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Unrealistic optimism

Asst. Prof. Dr. Zinah Ali Salih

Al-Qadisiyah University- College of Arts

Email: Zena.al-rheem@qu.edu.iq

Hanan Majiad Noor eabd

Al-Qadisiyah University- College of Arts

Email: art.psy.mas.20.11@qu.edu.iq

Abstract---This study aimed to measure the unrealistic optimism of the two samples vaccinated and not vaccinated with Cov-19 virus. The researcher used a measure of unrealistic optimism (researcher's construct), where the current study aimed at the existence of unrealistic optimism among the vaccinated with an arithmetic mean (94.7347) and a standard deviation (14.5068) and the presence of unrealistic optimism among the unvaccinated with an arithmetic mean (92.7721) and a standard deviation (11.80844). Statistically significant differences were also found, and the results showed statistically significant differences between males and females, vaccinated and unvaccinated.

Keywords---unrealistic optimism, vaccinated, unvaccinated.

Research problem

At the end of 2019, a new virus, the COVID-19 virus (SARS-COV-2), which causes severe acute respiratory syndrome, emerged globally from Wuhan, China. On February 11, 2020, the Director-General of the World Health Organization called the disease caused by the virus "COVID-19." Within just one month, the disease caused by the virus was considered a public health emergency by the World Health Organization and declared a pandemic by March 2020 (Ali, 2022: 2). This epidemic has caused human losses and serious threats to the physical health of individuals and groups, especially with regard to psychological distress, and the resulting mental health burdens. The epidemic brought not only the danger of death and fear of infection, but also a lot of psychological stress, as the number of Corona patients in the world exceeded ten million people, and about half a million deaths, and caused a variety of psychological problems, such as post-traumatic stress disorders. stress, panic attacks, anxiety, and depression (Aladdin et al., 2020: 456).

In light of these frightening and terrifying numbers, which are reported by various local and international media around the clock, of injuries and deaths due to the emerging corona virus, individuals are living in a state of panic, anxiety and tension on a large scale that humanity may not have witnessed before, at least for a short period of time (Youssef, 2020: 553).

(Weinstein, 1980) revealed in a report on the tendency of individuals to unrealistically optimistic about life events, and pointed out that people expect others to be victims of adversity and not themselves, such thoughts do not mean just an optimistic view of life, but an error in judgment. The positive side of the event gives more optimism than its normal size. In return, his view of the negative side of the event is less than it actually is. The higher the risk, the higher the level of unrealistic optimism (James K., 2005: 1).

The individual is exposed to a number of risks and incurable and dangerous diseases, and because unrealistic optimism makes the individual bear the positive aspects of life only, and distance himself from negative and bad events, even if just thinking about them, he finds it difficult to face life's problems and may generate a kind of shock, frustration and inability to adapt, making it in a state of imbalance (Khalaf and Ghailani, 2020: 6)

The study (Gassen et al., 2021) found that those who are at higher risk of infection with (COVID-19) will display unrealistic optimism, act in inconsistent ways to reduce their personal vulnerability, and act in a manner that is inconsistent with higher risk of disease and mortality (Gassen et al., 2021:1).

The Weinstein study (Weinstein 1980) revealed that individuals appreciated positive events at an above average rate, while their appreciation of negative events was at a lower rate than the average (Machacho, 2011:27). The Weinstein study (1982) also found that out of 45 different health and life-threatening events, 34 of them exhibited unrealistic optimism, suggesting that overconfidence in one's likelihood of developing health problems may reduce motivation to take steps to mitigate risks (Gassen et al., 2021:3).

It has been proven that optimism is unrealistic and hinders efforts for the effective development of health, as it is difficult for us to perform a healthy behavior that requires effort and patience without being able to realize the various dangers. Rather, the lack of awareness may push us to practice behaviors that cause many of us to suffer from incurable diseases. Which have a great impact on mental and physical health, which are considered two important elements for a person to live in a healthy way (Nuseibeh, 2017: 50).

