not exist ; The individual cannot intentionally perform it or perform it, so whoever deliberately does it will appear to be pretending and imitating others. (Hatfield & Rapson, 1994: 38).

2. Feed back: Many studies in the field of emotional infection confirm that vocal or facial feedback or body position has an effect on emotions, as it controls their intensity. (Halfield, Rapson, 1994: 11).

Previous studies:

1. Study (Al-Shammari, 2013).

This study aimed at cognitive distortions and emotional infection and its relationship to the destructive personality, and the researcher used the " Hatfield " scale for emotional infection, and the sample of this study consisted of (400) male and female students, and the researcher used the statistical methods represented by analysis of variance, chi-square test, Regression analysis, and as the results showed that university students have a higher emotional infection in favor of females.

2. Study (Englent, 2014).

This study aimed to investigate the effect of emotional infection and its relationship to mood. The researcher used the " Doherty " emotional infection scale (1997, Doherty), and the sample of this study consisted of (97) male and female students from Middle West University, as it amounted to (28) males, and (69) i female, The researcher used statistical methods analysis of variance chi - square test Regression analysis, and the results showed both hypotheses that individuals tend to imitate emotional displays and feel them, and showed that females are more susceptible to emotional infection than males.

Research Methodology and Procedures:

The current research community was determined by secondary school students (males, females) in the governorate of (Karbala), and the total number of students in this governorate reached (9753) male and female students, distributed by gender and grade.

sample:

After defining the research community and obtaining the statistical data required by the research, the two researchers chose the research sample in a stratified random sampling

method. on the opinion Anastasi (Anastasi, 1989), which indicates that the best sample size for statistical analysis of paragraphs is to be in each of the two peripheral groups in the total score (100) individuals, as it relied on (27%) of the sample size in each group In the total degree, as the number of the sample of the paragraphs analysis is (370) individuals (Anastasi, and since the size of the current research community is large, the researcher took the second sample size to suit (400) male and female students from secondary schools, which the researcher will use In extracting the discriminatory power of the paragraphs by using it to extract the differences between the two end groups, as well as calculating the coefficients of construct validity and stability, because the process of statistical analysis of the paragraphs of the scale is one of the basic and important steps, and it has been relied on the paragraphs that are characterized by good psychometric properties until the scale becomes More honest and consistent (Al -Douri, 2004: 68).

Emotional contagion scale:

After reviewing previous studies and psychological literature, the two researchers translated and adopted the Anton Marx Scale, (2020) Anton MARX) for emotional infection, and this scale is suitable for the current research sample, and it is characterized by high honesty and stability, and the scale in its final form consists of (32) items, It is divided into six subscales. As shown in the table below:

Table (1) shows each field and number of paragraphs

| T | fields | span of paragraphs | number of paragraphs |
|----|----------------|--|----------------------|
| 1. | anger | (1, 2, 3, 4) | 4 |
| 2. | His Excellency | (5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15). | 11 |
| 3. | Sorrow | (16, 17, 18, 19, 20, 21, 22). | 7 |
| 4. | the fear | (23, 24). | 2 |
| 5. | worry | (25, 26, 27, 28). | 4 |
| 6. | the love | (29, 30, 31, 32). | 4 |

Description of the scale in the original form:

For the purpose of verifying the validity of the paragraphs of the emotional contagion scale, the two researchers presented the scale to a number of arbitrators specialized in psychological sciences in order to indicate their observations and opinions on the validity, alternatives, and weights of the paragraphs, and the need for deletion and modification according to what they saw fit. The forms were collected from specialized professors. The two researchers analyzed the opinions on the paragraphs by using the percentage, and the percentage of agreement (80%) or more was adopted as a criterion for accepting the survival of the paragraph (Al-Jabri, 2011: 218), and in light of the opinions of the arbitrators, it was agreed to exclude one paragraph (three paragraphs) from the field The first (paragraph 2), another from the second field

(paragraph 2) and one paragraph from the third field (paragraph 11), and making the appropriate modification to some paragraphs.

