

Attitude towards Coronavirus Pandemic "Covid-19" and Its Relationship to Optimism and Pessimism among a Sample of Residents in Irbid

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Abstract The study aimed to reveal the relationship between the attitude towards Coronavirus disease (Covid-19) and optimism and pessimism among a sample from Irbid city. It also aimed to identify the nature of the differences between the degree of optimism and pessimism and the attitudes (affective, behavioral, cognitive) between the participants according to demographic and personal variables (gender, age, marital status, educational level, economic status, number of children). The study sample consisted of (600) male and female residents in Irbid city, who were chosen randomly. The findings showed that: there is a positive statistically significant relationship between the behavioral and cognitive attitudes towards the Corona pandemic (Covid-19) and optimism. And there is a negative statistically significant relationship between the attitude (affective, behavioral) towards the Covid-19 and pessimism. The results also showed statistically significant differences in the degree of optimism and pessimism attributed to the age variable and the differences are in the degree of optimism for the age group "from 25-35 years" and the differences in the degree of pessimism came in favor of the age group "35-36 years". Also, there are no statistically significant differences in the degree of optimism and pessimism due to a variable (gender, marital status, educational level, economic level, number of children). The results showed that there are no differences in the attitude (affective, behavioral, cognitive) attributable

to the variables (gender, age, educational level, economic status, number of children). The results also indicated that there are statistically significant differences in the social status at the cognitive attitude and the differences came in favor of the Married group.

Keywords Trend, Optimism, Pessimism, Coronavirus, Covid-19

1. Introduction

Attitudes are considered the impetus of human behavior, as they spur the individual to act in a specific way, inspire him to solve various life situations and problems facing him, and instantly direct him on how to deal with them. Social psychologists use the term "attitude" to refer to the human evaluation of almost every aspect of the world. As people can have either supportive or negative reactions to issues, ideas, objects, and actions (Olson & Kendrick, 2008; Petty, Wheeler & Tormala, 2003). Attitudes are generally classified into positive attitudes (satisfy the individual because they fulfill his desires). And negative attitude (do not obtain satisfaction from the individual because it does not satisfy his demands), and neutral attitude (the individual does not take any position).

Attitudes consist of three basic elements: The cognitive component, which is the outcome of knowledge that the individual has from previous experiences. The affective component represents the emotions and feelings that the individual has about something or an idea. And the behavioral component is the individual's intention to act on a topic (Schiffman & Kanuk, 2004).

An attitude is defined as a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events, or symbols. It represents the individual's attitude to respond to a specific incident or idea in a predetermined manner and is based on the organization of behavior including affective and cognitive aspects of certain patterns of behavior, and these responses are a constant system of positive or negative evaluations (Blackwell et al., 2001). Kagan & Havemann (1972) define it as a constant tendency to think and feel positively or negatively about a specific issue. While Greenwald (1986) defined it as a concept that expresses the pattern or formation of a person's feelings, knowledge, and behavior, i.e. his willingness to perform certain actions and is represented by degrees of acceptance and rejection of the themes of the trend; (Wright, 1981) defines it as a fixed direction or stable regulation of cognitive, affective, and behavioral processes.

Attitudes are usually explicit, conscious, and easy to assess, and they can be implicit, and thus unconscious or can be controlled; It is acquired from others through the process of social learning and experience; Such learning can include procedural conditioning, classical conditioning, or observational learning, and attitudes are also formed based on social comparison. This means our tendency to compare ourselves to others to determine whether our view of social reality is correct or not. Our desire to be similar to others we love, we accept willingly the attitude they embrace, to the degree that makes us follow the beliefs of this group and when we shift to new social networks, our attitudes can change rapidly as a means of achieving harmony with the new networks that consist of people who hold different tendencies (Fazio & Olson, 2003; Greenwald; McGhee & Schwarz, 2009; Stahl, Unkelbach & Corneille, 2009; Moons et al., 2009; Sweldens et al., 2010; Levitan & Visser, 2009; Eaton et al, 2008.)

Several factors may positively or negatively influence the strength of the relationship between attitudes and behavior, as sometimes the situations a person undergoes may force him not to express his attitudes clearly. For example, when we sometimes are concerned about how others will think of or see us. Some usually show pluralistic ignorance and wrongly believe that others have attitudes that differ from ours, which can restrict our desire to express our attitudes publicly. There are also several aspects of the same attitudes that also mediate the relationship between behavior and attitude. These include

factors related to attitude strength; These include the extremism of the attitude, the certainty with which the attitude is embraced, and whether we have personal experience with this attitude. All of these factors can make our attitudes more accessible and potentially direct our behavior (Miller & Morrison, 2009; Petrocelli et al., 2010; Visser et al., 2003; Petrocelli, Tormala & Rucker, 2007). Attitudes can influence behavior through two different mechanisms: according to the theory of justified behavior and the theory of planned behavior when we can practice careful thinking in our attitudes, the intentions derived from our attitudes strongly predict behavior and according to the behavior-orientation model, in situations in which our behavior is more spontaneity we do not practice such thoughtful thinking thus attitudes influence the behavior by shaping our perception and our interpretation of the situation (Frye & lord, 2009; Webb & Sheeran, 2007; Wood et al., 2002).

Soloman (2007) pointed out that several functions may change the basic motivation that satisfies the needs of a specific issue. This leads to a change or formation of attitudes towards those issues, these functions include: helping in the process of predicting behavior as the aim of studying the hidden attitudes among individuals to decide if they are negative or positive towards a particular issue. And the utility function is based on the fact that the individual has relatively limited tendencies towards a certain thing and that is what those things provide in terms of benefits that meet the needs and desires of individuals, and when we want to change the individual's attitude towards something, we must add an advantage to this thing before we make the change.

The function of the expressive value is to express the central values and the personal concept of individuals, as the individual is directed towards a certain thing not only because of benefits he may gain but also because of the benefits and expressive value that is represented in its appropriateness to the analysis of the lifestyles of individuals and the ego-defense function. The attitude is formed to protect the individual from surrounding external threats, or when internal feelings are formed that may lead to feelings of suspicion and the inability to achieve certain goals. The knowledge function, some attitudes are formed due to the need for information or explanations, and this need crystallizes when the individual faces an ambiguous situation, and when he encounters new things. Satisfying needs and desires function, the attitudes help the individual to satisfy his multiple and revived needs and desires, individuals seek to fulfill their social, belonging, and appreciation demands. If they are adapted to the prevailing attitudes of society, they will not satisfy their needs and desires.