Research importance:

The importance of the research can be summarized in the following:

- The research dealt with one of the important concepts in the field of health psychology, which is the concept of unrealistic optimism, which is one of the important topics in the life of the individual because of its impact on the risks facing the individual and its consequences in the future.

- The importance of studying the research sample of the vaccinated and the non-vaccinated, as university students are an important segment of society, and they bear the responsibility of building and progressing society.
- The current research is interested in shedding light on these two variables because they are not studied in the local and Arab environment, to the knowledge of the researcher.

Research aims:

The current research targets:

- 1.Measuring the unrealistic optimism of: a. vaccinated students.
B. Unvaccinated students.
- 2.Know the differences in unrealistic optimism among students according to the variable: a. Gender (male, female) b. Vaccine property (vaccinated, unvaccinated)

The theory that explains unrealistic optimism:

Weinstein's Theory of Unrealistic Optimism (1980)

The theory is one of the theories that have directly explained unrealistic optimism and has been referred to in many psychology literature, such as: (Abramson et., 1989, . 366), (Nickerson, 1998,. 197), (Baumeister et al., 2001, p. 355), (Chen et al., 2019,. 6), (Raghubir et al., 2021, . 364), (Jelinek., 2022,. 2), (Prada et al., 2022,. 10).

Weinstein developed his theory in 1980 in which he discussed unrealistic optimism, which states that individuals tend to underestimate the probability of unpleasant events in the future and overestimate the probability of pleasant or positive events in the future. Many factors or characteristics of these events mitigate this tendency (Moore & Ohtsuka, 1997. 6).

The theory indicated that individuals, in general, tend to believe that they are not at risk. They expect others to be victims of adversity, not themselves. Such ideas do not mean merely an optimistic view of life, but an error of judgment, which can be described as unrealistic optimism (Weinstein, 1980, 806).

People are unrealistically optimistic if they expect that a subjective future outcome will be more favorable than that suggested by a relevant objective criterion. Unrealistic optimism also occurs when people unnecessarily expect their personal outcomes to be more favorable than those of their peers. The concept differs empirically and conceptually from propensity optimism, a personality trait that represents generally positive expectations about the future (Shepperd et al., 2015, 2)

The theory emphasized that individuals have a tendency to be unrealistically optimistic about future life events. That is, individuals, in general, rank their chances of being above average for positive events and below average for negative events compared to other individuals. And it is usually impossible to prove that an individual's optimistic expectations about the future are unrealistic. An individual may be quite right in asserting that their chances of experiencing a negative event are below average. On a group basis, it is relatively easy to notice unrealistic optimism. If all people claim that their chances of experiencing a

negative event are lower than average, they are clearly making a systematic error, indicating that they have unrealistic optimism (Weinstein, 1980, 806).

Researchers distinguish between two types of unrealistic optimism that differ in the standard against which personal predictions are compared:

The first type is unrealistic absolute optimism: which refers to an unjustified belief that a subjective outcome will be more appropriate than the outcomes indicated by an objective, quantitative criterion.

The second type is unrealistic comparative optimism, which refers to the misestimating that an individual's personal results will be more favorable than those of peers.

Researchers use two general methods to document unrealistic comparative optimism:

The first is when the individual judges wrongly that his risks are less than the risks of others.

Two: determining whether a group of people, rather than a specific individual, is unrealistically optimistic.