Scale instructions:

The scale's instructions are a guide that guides the respondent during his response to the scale's items, and the researcher Tan indicated that the respondent's answers should be related to opinions towards life situations, and it was emphasized the need for the respondent to choose the appropriate alternative that is expressed by the five scale alternatives, emphasizing that The response will not be seen by anyone except the researcher Tan, and that it is used for the purposes of scientific research only, and he was not asked to mention the name and did not disclose the actual presentation of the study in order to reduce the impact of the study. Social desirability factor, as Gronbach indicates that mentioning the main objective of the scale leads to falsification of the response (Al - Zoba'i, 1980: 71).

Experience clarity of instructions and paragraphs:

The researcher Tan conducted an exploratory study to find out the clarity of the instructions and the paragraphs in terms of wording and meaning, and the method of answering, and to know the difficulties that the respondents might face in order to avoid them before applying the scale in its final form and knowing the time it takes for the respondent to respond to the scale, so the researcher Tan applied the list On a sample of (40) male and female students equally distributed on the variables of gender and school stage from Karbala city schools, the sample members indicated that the instructions and paragraphs of the scale and the way of answering are clear, and that the time spent by the sample members in their responses to the list ranged Between (10-15) minutes, and that it is necessary to verify the extent to which the target sample understands the scale's instructions and the extent to which its paragraphs are clear to them. (Faraj, 1980: 16).

Statistical analysis of paragraphs:

The objective of the item analysis is to maintain the good items, after ensuring their strength in achieving discrimination between the individuals subject to the measurement, because one of the important conditions for the items of psychological scales is that these items are characterized by a strong discriminatory force between individuals with high scores and individuals with low scores. In the characteristic or attribute to be measured. (Groniund, 1981: 253), as Geisell et al., 1981) refer to the need to select items with high discriminatory power and include them in the final image of the scale, and to exclude distinct items due to the existence of a strong relationship between the accuracy of the scale and the discriminatory power of its items Nunnally, 1976: 261)). The researcher verified two of the discriminatory power of the paragraphs using the Contrasted Groups method by applying the paragraphs of the scale to the statistical analysis sample, which amounted to (400) male and female students, and then determining the total score for each of the respondent forms, then ordering The forms in descending order according to the total score, from the highest score to the lowest score, then 27% of the forms with higher scores, and 27% of the forms with lower scores, were assigned, and the number of individuals from each of the two groups The upper and lower extremities of (108) students, and after applying the t - test for two independent samples, to

find out After applying the t - test for two independent samples, to find out the significance of the differences between the upper and lower groups for the scores of each item of the scale, all items of the scale were by comparing them with the tabular t-value of (1.97) at the level of significance (0.05), with a degree of Freedom (214). Thus, all the paragraphs are distinct because the calculated value is greater than the tabular value at the significance level (0.05) and with a degree of freedom (214), except for the paragraph that carries a sequence (12) which is considered an undistinguished paragraph.

Internal Consistency Method:

. has been used The data of the statistical analysis sample, which amounted to (40) forms.

a. The relationship of the paragraph's score with the total score of the scale:

the paragraph to the total score of the scale is one of the methods used in calculating the internal consistency of the scale, and it is concerned with knowing whether or not each of the scale's paragraphs goes in the direction in which the whole scale goes. It has the advantage that it provides us with a homogeneous scale (Abd al-Rahman, 1998: 207), and Table (2) shows that.