Optimism and pessimism are relatively novel psychological concepts that have been addressed in health psychology researches and other psychological disciplines. In the past two decades, the two concepts took center

stage in personality studies, clinical psychology, and comparative cultural psychology (Hassan and Kazem, 2003). The interest of personality psychologists is also manifested in their comprehensive studying of these two concepts as they distinctly deal with the general perception about the nature of man. For example, does a person choose what he wants, or he is compelled to it? Is he optimistic or pessimistic? Optimism and pessimism can sometimes be expressed as in this question: Does a person have a good or an evil side? (Abd al-Latif and Hamada, 1998).

Optimism is an energizing and substantial factor in an individual's life, and it is associated with a positive outlook for the future. While pessimism is characterized by a negative view of life that leads to sadness, despair, retreat, and fear of progress. It drives a person to believe that many things constitute a source of threat and cause danger to him, which leads him to withdraw from various situations, and thus forfeit the ability to solve problems or overcome obstacles, and thus be anxious and incompatible with the environment (Dember, et al., 1989; Smith, 1983). Carver & Scherier (2003) defines optimism as a desire for having positive life, the belief in the possibility of fulfilling desires in the future, and a willingness to expect the occurrence of good and positive things. The optimist believes that the future will bring results he seeks to attain.

Optimism is also one of the positive and effective variables to reduce anxiety, which is achieved through developing the individual's abilities and his perspective towards life, positivity in solving problems, and establishing successful social relationships. As the more the individual has optimism and a positive outlook on life, the more he acquires and enjoys effective ways to confront anxiety. We can say that the optimistic person seems to be protecting himself from depression, extreme sadness, and anxiety because of the positive thoughts and expectations he carries. Whilst the pessimist suffers a lot of negative thoughts and expectations of the course of events, and when he is exposed to feelings of extreme sadness, depression, and anxiety. Seljman stresses in this context that it is the person's thinking style that determines whether this person is optimistic or pessimistic (Al-Qahtani, 2013).

Scientifically, optimism reduces the risk of exposure to health and psychological problems. As the optimists are less anxious and more able to endure adversity, which is positively related to controlling stress, successfully confronting, and solving problems. In contrast, the pessimist suffers from anxiety, distress, low confidence, and lack of ability. His motivation diminishes, he suffers from social withdrawal and generally experiences a failure (Scheier & Carver, 1985). Some are exposed to a state of pessimism that may lead to sadness and despair as a result of several psychological, social, intellectual, and economic crises they are exposed to, which is considered

a source of threat to them, pushing them to retreat, fear of progress that reduces their ambition; Their distorted thoughts drive him to imagine that many things may constitute a source of threat and danger to them (Shouqair, 1996). A pessimist suffers a lot of negative thoughts and expectations of the course of events, and thus he is exposed to feelings of intense sadness, depression, and anxiety (Al-Qahtani, 2013). Pessimism adversely affects human behaviour, mental and physical health, and is associated with an intrinsically positive relationship with mental disorders, or a predisposition to having them (Abd al-Khaliq, 1996).

Pessimism is defined as a pessimistic attitude indicating a general expectation of more negative than positive results, provided that it is a relatively constant feature (Carver & Scherier, 2003). Seljman defined it as "a cognitive component that indicates the individual's perception of things around him in a negative way. The pessimistic individual sees failure as a tragedy that cannot be escaped, making him unable to find solutions to his problems (Martin, 2009). Genetic determinants and inherited predispositions play a considerable role in optimism and pessimism. The results of a study conducted by Plomin (2006) on a sample of (500) identical twins revealed that heredity plays a significant role in optimism and pessimism as it contributes (25%) in shaping an optimistic or pessimistic personality of an individual. Religious people also tend to be more optimistic than non-religious ones. The lack of religiosity may be a contributing factor to pessimism. The results of some studies revealed a positive relationship between optimism and religiosity, and a negative relationship between pessimism and religiosity, as a study (Abed Al-Kalak & Naceure, 2007; Plante, 2002; Bailey, 2005). The social and cultural milieu in which the individual lives also play a critical role in optimism and pessimism.

Plomin (2006) pointed out that the environment has a great role in optimism and pessimism, and the results of cultural studies revealed the existence of clear differences between societies. Abed Al-kalak & Laster (2006) study indicated that American students are more optimistic than Kuwaitis where Al-Yahoufi (2002) revealed that Kuwaiti students are more optimistic than Lebanese students. These results indicate that all societies have their quality, either it is characterized by optimism in general, or it tends to be pessimistic. Every society has its historical, social, economic, and political circumstances that may have affected the formation of the personality of its members (Mohy Age, 2012). Another factor is the methods families adopted in upbringing their children that play an important role in the development of their children, the more the process of upbringing is positive, and the child feels his importance, value, respect, and appreciation, and that he is desirable, the more compatible and optimistic he is, as the family lives in peace and stability reflects an atmosphere dominated by love and optimism.

An atmosphere of tension, instability, quarrels, disagreements, and disintegration may reflect negatively on the child's personality and perspective towards life, which may be characterized by pessimism. (Abdalla, 2013).

Today, the world faces the danger of the transmission of Coronavirus (Covid-19), which has caused great human and material losses, therefore, huge global efforts must be concerted to eliminate this epidemic. All international health organizations have sought to find a vaccine that contributes to the control of this epidemic and to find solutions to reduce the problems the world faces thereby. The crisis of the Coronavirus outbreak gave us a real opportunity to appreciate life, the environment, and public health, and to appreciate many of the blessings that we overlooked and dealt with as if it were an inherited blessing that cannot be lost. On the other hand, it has also caused a deep change in various aspects of our lives, and on the level of individuals, society, and government regardless of its positivity or negativity, we can't assume its future impacts easily. Although the Coronavirus pandemic has caused tremendous pain and suffering, it has forced us to reconsider our way of thinking and our relationship with our society. And it will lead us to discover what is the basis of people's attitudes towards Coronavirus? Does people's perception of the Coronavirus affect what they think about it? What if the attitude a person takes is based on false beliefs? Undoubtedly, notions of optimism and pessimism have become one of the most frequent words that we hear daily.