Although absolute unrealistic optimism and unrealistic comparative optimism differ operationally and conceptually, they are likely to be positively correlated in some cases. However, evidence suggests that they may differ in their causes, prevalence and potential effects (Shepperd et al., 2015,. 2)

The theory revolves around the main assumption that "people believe that they are less likely to experience negative events compared to other individuals, and that positive events are more likely to occur to them than other individuals." He was interested in the extent of optimistic biases and the conditions under which these biases occur that lead individuals to tend to be unrealistically optimistic about future events. The theory indicated that there are cognitive and motivational considerations that affect the amount of optimistic bias raised by various events that are embodied by factors or characteristics of events that affect unrealistic optimism, namely the degree of desire, perceived probability, personal experience, perceived ability to control, and the emergence of a stereotype. This means that the idea that people are unrealistically optimistic because they focus on factors that improve their chances of achieving desired results and fail to realize that others may have the same factors that are in their interest. p. (Weinstein, 1980,. 807)

The model indicated that assumptions often include both motivational and cognitive considerations. Personal experience, for example, may reduce optimism about negative events by making images of events more available or by undermining defensive denial. Thus, these hypotheses are not presented as a test of motivational versus cognitive viewpoints or as a study of the importance of representing information or stereotypes in generating unrealistic optimism (Weinstein, 1980,818)

First: Research Methodology

The descriptive research method is the most widespread method, because it is the method that includes research that focuses on what is now in human life and society (Al-Azzawi, 2008: 97).

The researcher adopted the descriptive, correlative research method as a scientific method for the current study, as it aims to describe psychological phenomena in general by collecting data, displaying and transmitting them statistically.

Second - The Research Population:

The current research community includes students from the University of Al-Qadisiyah for the morning study for the academic year (2021/2022) in Al-Qadisiyah Governorate, whose number is (19,916), both male and female, vaccinated and not vaccinated with Cov-19 virus, as the number of vaccinated people is distributed by (2447) by (12.29%), While the number of vaccinated males reached (981), and the number of females vaccinated (1466), the number of unvaccinated students reached (17469) with a percentage of (87.71%), of whom (7817) are unvaccinated males and (9652) are unvaccinated females.

Third: The Research Sample:

The research sample was chosen by the Stratified Random Sample method, and the optimal proportional selection was taken into account, because the research community for students consists of several classes, males and females, vaccinated and unvaccinated.

Therefore, the research sample was selected from among the vaccinated, as the number of its members reached (49) individuals from the original community of (2447) with a percentage of (12%) male and female, and the number of vaccinated males reached (20) individuals with a percentage (5%) and the number of vaccinated females was (29) individuals by (7%). While (351) unvaccinated individuals were selected with a percentage of (88%) male and female, as the number of unvaccinated males reached (157) individuals at (39%) and the number of unvaccinated females reached (194) and (49%).

Fourth: Research Instrument: Research Instruments

•Unrealistic Optimism Scale:

Due to the lack of a tool to measure unrealistic optimism based on the construction of a theory that fits the research sample of the vaccinated and non-vaccinated with COVID-19 virus (to the knowledge of the researcher), in addition, the researcher adopted Weinstein's theory (1980) and did not find a local or Arab based tool For this construction theory, and the fact that the foreign scale developed by Weinstein (1980), which was based on this construction theory, was built on university students, but it is not consistent with the current research sample (vaccinated and unvaccinated from covid-19), so the optimism scale was built The reality in the current research according to the following steps:

1. Define the concept of unrealistic optimism

The researcher adopted Weinstein's (1980) theory of unrealistic optimism as a theoretical framework in constructing the scale. The theoretical definition of the concept of unrealistic optimism was defined according to the theory as:

The individual's belief that positive things can happen to him more than they actually are, and his belief that negative things can't happen less than they actually are (Weinstein, 1980: 806).

2. Formulating the paragraphs of the Unrealistic Optimism Scale (Initial Formula)

The scale of unrealistic optimism in its initial form consists of (32) items, represented by the items (against the phenomenon) which are (16) items, and the items (with the phenomenon) and their number is (16) items.

3.Type of alternatives and method for correcting the Unrealistic Optimism Scale

The alternatives that were used in the five-point scale and the following apply to me (always, often, sometimes, rarely, never), and the responses on the scale were corrected by giving scores as follows: (always 5, often 4, sometimes 3, rarely 2, never 1) for items (with phenomenon) and scores The following: (always 1, often 2, sometimes 3, rarely 4, never 5) for paragraphs (opposite).