Table (2)

The relationship of the paragraph score with the total score of the emotional infection scale

| T | correlation coefficient | T | correlation coefficient | T | correlation coefficient |
|----|-------------------------|------|-------------------------|----|-------------------------|
| 1 | 0.221 | 12 | 0-.067- | 23 | 0.582 |
| 2 | 0.238 | 13 | 0.539 | 24 | 0.490 |
| 3 | 0.438 | 14 | 0.529 | 25 | 0.605 |
| 4 | 0.363 | 15th | 0.457 | 26 | 0.537 |
| 5 | 0.211 | 16 | 0.572 | 27 | 0.582 |
| 6 | 0.406 | 17 | 0.627 | 28 | 0.456 |
| 7 | 0.405 | 18 | 0.474 | 29 | 0.384 |
| 8 | 0.473 | 19 | 0.449 | 30 | 0.457 |
| 9 | 0.505 | 20 | 0.543 | 31 | 0.396 |
| 10 | 0.472 | 21 | 0.579 | 32 | 0.479 |
| 11 | 0.481 | 22 | 0.513 | | |

The relationship of the paragraph's score with the total score of the domain it belongs to why:

Table (3)

The relationship of the paragraph's score with the total score of the domain it belongs to why ?
emotional contagion scale

| the field | Paragraph sequence | correlation coefficient | the field | Paragraph sequence | correlation coefficient |
|-----------|--------------------|-------------------------|-----------|--------------------|-------------------------|
| anger | 1 | 0.594 | Sorrow | 17 | 0.744 |
| | 2 | 0.663 | | 18 | 0.570 |
| | 3 | 0.622 | | 19 | 0.570 |

| | | | | | |
|----------------|------|-------|----------|----|-------|
| | 4 | 0.562 | | 20 | 0.658 |
| His Excellency | 5 | 0.233 | | 21 | 0.708 |
| | 6 | 0.513 | | 22 | 0.604 |
| | 7 | 0.588 | the fear | 23 | 0.887 |
| | 8 | 0.664 | | 24 | 0.891 |
| | 9 | 0.665 | worry | 25 | 0.794 |
| | 10 | 0.591 | | 26 | 0.850 |
| | 11 | 0.607 | | 27 | 0.819 |
| | 12 | 0.017 | | 28 | 0.725 |
| | 13 | 0.587 | | 29 | 0.647 |
| | 14 | 0.628 | | 30 | 0.708 |
| Sorrow | 15th | 0.430 | the love | 31 | 0.666 |
| | 16 | 0.702 | | 32 | 0.690 |

The relationship of the field to the total degree and the field to the field:

Table (4)

The relationship of the domain to the total score and the domain to the domain emotional contagion scale

| Variables | emotional infection | field of anger | field of happiness | field of sadness | field of fear | area of concern | love field |
|--------------------|---------------------|----------------|--------------------|------------------|---------------|-----------------|------------|
| infection | 1 | - | - | - | - | - | - |
| field of anger | 0.504 | 1 | - | - | - | - | - |
| field of happiness | 0.750 | 0.315 | 1 | - | - | - | - |
| field of sadness | 0.845 | 0.336 | 0.546 | 1 | - | - | - |
| field of fear | 0.603 | 0.159 | 0.240 | 0.424 | 1 | - | - |

| | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|---|
| area of concern | 0.681 | 0.215 | 0.307 | 0.420 | 0.615 | 1 | - |
| love field | 0.636 | 0.192 | 0.434 | 0.481 | 0.245 | 0.301 | 1 |

Psychometric Characteristics of Emotional Infection Scale:

It is necessary to check some of the standard characteristics of the scale (mark, 1986: 209), and honesty and stability are among the most important psychometric characteristics, as the accuracy of the information provided by the scales depends on it (Abd al-Rahman, 1998: 159, and thus these characteristics were verified by extracting some of the validity and reliability indicators of the scale.

1. Honesty Validity: Honesty means “the ability of a measuring instrument. ” (choice or measure) is based on the measure of what it was set for. ” (Kaplan, 2005: 134 & (Saccuzz Honesty is one of the important characteristics in psychological tests and scales, and for the scale to be described as honest There must be some indicators that point to it, and the more indicators, the greater the confidence in it (Anastasi & Urbina, 1997: 141). Indicators of honesty will be verified as follows:

a. Face validity:

This type of honesty represents the initial examination of the items of the scale, as it is an appropriate procedure for the scale, and through it it is recognized that the items are appropriate for what they were set for, or that the items are related to the variable that is measured and that the content is consistent with the purpose for which it was set (1962:90, Freeman), as a group of specialists examines the extent of the clarity of the paragraphs, their relationship to the measured feature, and their compatibility with the society for which the scale was designed (Abdul Rahman, 1998: 124). This type of honesty was verified when the scale was presented to a group of arbitrators.