Research on optimism and pessimism is currently attracting great interest by researchers due to the link between these two concepts and the mental health of the individual, and this has been confirmed by various theories on the link of optimism with happiness, health, perseverance, achievement, and positive perception towards life. While pessimism is related to despair, failure, disease, and a negative outlook on life, which is why the current study tried to reveal the attitude towards Coronavirus (Covid-19) and its relationship to optimism and pessimism among a sample from Irbid city.

Study Questions

1. Is there a relationship between the attitudes towards the Coronavirus pandemic and optimism and pessimism among the sample members?
2. Are there differences in the degree of optimism and pessimism among the participants attributable to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children)?
3. Are there differences in the attitudes (affective, behavioral, cognitive) among the participants attributable to demographic and personal variables

(gender, age, marital status, educational level, economic level, number of children)?

Study Objectives

1. Identifying the relationship between the attitudes towards the Coronavirus pandemic and optimism and pessimism among the participants.
2. Identify the nature of the differences in the degree of optimism and pessimism among the participants according to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children).
3. Identify the nature of the differences in attitudes (affective, behavioural, cognitive) between the participants according to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children).

The Importance of the Study

The importance of the study lies in the fact that it addresses a novel pandemic, despite its antiquity, it has now emerged in a different form, which has made it among the topics that occupy the forefront of researchers and officials, as well as health organizations, and it is also considered a problem that tops global and local attention. It is a topic that attracts all researchers who are concerned with identifying people's attitudes towards Coronavirus disease (Covid-19) because it interprets individuals' patterns of thinking and emotion and thus behavior, and these are collectively transmitted from one group to another and from one society to another. The current study is mediated between social psychology as basic science and clinical psychology as applied science, thus, its results may benefit whoever is concerned with this topic in these fields. Our knowledge of people's attitudes towards this disease contributes to an attempt to develop a program to change their negative attitudes towards this disease by recognizing the correct information about it and how can we protect ourselves, and the importance of the study can be highlighted in the following points:

1. The scarcity of Psychological and clinical studies that address the Coronavirus pandemic "Covid-19".
2. Although various psychological studies have dealt with optimism and pessimism and its relationship with several variables, studying the attitude towards Coronavirus disease Covid-19 and its relationship to optimism and pessimism are considered new topics in the field of psychology.
3. Covid-19 treatment cost is expensive, especially in developing countries where its budget cannot afford these costs, so what must be done is enhances people's knowledge of how to prevent this disease (how to protect ourselves from falling prey to disease, and this

can be achieved by getting more information about it to avoid being infected by it).

4. It is the fact that scientists are still examining and searching for beneficial vaccines against this disease, and this requires huge financial allocations that the third world cannot actually afford, which is reflected negatively on the growing pessimism of citizens.
5. Giving more attention to the optimistic side of behavior, or, in other words, to one of the positive parts that psychology is concerned with, which is optimism.

Study Limits

The is limited to the following:

1. Objective limits: The subject of the current study is limited to the nature of the topic being studied, which is the attitudes towards Coronavirus disease (Covid-19) and its relationship to optimism and pessimism in a sample from Irbid city.
2. Spatial limits: The study is limited to a sample from Irbid city.
3. Time limits: The current study was implemented during July of the year 2019/2020.

2. Methods and Procedures

Study Approach

The current study adopted the descriptive approach to identify the relationship between the attitudes towards Coronavirus disease (Covid-19) and optimism and pessimism among a sample from Irbid. The descriptive approach is one of the forms of organized scientific analysis and interpretation that used to describe a specific phenomenon or problem and portray it quantitatively by collecting information about the phenomenon or problem, classifying it, analyzing it, and subjecting it to accurate study (Fraenkle & Wallen, 1993.)

Study Population and Sample

The study population consisted of all the (1,957,000) residents of Irbid Governorate according to the latest population census statistics in the Kingdom (Department of Statistics, 2019). The random study sample consisted of (600) male and female citizens who were present during the study procedures. Where (1500) questionnaires were distributed; (792) were retrieved, and (92) were excluded, as they were not valid for statistical analysis. (600) questionnaires were valid for analysis represents the sample size. Table (1) shows the distribution of the participants according to the study variables.

Table 1. Distribution of the participants according to the study variables (gender, age, educational level, marital status, economic level, number of children)

Variables	Category	Frequency	Percentage
Gender	male	300	50%
	female	300	50%
	Total	600	100%
Age	Less than 24.	153	25.5%
	25-35.	180	30%
	36-46	126	21%
	Older than 47	138	23%
	Total	600	100%
Educational level	Can read & write	141	23.5%
	secondary	207	34.5%
	under-graduate	231	38.5%
	Post-graduate	21	3.5%
	Total	600	100%
Social status	married	426	71%
	single	174	29%
	Total	600	100%
Economic status	high	123	20.5%
	middle	372	62%
	low	s	16.5%
	Total	600	100%
No. of children	No children	156	26%
	1-2	s	16.5%
	3-5	216	36%
	Older than 6	129	21.5%
	Total	600	100%

Table (1) indicates that:

1. The gender variable: the male respondents are (300) with a percentage of (50%), and the female respondents are (300) with a percentage of (50%).
2. The age variable: the number of respondents from the age group "less than 24 years" is (135) with a percentage (25.5%), and the number of respondents from the age group "25-35 years" reached (180) with a percentage (30%). Where the respondents from the age group "36-46 years" are (126) with a percentage (21%), and the respondents in the age group "older than 47 years" is (138) with a percentage (23%).
3. The educational level variable: as indicated in Table (1), (141) respondents can read and write with a percentage of (23.5%), (207) respondents obtained secondary educational level with a percentage (34.5%). (231) under-graduate respondents participated in the study with a percentage of (38.5%), while for postgraduate studies their number was (21) and with a percentage of (3.5%).