4. Presenting the unrealistic optimism scale to the arbitrators (paragraphs validity):

The drafted paragraphs were presented to a group of arbitrators specialized in psychology, as the purpose of the study, the theoretical definition adopted for the study, the type of sample on which the scale would be applied, their ages, and a request to express their opinions and observations about the scale and the validity of its paragraphs, alternatives, weights, and what required deletion or modification, All paragraphs of the scale that obtained an agreement percentage (80%) or higher were retained by the arbitrators, as the paragraphs of the scale and its alternatives are accepted according to the extracted chi-square values.

5. Preparing the instructions of the Unrealistic Optimism Scale:

In formulating the scale's instructions, the researcher was keen to be clear, accurate and simple, and was also careful not to mention what the scale measures, as the respondent was asked to indicate one of the five alternatives to the scale's paragraphs and answer them with honesty and objectivity, while giving her an example showing how to choose one alternative from five alternatives. It was also pointed out that there are no right or wrong answers as much as it expresses their feelings, and there is no need to mention the name and that no one but the researcher will see the answer.

6. Sample clarity of instructions and time calculation:

The measure of unrealistic optimism shown in Appendix (4) was applied to a sample of (30) vaccinated and unvaccinated, with (15) vaccinated and (15) unvaccinated (males and females), they were randomly selected from the College of Arts - University of Al-Qadisiyah, and after Observing the responses on the scale shows that the instructions, paragraphs and alternatives were clear, and it was found that the extent of the time taken by the examinee to answer the scale (10) minutes.

7. Statistical analysis of paragraphs

The objective of conducting the statistical analysis of the paragraphs is to extract the discriminatory power of the paragraphs and to preserve the distinct paragraphs in the scale and to exclude the undistinguished paragraphs (Ebel, 1972:392), (Abd al-Rahman, 1983: 85), where the discriminatory power of the paragraphs means the extent of the paragraph's ability to distinguish between

those with levels The upper and lower levels of individuals in relation to the trait measured by the paragraph (Shaw, 1967: 450) The process of statistical analysis of the paragraphs of the scale is one of the basic steps for its construction, and the adoption of paragraphs that have good psychometric properties makes the scale more honest and stable (Anastasi, 1997: 172).

Distinguishing the items is an important aspect of the statistical analysis of the items of the scale, because it ensures the efficiency of the items of the psychological scales, as it indicates the ability of the items of the scale to detect individual differences between individuals (Ebel, 1972: 399) .In order to keep the distinct items in the Unrealistic Optimism Scale and exclude the undistinguished items, the discriminating power of the items was extracted, by applying the Unrealistic Optimism Scale to a sample of (400) vaccinated and unvaccinated.

The relationship of the paragraph score with the total score of the scale: (Internal Consistency)

This method depends on calculating the correlation between the score of each paragraph and the total score of the scale. The total score of the scale represents instantaneous spoken measurements (Immediate Criterion Measures) through its correlation with the degree of individuals on the paragraphs, and then the correlation of the degree of the paragraph with the total degree of the scale means that the paragraph measures the same concept that the total score measures and in the light of this indicator, the paragraphs that are the parameters of The correlation of its scores with the total score of the scale is statistically significant (Anastasi, 1976: 154).

The scale whose paragraphs are selected according to this indicator has structural validity. One of the advantages of this method is that it provides a homogeneous measure in its paragraphs (Smith, 1966: 7).

The Pearson Correlation Coefficient was used to extract the correlation between the degree of each paragraph of the scale and the total score of (400) forms. 0.05), degree of freedom (398), and table (1).