B - the validity of the construction (Construct Validity):

The validity of construction is a fundamentally correct concept, as it can be resorted to when we deal with abstract psychological concepts, as we do not know what the scale measures by means of an external test, but rather by defining theoretical assumptions (Bechtoldt, 1951: 1245). This type of honesty is concerned with whether the scale measures theoretical assumptions that refer to psychological traits and characteristics that cannot be observed, but can be inferred (Instanzi). and Urena, 2015: 150). This type of honesty was verified by the method of the two extreme groups and the internal consistency of the relationship between the paragraph's degree and the total degree of each dimension.

2. Reliability: Reliability means “the internal consistency of the test, and stability.” its results passing by Time” (1993: 7, Kline). To calculate the scale’s stability, it was applied to a sample of (60) male and female students who were chosen by the stratified random method. The scale’s stability indicators were extracted in two ways:

A- Cronbach 's Alpha:

Stability according to this method depends on the consistency of the response on each item of the scale, as it depends on the standard deviation of the scale and the standard deviation of each item of the scale (Thorndike and hygen, 1989: 79). The stability of the scale is extracted by calculating the correlation coefficient between the degrees of the scale on the basis that each paragraph of the scale is self-contained (Brown, 1976: 86), and the reliability coefficient by this method reached (0.874).

B- Test - Retest Method:

This method involves applying the scale to a representative sample of individuals in the community, and then reapplying it the scale it again after the passage of an appropriate period of time, and Adams (1964, Adams) believes that the re-application of the scale to identify its stability, must be within a period of not less than Two weeks (1964 (Ada, The researcher Tan applied the emotional contagion list scale to extract the stability in this way on the stability sample, and two weeks after the first application of the list, the researcher Tan re-applied the list again on the same sample, and the Pearson correlation coefficient (Person Correlation Cofficient) was used. To know the nature of the relationship between the first and second application degrees (Majid, and children, 2012: 84). The value of the stability by this method was (0.851).

Describe the emotional contagion scale in its final form:

The emotional contagion scale in its initial form consists of (3 5) items, and after extracting the psychometric properties of the emotional contagion scale, the emotional contagion scale in its final form is from (32) A paragraph divided into six domains, (4) items for the domain of anger and (10) items for the domain of happiness and (7) Paragraphs for the field of grief and (4) Paragraphs for anxiety and (4) paragraphs for love.

Fourth chapter (presentation and interpretation of results):

included This chapter presents the findings of To the second researcher, according to the research objectives set in the first chapter, through the data contained in the research, the application of research tools to the sample members and the conduct of statistical analyzes on them, and then discussing and interpreting the results in the light of the literature and previous studies that were presented In the second chapter, and come up with some recommendations and suggestions, as follows:

First: Presentation and interpretation of the results:

Objective One: Get to know Emotional infection among secondary school students:

The result of the first goal shows that high school students have emotional infection to a clear degree, and this indicates that they are influenced and tend to imitate the emotions of others to a great extent. The researcher attributes this result to the fact that the age stage that high school students go through It is the stage of adolescence that represents a stage of severe change so that the circle of social relations of the adolescent gradually expands beyond the family and school to a broader environment than that, which is society and what It requires behavioral and emotional patterns, and through its interaction with the rest of the individuals, whether in the school or the group of companions, this leads to imitating their movements and paying attention to their feelings and suffering, which generates emotional infection for them, and that the sample members through social interaction are affected They are emotionally enriched with religious, familial and political social models in a way that leads to the creation of a personality affected by emotional signals from another person and sensitive to the feelings of others and society The result of this study agreed with the result of the study (Al- Shammari 2013), and Table (5) shows that.