4. The marital status variable: Table (1) shows that (426) married people responded to the questionnaire with a percentage (71%), and single people are (174), percentage (29%).
5. The economic status variable: shows that the respondents with high economic status are (123), a percentage (20.5%), middle economic status respondents are (372) and with a percentage of (62%), where the category of a low economic status reached (99), percentage (16.5%).
6. The variable of the number of children: It is shown that respondents that "have no children" are (156), a percentage (26%), and who have "less than two sons" was (99) and a percentage (16.5%). "3-6 children" (216) with a percentage of (36%), and the respondents who have "more than 6 children" are (129) respondents whose percentage is (21.5).

Study Instruments

To verify the study questions, the researchers used the following instruments:

1. **Initial data form:** The initial data form contains general data including gender, age, educational level, marital status, economic status, and the number of children, which is prepared by the researchers.
2. **The attitude scale for Coronavirus disease (Covid-19):** The researchers designed a special scale to measure the attitudes of the respondents towards Coronavirus disease (Covid-19). The researchers developed this scale to cover the components of the three attitudes (the affective component - the cognitive component - the behavioral component). Likert scale was used according to these levels (completely agree, agree, disagree, completely disagree).

After examining several studies that dealt with measuring attitudes, and reviewing some specialized references in this field, the scale items were presented to a group of experts specializing in the science of measurement, sociology, and psychological counseling to judge the extent of its face and logical validity and its soundness as an instrument for data collection. The proposed amendments were considered, and the questionnaires were distributed to the participants. The scale consists of (37) items in its final form, divided into three main components: (a) The affective component: represents the person's feelings and desires about a social issue, a certain value or a topic, either in his acceptance or his refusal of the object, that is, the response may be negative or positive, and this is due to the emotional side of each person, and sometimes this feeling becomes irrational; Acceptance or rejection, love or hate may sometimes be without a clear justification. It is represented in items (1-2-3-4-5-6-7-8-9-10-11). (b) the behavioral component is the way the attitude we have, influences the way we act or behave, which may be

negative or positive. It is represented in items (12-13-14-15-16-17-18-19-20-21-22-23-24-25). (c) the cognitive component: this involves a person's belief/knowledge about an attitude object that is, how much an individual knows about the topic of the trend; The more he knows about this topic, the more clear is his attitude. It is included in items (26-27-28-29-30-31-32-33-34-35-36-37). The items are corrected in the case of positive-directional items as follows: (I totally agree 4 degrees, agree 3 degrees, disagree 2 degrees, totally disagree 1 degree); In the case of negatively oriented items, the weights are reversed. The overall score on the scale ranges between (37-148).

1. **Optimism and Pessimism Scale:** The researchers used the scale of optimism and pessimism prepared by (Ahmed Muhammad Abdel Khaleq, 1996). To identify the degree of optimism and pessimism among the respondents. The measure of optimism and pessimism consists of (53) items, (32) items to measure optimism, and (21) items to measure pessimism. Optimism is measured separately from pessimism, as each has an independent total score. The items are corrected as follows: (I completely agree (4points), agree (3 points), disagree 2 points), and completely disagree (1 point). The scores for the optimism scale are calculated by adding the number of answered items (based on the scale), and the higher score indicates optimism. The scores are also calculated for the pessimism scale by adding the answered items (based on the scale), and the highest score indicates pessimism.

The Reliability of the Study Instruments

To check the reliability of the internal consistency of the study instruments, the Cronbach Alpha coefficient was extracted for all fields and scales as shown in Table (2).

Table 2. Results of reliability (Cronbach Alpha) of the degree of optimism, pessimism, affective, behavioral and cognitive attitudes, and scale (n = 600)

Attitudes	Cronbach Alpha
Optimism	0.809
Pessimism	0.895
Affective	0.838
Behavioral	0.807
Cognitive	0.885
Total	0.875

The results of reliability by the Cronbach Alpha method illustrate the degree of optimism which is (0.809) and the degree of pessimism (0.895). This indicates a high and acceptable degree to apply the measures of optimism and pessimism. The Cronbach alpha values for the attitudes are behavioral = 0.838, affective = 0.807, and cognitive = 0.885, and the total degree = 0.875 which indicates a high and acceptable degree to apply the attitude scale.

3. Results

Results of the First Question: Is there a relationship between the attitudes towards the Coronavirus pandemic and "optimism and pessimism" among the sample members? **To answer this question,** correlation coefficients were calculated (Pearson) between the attitudes towards coronavirus disease and optimism and pessimism as indicated in Table (3).

Table 3. Results of the matrix of correlation coefficients between optimism and pessimism among respondents and the attitudes towards coronavirus disease (n = 600)

Attitudes		Affective	Behavioral	Cognitive
optimism	correlation coefficients	-0.243	0.292	0.373
	sig	0.000	0.000	0.000
pessimism	correlation coefficients	-0.178	-0.054	0.238
	sig	0.000	0.186	0.000

Table (3) shows that:

- Optimism and its relationship with the attitudes towards the Covid-19: the results show that the affective attitude is negatively correlated and reached (-0.243), where the behavioral attitude is positive (0.292), and the cognitive attitude is positive too (0.373), all of which are considered statistically significant.
- Pessimism and its relationship with Covid-19, the results show that the affective attitude is negatively correlated (-1.178) and is statistically significant, the behavioral attitude is also negative (-0.054) and not statistically significant. While the cognitive attitude is positive (0.238) and statistically significant. The association of the (cognitive-behavioral-affective) attitudes with optimism is a logical and expected result, given that the general emotions of the Jordanian people and the citizens of Irbid Governorate, in particular, are strong, especially concerning any new or ambiguous topic that falls under the subject of study. Emotion is usually followed by a behavior where the emotions affect the person's reactions and the behavior appears consistent with those emotions.