Table (1)

The values of the correlation coefficients between the score of each paragraph and the total score of the Unrealistic Optimism Scale

Degree of correlation coefficient	T	Degree of correlation coefficient	T
.222*	15	.222*	1
.341*	16	.246*	2
.290*	17	.127*	3
.219*	18	.133*	4
.305*	19	.435*	5
.461*	20	.420*	6
.488*	21	.321*	7
.497*	22	.406*	8

.268*	23	.540*	9
.419*	24	.435*	10
.442*	25	.394*	11
.203*	26	.183*	12
.223*	27	.415*	13
.299*	28	.181*	14

It is clear from Table (2) that all the degrees of coefficients for the correlation of the paragraph with the total score are statistically significant when compared with the critical tabular value (0.098), the degree of freedom (398) and the level of statistical significance (0.05).

8. Psychometric characteristics of the Unrealistic Optimism Scale:

Psychometrics specialists see the necessity of verifying some of the standard characteristics in constructing the scale that is being built or adopted, whatever the purpose of its use, such as honesty and stability (Allam, 1986: 209). As these characteristics provide the conditions for accuracy and validity for what the scale is interested in knowing and measuring (Abdul Rahman, 1983: 159). So the truthful scale is the scale that measures what was prepared to measure or achieves the purpose for which it was prepared, and that the fixed scale is the scale that measures with an acceptable degree of accuracy (Awda, 2002: 335).

a. Validity Indicates

Validity is the most important characteristic of any test, as it shows whether the scale actually measures the same characteristic, and honesty assumes stability, but the opposite is not true (Goodwin, 2010: 135). Validity indicates that the scale measures the characteristic that it was designed to measure, and honesty is directly related to stability, and for the scale to be valid, it must be stable (Abbas, 1996: 24). The researcher used two types of honesty to measure unrealistic optimism:

1. Virtual honesty: Face Validity

The scale appears to be outwardly honest if it measures the ability to be measured (Awad, 1998: 90). The scale is characterized by this kind of honesty if it appears to be self-evident, capable of measuring what it claims to measure (65: Barker et al., 2002). The best way to calculate the apparent validity is through the researcher's presentation of the paragraphs of the scale before applying it to a group of arbitrators who are characterized by experience that enables them to judge the validity of the test paragraphs in measuring the property to be measured, so that it makes the researcher reassured about their opinions and takes the provisions that most of them agree on or in proportion (80%) or more (Al-Kubaisi, 2010: 265). This type of honesty was investigated through the procedures he took to verify the validity of the paragraphs of the current scale and its alternatives and their weights, by presenting it to a group of arbitrators specialized in the field of psychology, and their observations were taken from the amendment of some paragraphs.

2. Construct Validity

Goodwin (2010) indicates that construct validity is the extent to which the test measures the formation of a hypothesis or psychological concept (Goodwin, 2010: 132). The construction sincerity is intended to analyze the paragraphs of the scale based on the construction of the psychological characteristic to be measured or in the light of a specific psychological concept, that is, the extent to which it can be determined that the scale has a specific theoretical construction or a specific characteristic (Anastasi, 1997:151). The statistically significant coefficient of discrimination is an indicator of the construct validity of the scale (Isawy, 1999: 52). And the scale whose items were prepared according to (Statistical Analysis of Clauses) has construct validity (Anastasi, 1997:151), which is considered to be construct validity (Contract Validity). The most acceptable type of honesty, and a large number of specialists believe that it agrees with the essence of Ebel's concept of honesty in terms of saturation of the scale in the general sense (Al-Imam, 1990: 131).