Table (5)

The significance of the difference between the arithmetic and hypothetical means of the students' scores on the emotional contagion scale

| variable | the sample | the middle arithmetic | deviation normative | the middle hypothetical | the value T | | indication |
|---------------------|------------|-----------------------|---------------------|-------------------------|-------------|---------|------------|
| | | | | | calculated | tabular | |
| emotional infection | 488 | 99.1885 | 14.53528 | 77.5 | 32.962 | 1.96 | function |

The second goal: getting to know to me the differences in infection Emotionality according to the gender variables (male, female) and grade The fifth is preparatory (biology, applied, Dubai) and the second is intermediate:

To achieve this goal, the researcher used two-way analysis of variance with the interaction of (Tow away analysis of anova) to identify the significance of differences for gender and class and the interaction between gender and class in emotional infection, and Table (6 and 7) shows this.

Table (6)

Significance of differences in emotional infection according to gender variable (male, female)

| Type | | the middle arithmetic | deviation normative | the number |
|----------|----------------|-----------------------|---------------------|------------|
| Mention | Second Average | 95.5000 | 11.09054 | 118 |
| | fifth prep | 91.5000 | 13.50071 | 108 |
| | the total | 94.1667 | 11.93461 | 226 |
| feminine | Second Average | 99.9578 | 15.51948 | 147 |
| | fifth prep | 99.3254 | 13.69410 | 115 |
| | the total | 99.6614 | 14.67949 | 262 |
| mr | Second Average | 99.4868 | 15.15828 | 265 |
| | fifth prep | 98.8341 | 13.78386 | 223 |
| | the total | 99.1885 | 14.53528 | 488 |

The third objective: the significance of the differences in emotional contagion according to the gender variable (male, female) and grade:

Table (7)

| source variance | sum squares | Degree Freedom | Average squares | the value faea calculated | indication |
|-----------------|-------------|----------------|-----------------|---------------------------|------------|
| Type | 1299.011 | 1 | 1299.011 | 6.192 | D |
| Class | 184.762 | 1 | 184.762 | 0.881 | not D |
| type* grade | 97.638 | 1 | 97.638 | 0.465 | not D |

| | | | | | |
|------------------|------------|-----|---------|--|--|
| The error | 101537.954 | 484 | 209.789 | | |
| total | 102890.656 | 487 | | | |

The results of the analysis of variance indicated that YAT:

a. Differences according to For gender: There are statistically significant differences in emotional contagion according to gender, as the calculated categorical value reached (6,192) and this value is greater than the tabular categorical value (3,84) at the significance level (0.05) and the degree of freedom (1-484), and this result can be explained that secondary school students have statistically significant differences in favor of females, because the arithmetic mean of females is higher than the arithmetic average of males. The above result shows that there are differences in emotional infection between Males and females and for the benefit of females.

B. Differences by grade: There are no statistically significant differences in emotional infection according to the grade variable. The calculated value is (0.881), and this value is smaller than the tabular value of (3.84) at the level of significance (0.05) and the degree of freedom (1-484). They showed a similar level of emotional contagion.

c. Differences according to interaction: no There is an interaction in emotional infection according to the variables (gender, grade) as the calculated t value was (0.465) and this value is smaller than the tabular t-value (3.84) at the significance level (0.05). And a degree of freedom (1-484) and this result indicates that there is no effect of the gender variable (males, females) on the grade variable and vice versa.

In light of the results of the current study, it can be concluded that YAT:

research sample of secondary school students enjoys a high level of emotional contagion.

There are statistically significant differences for emotional infection according to the gender variable (males, females) and in favor of females.

no There are statistically significant differences for emotional infection according to the grade (the fifth preparatory, the second intermediate).