The researchers see that the change of the attitude depends on the characteristics of the person who has this attitude, the nature of the attitude itself, its characteristics, and the degree of simplicity or complexity of the attitude, in addition to the nature of the situation in which the change is attempted. The researchers also believe that the source of information received by the individual affects the degree to which the change takes place, and that personal influence is stronger and more effective in bringing about a change in attitude. Since the attitudes are not permanent and are subject to development and change. Moreover, they are acquired and learned, and changing

the attitude of the individual depends on reorganizing his cognitive structure, so when the individual is aware of the existence of a contradiction between his beliefs and his attitude, he is pushed to restore consistency. Therefore, the change of belief or attitude must occur if the individual obtains new information that is inconsistent with his previous opinions. Thus, the researchers believe that providing people with correct information about the Coronavirus will help to change their negative attitudes towards the disease and to deal positively with it as this will be reflected in their emotions and consequently in their behavior. The researchers see that changing the attitude is not important unless it is followed by a change in behavior because the interaction between attitude and behavior is important. They attributed the result of pessimism to the respondents' fear and feeling of insecurity towards this disease. This result may also be attributed to their lack of information about the disease, which makes them in constant fear of what will result from it, and because pessimism is one of the most common emotional states, which is the initial response to any ambiguous or stressful situation. The emergence of a disease such as Corona and its association with various risks affecting human life constitutes a source of threat especially when people do not have sufficient information about it. This result is confirmed by the study of (Creed, Patton & Bartrum, 2002) that an optimist is more confident about himself and his ability to make decisions. While the pessimist has low levels of decision-making and suffers from psychological distress. Moreover, Hulbert and Morrison (2006) showed that optimism was significantly associated with low levels of psychological pressure, and it was also found that both optimism and self-efficacy contribute to reducing psychological pressures and that the contribution of optimism to reducing the level of stress was more than the contribution of self-efficacy. Peterson (1993), found that patients with high optimism enter the operation room with higher optimism, and respond to treatment better than patients with high pessimism.

Results of the Second Question: Are there differences in the degree of optimism and pessimism among the participants attributable to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children)? **To answer the second question,** the means and standard deviations of the measures of optimism and pessimism were extracted according to the variables of gender, age, marital status, educational level, economic status, and the number of children as shown in Table (4). MANOVA was also applied to reveal the differences in the measures of optimism and pessimism according to the study variables, gender, age, marital status, educational level, economic status, and the number of children as indicated in Table (5).

Table (4) shows the apparent differences between the

means of the degrees of optimism and pessimism according to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children).

Table 4. Means and standard deviations for optimism and pessimism according to demographic and personal variables

Variable	Category	Degree	Mean	SD
Gender	male	optimism	3.21	0.27
		pessimism	2.94	0.35
	female	optimism	3.24	0.31
		pessimism	2.90	0.32
Age	Less than 25	optimism	3.30	0.23
		pessimism	2.96	0.30
	26-36	optimism	3.32	0.27
		pessimism	3.00	0.21
	37-47	optimism	3.17	0.33
		pessimism	2.92	0.35
	Older than 47	optimism	3.10	0.26
		pessimism	2.77	0.29
Marital status	married	optimism	3.22	0.29
		pessimism	2.91	0.33
	single	optimism	3.26	0.28
		pessimism	2.94	0.34
Educational level	Read & write	optimism	3.14	0.27
		pessimism	2.88	0.34
	secondary	optimism	3.26	0.30
		pessimism	2.95	0.31
	Under-graduate	optimism	3.25	0.29
		pessimism	2.92	0.36
Post-graduate		optimism	3.27	0.12
		pessimism	2.88	0.31
Economic status	high	optimism	3.14	0.22
		pessimism	3.00	0.31
	moderate	optimism	3.19	0.27
		pessimism	2.86	0.25
	low	optimism	3.26	0.29
		pessimism	3.23	0.28
NO. of children	No children	optimism	3.23	0.28
		pessimism	2.94	0.33
	1-2	optimism	3.28	0.29
		pessimism	2.97	0.30
	2-5	optimism	3.21	0.30
		pessimism	2.91	0.33
	More than 5	pessimism	3.22	0.29
		optimism	2.86	0.36

Table 5. Results of (MANOVA) to show the differences in the degree of optimism and pessimism among the respondents according to demographic and personal variables (gender, age, marital status, educational level, economic level, number of children)

Source of variance	variable	SS	df	MS	F	sig
Gender	optimism	0.009	1	0.009	0.113	0.737
Hotelling (0.006)						
F-value(1,7,2)	pessimism	0.233	1	0.233	2.23	0.136
Sig (0.183)						
Age	optimism	2.73	3	0.910	11.94	0.000
Wilkes (0.913)						
F-value (9,40)	pessimism	3.92	3	1.31	12.57	0.000
Sig (0.000)						
Marital status	optimism	0.004	1	0.11	0.05	0.821
Hotelling (0.003)						
F-value (0,9,8)	pessimism	0.18	1	0.32	1.68	0.195
Sig (0.404)						
Educational level	optimism	0.54	3	0.181	2.37	0.069
Wilkes (0.97)						
F-value (1,67)	pessimism	0.17	3	0.056	0.54	0.66
Sig(0.12)						
Economic Status	optimism	0.68	2	0.343	4.49	0.01
Wilkes (0.969)						
F-value (1,2,5)	pessimism	0.56	2	0.281	2.69	0.07
Sig(0.010)						
NO.of children	optimism	0.27	3	0.09	1.21	0.31
Wilkes (0.981)						
F-value (1,849)	pessimism	0.87	3	0.29	2.78	0.04
Sig (0.087)						
Error	optimism	44.67	586	0.08		
	pessimism	61.17	586	0.11		
Adjusted total	optimism	50.68	599			
	pessimism	67.31	599			

* Statistically significant at the significance level ($\alpha \leq 0.05$).

It is shown that there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the gender variable, where the f-value for the degree of optimism was (0.113) and in statistical significance (0.737), and the f-value for the degree of pessimism is (2.23) and statistical significance (0.136). This is established by Hotelling value for the gender variable, as it reached (0.006) and statistical significance (0.183).

- There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the age variable, where the f-value of for the degree of optimism is (11.94) and in statistical significance (0.000), and the f-value for the degree of pessimism was (12.57) and in statistical significance (0.000). This is confirmed by the value of Wilkes for the age variable as it reached (0.913) and in statistical significance (0.000). To reveal the areas of the differences, Scheffe's test was applied, Table (6) illustrates this.
- There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the social status variable, where the f-value for the degree of optimism was (0.05) and in statistical significance (0.821), and the f-value is for the degree of pessimism (1.68) and in statistical significance (0.195) This is confirmed by the Hotelling value of the social status variable, reaching (0.003) and in statistical significance (0.404).