B. Stability indicators of the Unrealistic Optimism Scale

Reliability refers to the consistency in scores when the test is applied a second time to the same individuals to whom it was applied the first time after a period of time and giving the same results (wallen& Fraenkel, 2006: 157). If Reliability means the accuracy of the scale, and it is defined statistically by the ratio of the true variance to the total variance, or the square of the correlation coefficient between the real and the apparent signs (Awda, 2005: 429). The concept of the stability of test scores means the extent to which they are free from irregular errors that distort the measurement. Test scores are fixed if the test measures a specific feature in a consistent measure in the varying conditions that lead to measurement errors. Stability in this sense means consistency or accuracy in the measurement (Allam, 2000: 131). To extract stability, it was used:

1. Internal consistency (Fakronbach coefficient):

The stability coefficient extracted in this way refers to the internal correlation between the items of the scale (Ferrickson, 1991: 530), as this method depends on the consistency of the individual's performance from one item to another (Thorndike and Higgin, 1989: 79).

Calculating the Cronbach's alpha coefficient to check the internal consistency is an indicator of the stability of the scale, and the internal consistency provides information about the measurement error specifically (O'Rourke et al, 2005: 15).

In this method of stability, Cronbach's alpha coefficient increases as the number of test items increases (44 Carmines & Zeller, 1979:) and Cronbach's alpha coefficient decreases in a test whose number of items is few. After applying the scale to a sample of (400) individuals, Cronbach's alpha coefficient of the Unrealistic Optimism Scale was (71.00).

2. Retest method

The reliability coefficient according to this method is the value of the correlation coefficient between the individuals' scores obtained from the first application and re-applying the scale to the individuals themselves with an appropriate interval for the two applications. This method includes applying the scale to a

representative sample of individuals, and then re-applying the scale to it once Another is after an appropriate period of time has passed, as Adams believes that re-applying the scale to identify its stability should be within a period of no less than two weeks. The researcher applied the scale of unrealistic optimism to extract stability in this way on the sample, the first exploratory application consisting of (30) males and females, vaccinated and unvaccinated, and after two weeks of the first application of the scale, the researcher re-applied the same scale again and on the same sample, and after using the coefficient of Pearson Correlation Coefficient In order to identify the nature of the relationship between the first and second application scores, it was found that the value of the stability coefficient of unrealistic optimism (0.78), and this value was considered an indicator of the stability of individuals' responses to the scale of unrealistic optimism over time.

9. Describe the Unrealistic Optimism Scale in the Final Formula:

The scale of unrealistic optimism in its final form consists of (28) items, and (14) items were formulated against the phenomenon: (2, 5, 7, 9, 11, 12, 13, 14, 17, 20, 21, 22, 24, 25) As for the rest of the (14) paragraphs, they were formulated with the phenomenon.

Thus, the theoretical range for the highest score that a respondent can obtain is (140) and the lowest score is (28), with a hypothetical average of (84).

The first goal: to measure the unrealistic optimism of:

a. The vaccinated students:

The results of the research, after applying the unrealistic optimism scale to the vaccinated students of (49) individuals, showed that the arithmetic mean was (94.7347) and the standard deviation was (14.5068) when calculating the difference between the mean scores of the vaccinated students on the unrealistic optimism scale and the hypothetical average of the scale of (84) By using the one-sample t-test, it was found that the difference was statistically significant, as it appeared that the calculated t-value of (5.180) was higher than the tabular t-value of (1.96), at a significance level of (0.05), and a degree of freedom (48), and this indicates a statistically significant difference between the arithmetic mean and the hypothetical mean. This indicates that the vaccinated people have high unrealistic optimism, and Table (2) illustrates this:

Table (2)
A one-sample t-test to measure unrealistic optimism

Indication level 0.05	Degree of freedom	T value		Hypothetical mean	Standard deviation	SMA	Number of sample personnel	Variable
		Tabular	Calculated					
significant	48	1.96	5.180	84	14.506	94.734	49	Unrealistic optimism

This result is explained according to the theory adopted in the current research that individuals have a tendency to be unrealistically optimistic about future life events. That is, individuals, in general, rank their chances of being above average for positive events and below average for negative events compared to other individuals. And it is usually impossible to prove that an individual's optimistic expectations about the future are unrealistic. An individual may be quite right in asserting that their chances of experiencing a negative event are below average. However, on a group basis, it is relatively easy to notice unrealistic optimism. If all people claim that their chances of experiencing a negative event are lower than average, they are clearly making a systematic error, indicating that they have unrealistic optimism (Weinstein, 1980, p. 806).