Recommendations:

1. Based on the results of the current study, the researcher recommends the following:
2. Preparing programs and seminars to train students who suffer from increased emotional intensity to control and control their emotions.
3. Emphasis on the importance of the presence of the educational counselor inside the school for the purpose of following up and assisting students with emotional infection.

Suggestions:

1. based on what The researcher puts forward the following suggestions:
2. carry out studies aimed at To get to know:
3. relationship of emotional infection with other variables (bullying Electronic, intolerant tendencies, attachment to peers, temperamental personality).

References

1. Nunnally, JC (1976): Introudction To Psychological Measurement. New York: McGraw-Hill.
2. Chapple.ED.(1982). Movement and Sound The Musical Language of body rhythms in interaction. In M.Davis (Ed.). Interaction rhythms: Periodicity in communicative behavior. New York: Human Scien.

3. Ghisell, E.E. et.al. (1981): *Measurement Theory for the Behavioral Sciences*. San Francisco, Free man & Company.
4. Hatfield, E, Cacioppo, J., & Rapson, RL, (1994): *Emotional Contagion*, New York: Cambridge University press.
5. Hatfield, E. & Caciopo, JT & Rapson, R. L (1992): "primitive emotional contagion in SC Margaret (ED) emotional and social behavior review of personality and social psychology" (vol:14) Newbury park, CA: sage.
6. Lundqvist.LO.(1995): *Facial EMG Reaction to Facial expressions: a case of facial emotion?* Scandinavian journal of Psychology.
7. Abdulrahman, Saad (1998): *Psychometrics, theory and practice*. 3rd floor, Arab Thought House, The omnipotent.
8. Al-Douri, Adnan Talfah Muhammad (2004): *Deductive thinking and its relationship to the level of ambition among university students*, an unpublished master's thesis, Tikrit University, College of Education.
9. allam, Salah Al- Din Mahmoud (1986): *Contemporary Developments in Psychological and Educational Measurement*, Kuwait University
10. Al-Shammari, Ammar Abd Ali (2013): *Cognitive distortions and emotional infection and their relationship to the destructive personality*, PhD thesis, University of Baghdad, College of Arts.
11. Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. *Academy of Accounting and Financial Studies Journal*, Vol. 26, no.2, pp. 1-18
12. Allugunti V.R (2022). A machine learning model for skin disease classification using convolution neural network. *International Journal of Computing, Programming and Database Management* 3(1), 141-147
13. Allugunti V.R (2022). Breast cancer detection based on thermographic images using machine learning and deep learning algorithms. *International Journal of Engineering in Computer Science* 4(1), 49-56
14. Anastasia, Anna and Orian, Susanna (2015): *Psychometrics*, 1st floor, translated by Salah El - Din Mahmoud Allam, Amman, Dar Alf Kr Al Arabi.
1. Bechtoldt, HP. (1951): Selection. In SSStevens (Ed.), *Handbook of Experimental Psychology* (pp. 1237-1267). New York: Wiley
2. Brown, FG (1976): *Principles of Educational and Psychological Testing* (2nd Edition). New. York, Holt, Rinehart&Winston.
3. de Waal, FBM, & Preston, SD (2012): *Mammalian empathy: Behavioral manifestations and neural bases*. *Nature Reviews Neuroscience*, 18, 498.
4. Englert, L. (2014): *The Impact of Emotional Contagion and its Relationship to Mood*.
15. Farag, (1989): *Psychometrics*, 2nd Edition, Cairo, Anglo Egyptian Library, Egypt.
16. hand mug, Abdul Hussein, and children, Yassin Hamid (2012): *Measurement and evaluation for the university student*. Baghdad, Al-Yamamah Library.
17. Hussein, Hussein Ali (2019): *Negative emotion infection among middle school students*, University of Diyala. College of Education for Human Sciences, Issue Twenty-One.
18. Zobaie, Abdul Jalili Ibrahim (1980): *Psychological Tests and Measures*, conductor, Printing House Directorate of Books.