- There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the educational level variable, where the f-value for the degree of optimism is (2.37) sig (0.07), and the f-value for the degree of pessimism is (0.54) and in sig (0.66) This is confirmed by the value of Wilkes for the educational level variable, reaching (0.97) and in statistical terms (0.12).
- There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the variable of the economic level, where the f-value reached the degree of pessimism (2.69) and statistically significant (0.07), while there are statistically significant differences for the degree of optimism as f-value (4.49) and in statistical significance (0.01), and this is confirmed by the value of Hotelling for the variable of social status, which reached to (0.969) and in statistical significance (0.01).
- There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) for the variable of the number of children, where the f-value for the degree of optimism is (1.12) and with statistical significance (0.31), while there are statistically significant differences for the degree of pessimism, where the f-value (2.78) and with statistical significance (0.04), and to detect the areas of differences, Scheffe test was applied as indicated in Table (6).

Table 6. The Scheffe test results to reveal the areas of differences in the degree of optimism and pessimism according to the age variable

Area	Age category	NO.	mean	Less than 24	25-35	36-46	Older than 47
optimism	Less than 24	153	3.30	-	-0.02	-0.13	0.20*
	25-35	180	3.32		-	-0.15	0.22*
	36-46	126	3.17			-	-0.07
	Older than 47	138	3.10				-
pessimism	Less than 24	153	2.96	-	-0.04	0.04	0.19
	25-35	180	3.00		-	0.08	0.23*
	36-46	126	2.92			-	0.15
	older than 47	138	2.77				-

Table 7. Scheffe test results to reveal the areas of differences in the degree of optimism according to the variable of the economic level

Area	Economic status category	NO.	mean	high	moderate	low
optimism	high	123	3.14	-	-0.05	-0.12*
	moderate	372	3.19		-	-0.07
	low	99	3.26			

Table 8. Scheffe test results to reveal the areas of differences in the degree of pessimism according to the variable number of children

Areas	No. children	NO.	mean	No children	1-2	3-5	More than 6
pessimism	No children	156	2.94	-	0.03	-0.03	-0.28*
	1-2	99	2.97		-	0.06	-0.25*
	3-5	216	2.91			-	-0.31*
	More than 6	129	3.22				-

Table (6) shows:

- The results showed that there are differences in the degree of optimism according to the age variable between "those under the age of 24 and those over the age of 47 years" and the differences were in favor of those who are less than 24 "with an arithmetic mean (3.30), while the arithmetic average was for those over 47 years old." The mean is (03.1)
- The differences in the degree of optimism between the two groups are "25-35 years old and over 47 years old," and they are in favor of the "25-35 years old" category, with a mean of (3.32).
- That the differences in the degree of pessimism according to the age variable between the two groups "35-36 years and older than 47 years" are in favor of the "35-36 years" category, with a mean (3.00), while the mean for the "older than 47 years" category is (2.77).

By examining Table (7) we notice that the differences in the degree of optimism according to the variable of the economic level between the two categories of "high-moderate" and in favor of the "low" category which has a mean of (3.26), where the mean of the "moderate" category is (3.19).

Table (8) shows that the differences in the degree of pessimism according to the variable of the number of children between the category "more than 6" and the categories "there are no children, from 1-2, from 3-5" is in favor of the category "more than 6" with a mean of (3.22), Whereas, the mean of the categories "There are no children, from 1-2, from 3-5" are (2.94), (2.97), (2.91), respectively.

The researchers interpret these results from the fact that awareness of healthy behavior of preventive measures from Coronavirus can contribute to reducing pessimism. The committed person reaches a degree of optimism when he follows safety and prevention measures, and consequently, this behavior becomes a daily habit that he cannot dispense with, but the presence of awareness creates the will to cut off any unhealthy behavior before infection with Corona disease. The researchers also attribute the absence of statistically significant differences to the variable of the economic status to the similarities in economic, social, and political conditions among the population. Besides, to sever conditions that all segments of society in all regions suffered from, without exception, these differences in the degree of pessimism have diminished. The researchers see that the results of this question regarding the lack of the differences between males and females in terms of optimism and pessimism were identical to the results of the study conducted by Al-Yahufi (2002). Al-Khader (1999); Abd al-Latif and Hamada (1998); And the study (Burke, et al., 1997), which revealed that there were no differences in both optimism and pessimism attributable to gender variable. While the results of this study differ with the results of Groot, et al. (2007); Yates (2000); Abd al-Khaliq (1999) and Al-Mashaan (2002), which indicated that men are more optimistic and less pessimistic than women. According to the researchers, these results may be attributed to the fact that the study sample is from Irbid Governorate who has special traits and this conclusion requires further research and study.

The results of the third question: " Are there differences in the attitudes (affective, behavioral, cognitive) among the participants attributable to demographic and personal variables (gender, age, marital status, educational level, economic status, number of children)?

To answer the third question, means and standard deviations of the degree of the affective attitude, behavioral tendency, and cognitive orientation were

extracted according to the variables of sex, age, marital status, educational level, economic level, number of children, Table (9) illustrates this. Multiple analysis of variance (MANOVA) was also applied to reveal the differences between attitudes (affective, behavioral, and cognitive) according to the study variables, gender, age, marital status, educational level, economic level, number of children as shown in Table (10).

Table 9. Means and standard deviations of affective, behavioral, and cognitive attitudes according to demographic and personality variables (gender, age, marital status, educational level, economic level, number of children)

variable	Category	Attitudes	Mean	SD
Type	Male	Affective	2.46	0.63
		Behavioral	3.23	3.11
		Cognitive	3.11	0.40
	female	Affective	3.18	0.45
		Behavioral	2.46	0.63
		Cognitive	3.23	3.11
Age	Less than 25	Affective	2.39	0.57
		Behavioral	3.29	0.39
		Cognitive	3.14	0.40
	26-36	Affective	2.37	0.72
		Behavioral	3.33	0.39
		Cognitive	3.30	0.44
	37-47	Affective	2.43	0.50
		Behavioral	3.20	0.31
		Cognitive	2.96	0.38
	Older than 47	Affective	2.67	0.60
		Behavioral	3.25	0.32
		Cognitive	3.14	0.32
Social status	Married	Affective	2.48	0.60
		Behavioral	3.29	0.32
		Cognitive	3.16	0.43
	Single	Affective	2.40	0.66
		Behavioral	3.22	0.45
		Cognitive	3.11	0.35
Educational level	Reads and writes	Affective	2.59	0.59
		Behavioral	3.27	0.37
		Cognitive	3.12	0.42
	secondary	Affective	3.21	0.42
		Behavioral	2.36	0.67
		Cognitive	3.22	0.41
	Under-graduate	Affective	2.51	0.60
		Behavioral	3.65	0.31
		Cognitive	3.13	0.39
	Postgraduate	Affective	2.12	0.25
		Behavioral	3.12	0.31
		Cognitive	2.95	0.25
Economic status	High	Affective	2.82	0.53
		Behavioral	3.32	0.36
	moderate	Cognitive	3.03	0.44
		Affective	2.37	0.60
		Behavioral	3.30	0.31