B. Unvaccinated students:

The results of the research, after applying the scale of unrealistic optimism to the unvaccinated students, which amounted to (351) individuals, showed that the arithmetic mean was (92.7721) and the standard deviation was (11.80844) when calculating the difference between the mean scores of the unvaccinated students on the unrealistic optimism scale and the hypothetical average of the scale The adult (84) by using the t-test for one sample (One Sample t.test) found that the difference was statistically significant, as it appeared that the calculated t-value of (13.918) was higher than the tabular t-value of (1.96), at the level of significance (0.05).), and a degree of freedom (350), and this indicates that there is a statistically significant difference between the arithmetic mean and the hypothetical average, this indicates that the unvaccinated have high unrealistic optimism and Table (3) .

Table (3) A one-sample t-test to measure unrealistic optimism

Indication level 0.05	Degree of freedom	T value		Hypothetical mean	Standard deviation	SMA	Number of sample personnel	Variable
		Tabular	Calculated					
Significant	350	1.96	13.918	84	11.808	92.772	351	Unrealistic optimism

The second objective: to identify the differences in unrealistic optimism among students according to the variable:

Gender (male-female) and pollen quality (vaccinated – unvaccinated)

In order to identify the significance of the differences in the scores of the sample members in the scale of unrealistic optimism according to the variable of sex, receiving the vaccine and the interaction between these variables, a binary analysis of variance was used, and the results appeared as in Table (4).

Table (4) The results of the binary variance analysis for the differences in the scores of the sample members in the scale of unrealistic optimism according to the variable of sex, age and receiving the vaccine

Indication level 0.05	T value		Contrast estimate	Degree of freedom	sum of squares	Contrast sources
	Tabular	Calculated				
not significant	3.86	.757	112.023	1	112.023	sex
no significant	3.86	1.627	240.798	1	240.798	receive the vaccine
no significant	3.86	1.918	283.874	1	283.874	sex * receive the vaccine
			148.005	396	58609.783	The error
				400	3519601.000	total
				399	59070.937	corrected kidney

At two degrees of freedom (1:396), a tabular categorical value of (3.86), and a significance level of (0.05).

A. Differences according to gender variable (males, females):

It is clear from the previous table that the differences between males and females on the scale of unrealistic optimism do not rise to the level of statistical significance when we compare the calculated t-value (.757) with the tabular value of (3.86) at the level of statistical significance (0.05), as the arithmetic mean for males was (92.8023) with a standard deviation (11.78792), which is not much different from the arithmetic mean for females of (93.1794) with a standard deviation (12.484).

B. Vaccine properties (vaccinated, unvaccinated):

It is clear from the previous table that the difference between the vaccinated and unvaccinated individuals according to the variable of receiving the vaccine does not rise to the level of statistical significance when the calculated value of (1.627) is compared with the tabular value of (3.86) at the level of statistical significance (0.05), as the arithmetic mean of the two vaccinated was (94.7347, a standard deviation (14.50686), and the arithmetic mean of the unvaccinated was (92.7721), and a standard deviation was (11.80844). When we compare the arithmetic averages of the sample members according to a characteristic of the vaccine, we find that despite the slight differences between them, they do not reach the limit of statistical significance.

c. Interaction of sex with the property of the vaccine:

It is clear from the previous table that the differences between the different male and female university students, vaccinated and unvaccinated, do not rise to the level of statistical significance when comparing the calculated value of (1.918) with the tabular value of (3.86) at the level of significance (0.05), and thus no interaction appeared between each The variable of sex and the property of the vaccine in influencing the scale of unrealistic optimism as shown in the previous table.

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