Attitude towards Coronavirus Pandemic "Covid-19" and Its Relationship to Optimism and Pessimism among a Sample of Residents in Irbid

No. of children	Low	Cognitive	3.20	0.39
		Affective	2.36	0.66
		Behavioral	3.08	0.48
	no children	Cognitive	3.11	0.39
		Affective	2.47	0.63
		Behavioral	3.23	0.39
	1-2	Cognitive	3.15	0.39
		Affective	2.50	0.62
		Behavioral	3.34	0.29
	3-5	Cognitive	3.17	0.43
		Affective	2.47	0.62
		Behavioral	3.25	0.36
	More than 6	Cognitive	3.12	0.41
		Affective	2.41	0.62
		Behavioral	3.29	0.37
		Cognitive	3.17	0.40

Table 10. Results (MANOVA) to reveal differences between attitudes (affective, behavioral, and cognitive) according to the study variables (gender, age, marital status, educational level, economic status, number of children.)

Source of variance	Attitudes	SS	FD	MS	F	Sig
Gender	Affective	0.00	1	0.00	0.00	0.98
	Behavioral	0.16	1	0.16	1.35	0.45
	Cognitive	0.11	1	0.11	0.73	0.39
Age	Affective	5.12	3	1.71	5.09	0.002
	Behavioral	0.54	3	0.18	1.49	0.22
	Cognitive	6.91	3	2.3	15.43	0.000
Social status	Affective	0.91	1	0.91	2.72	0.10
	Behavioral	0.08	1	0.08	0.67	0.42
	Cognitive	1.07	1	1.07	7.21	0.007
Educational level	Affective	7.12	3	2.37	7.07	0.000
	Behavioral	0.97	3	0.33	2.67	0.04
	Cognitive	0.94	3	0.32	2.12	0.1
Economic status	Affective	20.17	2	10.09	30.07	0.000
	Behavioral	3.063	2	1.53	12.56	0.000
	Cognitive	1.11	2	0.55	3.71	0.025
number of children	Affective	0.09	2	0.02	0.08	0.967
	Behavioral	0.81	2	0.27	2.22	0.09
	Cognitive	0.19	2	0.06	0.422	0.74
Error	Affective	196.61	586	196.62		
	Behavioral	71.45	586	71.45		
	Cognitive	87.38	586	87.38		
Adjusted total	Affective	231.04	599	231.04		
	Behavioral	78.75	599	78.75		
	Cognitive	99.23	599	99.22		

* Statistically significant at the significance level ($\alpha \leq 0.05$).

Table (9) shows apparent differences between means of attitudes (affective, behavioral, and cognitive) according to demographic and personal variables (gender, age, marital status, educational level, economic status, number of children).

Table (10) illustrates the following:

- The "gender" variable: there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$), "at affective, behavioral and cognitive attitudes" where the f-values is (0.00), (1.35), (0.73),

and with statistical significance (0.98), (0.45), (0.39), respectively, and this is confirmed by the value of Wilkes for the age variable that records (0.003) and with statistical significance (0.64).

- In the "age" variable, there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$), "at the behavioral attitude, where the f-value (1.49F) and with statistical significance (0.22). The results show statistically significant differences in affective and cognitive attitudes. F-values are (15.43), (5.09), with statistical significance (0.002), (0.000) respectively, which is confirmed by the value of Wilkes for the age variable (0.90) and statistical significance (0.00). To reveal the areas of the differences Scheffe test application was adopted as shown in Table (11).
- In the "social status" variable, there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$), "at the affective and behavioral attitudes, where the f-values are (2.72), (0.67), statistical significance (0.10), (0.42), it also shows statistically significant differences at the cognitive attitude, where the f-values reached (7.21) and statistical significance (0.007). The differences are in favor of the married group with a mean (3.16), while the mean of the "single" category is (3.11), and this is confirmed by the Hotelling value for the social status variable (0.016) and the statistical significance (0.03).
- In the variable "educational level", there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$), "at the cognitive attitude. F-value is (2.12) and statistical significance (0.1), there are statistically significant differences at the level of significance at the affective and behavioral attitudes f-values are (7.07), (2.67), and with statistical significance (0.04), (0.000), respectively, and this is confirmed by the value of Wilkes for the educational level variable that is (0.93) and statistical significance (0.000). To identify the areas of the differences, the Scheffe test was applied as indicated in Table (12).
- In the "economic status" variable, there are statistically significant differences at the level of significance ($\alpha \leq 0.05$), at all affective, behavioral, and

cognitive attitudes, where the f-values reached (3.71) (12.56), (30.07), statistical significance (0.000). (0.000) and (0.025), respectively, and this was confirmed by the value of Wilkes for the variable of the economic status, reaching (0.85) and statistical significance (0.000). To reveal the areas of the differences, Scheffe's test was applied as illustrated in Table (13).

- The variable "number of children": there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$), in all affective, behavioral and cognitive attitudes, where the f-values are (0.22), (0.08) (0.42), statistical significance (0.967), (0.09), (0.74), respectively, and this is confirmed by the value of Wilkes for the variable number of children, as it reached (0.99) and a statistical significance (0.6).

Table (11) shows that:

- The differences in the affective attitude according to the age variable between the category "older than 47" and the all other groups "less than 24; 25-35 years and 36-46 years old" came in favor of the "older than 47" group with a mean (2.67), while the mean of the categories " less 24; 25-35 years, and 36-46 years" (2.39), (2.37), (2.43), respectively.
- The differences in cognitive attitude according to the age variable between the two groups " 36-46 years" and "from 25-35 years" came in favor of the group " 25-35 years" with a mean (3.30), while a mean of the category " 36- 46 years old is (2.96).

By examining Table (12) we can conclude the following:

- The differences in the affective attitude according to the educational level variable between the two categories "read& write" and " postgraduate" came in favor of the category "read and write" with the mean (2.59), while the "postgraduate" category records a mean (2.12).
- The differences in behavioral attitude according to the educational level variable between the two categories "secondary and " undergraduate" is in favor of the "undergraduate" category with a mean (3.65), while the arithmetic means for the "secondary" category is (2.36).

Table 11. Scheffe test results to identify the areas of differences in the affective and cognitive directions according to the age variable

Areas	Age category	NO.	Mean	Less than 24	25-35	36-46	Older than 47
Affective	Less than 24	153	2.39	-	0.2	0.04-	0.28*-
	25-35	180	2.37		-	0.05-	0.29*-
	36-46	126	2.43			-	0.24*-
	Older than 47	138	2.67				-
Cognitive	Less than 24	153	3.14	-	0.15-	0.17	0.006-
	25-35	180	3.30		-	0.32*	0.14
	36-46	126	2.96			-	0.18-
	Older than 47	138	3.14				-

Table 12. The results of the Scheffe test to reveal the areas of differences in the affective and behavioral attitudes according to the educational level variable

Areas	Educational level	No.	Mean	Read & write	Secondary	Under-graduate	Post-graduate
Affective	Reads and writes	141	2.59	-	0.23	0.08	0.47*
	secondary	207	3.21		-	0.14-	0.24
	undergraduate	231	2.51			-	-0.39
	postgraduate	21	2.12				-
Behavioral	Reads and writes	141	3.27	-	0.87	0.33-	0.42-
	secondary	207	2.36		-	*1.29-	0.76-
	undergraduate	231	3.65			-	0.53-
	postgraduate	21	3.12				-

Table 13. Scheffe test results to detect the areas of differences in affective, behavioral, and cognitive attitudes according to the economic status variable

Area	Economic status	NO.	Mean	High	Moderate	Low
Affective	high	123	2.82	-	0.45*	0.46*
	moderate	372	2.37		-	0.01
	low	99	2.36			-
Behavioral	high	123	2.32	-	0.02	0.24*
	moderate	372	3.30		-	0.22*
	low	99	3.08			-
Cognitive	high	123	3.03	-	-0.17*	-0.08
	moderate	372	3.20		-	0.09
	low	99	3.11			-

Table (13) shows that:

- The areas of the differences in the affective attitude according to the variable the economic status are between the "high" and the two ranks "moderate and low" the differences came in favor of the "high" rank with a mean (2.82). Where the mean of the two ranks "moderate and low" is (3.37) and (2.36), respectively.
- The differences in the behavioral attitude according to the economic level variable between the "low" rank and the "high and medium" ranks came in favor of the "high" rank with a mean (3.32). The two ranks "moderate and low" came with the mean (3.08) and (3.30).
- The differences in the cognitive attitude according to the variable of the economic status between the two categories "moderate and high" are in favor of the "moderate" rank with a mean (3.20) the mean of the "low" is (3.03).

The researchers attributed the absence of differences among the respondents to the equal opportunity of obtaining knowledge as they all obtain the same information and knowledge and for the fact that the vast and diverse information represented by the Internet is not limited to a specific group, therefore the male and female respondents obtain the same information, and therefore there are no differences in knowledge and information for both. When examining the information about Corona disease and the person infected with it, we find that it is

close between the genders, and this is what the results indicated.

The results of the behavioral attitude can be attributed to the fact that whatever sort of information we obtained about Corona disease or the person infected; And whatever our positive feelings and emotions towards the patient are manifested; it just remains abstract thoughts and feelings, but it differs when it is related to our behavior and interactions towards an infected person. However, the behavior taken towards the patient is the same regardless of gender or marital status. For example, although we know the details of Corona's disease and we see a Corona patient, we understand what he suffers from and we feel pity for his health, and we also try to take into account his feelings, which is considered a sense of our affective attitude, but the idea of sitting next to a person who may be infected by COVID-19 or not infected, and hug him for instance, is considered a behavior attitude that cannot be committed because any individual may feel fear and the threat of the transmission of this disease and being infected. Undoubtedly, it is a natural feeling in all human beings regardless of their gender or marital status.

The researchers also explain that there are no differences attributed to the social status between the respondents, behaviorally their responses were the same because they are based on the initial information they obtain when COVID-19 has spread and their first impression and the attitude they have taken towards Coronavirus since both males and females have

experienced the same feelings when they have been under the same imposed restrictions and they suffer from the same loss. Furthermore, fear and pessimism of this pandemic are not only limited to one category such as the social status (single and married). However, these results still need more research and investigation to reach more control over the variables by improving search conditions and using more accurate measurement tools.

Recommendations

The Corona pandemic is one of the modern topics in psychology, so unfortunately the researchers couldn't find more studies about this topic to compare its results with the results of this study. The researchers recommend the necessity of conducting multiple studies on the subject including different samples and variables, and they also recommend to raise the society's cultural awareness by inviting specialists and experienced people to provide people with correct information about this disease and how to deal with it, and to provide the community with information that would organize people's knowledge so that they can change their attitudes towards this pandemic. The current study is a key to many future studies in the field of psychology, especially the study of the Corona issue and its relationship to many psychological and personal variables and the extent of its impact on changing individuals' negative attitudes towards the Corona pandemic. Especially, since its spread in Jordan is not such that the society feels pessimistic, anxious, and tense compared to other countries, therefore, the researchers recommend the following :

- Conducting diverse studies on this topic with different samples.
- Raising public awareness about COVID-19 by benefitting from the specialists and experienced people in providing all people with correct information about this disease and how to deal with it.
- Providing society with information that would regulate people's knowledge of the period that a patient infected with Coronavirus needs for treatment and to be cured.
- Ensuring that society's perspective of this disease is changed through correct knowledge that will work to change their attitudes towards the disease.
- Developing counseling programs to develop feelings of optimism and reduce the level of pessimism.

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