

## Effectiveness of virtual psychological counseling programs during the (COVID-19) pandemic

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### Abstract

This study aims to identify the effectiveness of a virtual psychological counseling program to activate psychological immunity during the Coronavirus pandemic among students of Mutah University in Jordan. The program was implemented during the second semester of 2019-2020 on a sample of 30 students over 6 weeks period. The results indicated a presence of statistically significant differences between the mean scores of the experimental and control groups on the psychological immunity scale after applying the virtual psychological counseling program in favor of the experimental group and between the mean scores of the experimental group before and after the implementation of the counseling program in favor of the post-measurement, the results showed that the members of the experimental group retained the effect after the follow-up measurement after 30 days from the end of the program of the psychological immunity program.

Keywords: Virtual Counseling Program; Psychological immunity and Coronavirus pandemic.

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## 1. Introduction

The Internet has become part of daily life and has become a very important tool, whether for personal purposes such as social communication, professional purposes, or scientific research purposes. The use of the Internet in several fields includes obtaining goods and services easily, conveniently, and at a lower cost, where, psychological counseling (virtual) is considered as one of the areas in which the Internet is used to provide psychological counseling easily and efficiently.

The first experiments of virtual counseling began in the mid-1990s, but it was only widely accepted in the last ten years when the virtual interaction became with the development of the computer industry, the communications revolution, the advancement of web design and (Web) pages (Barak et al., 2008). The expansion of technology use has been accompanied by an increase in the number of individuals looking for psychological help available on the Internet, which has become classified in today's world as an effective tool in the prevention and counseling services (Mallen et al., 2003).

Many studies have shown that the counselees are satisfied with the virtual counseling relationship. The counseling relationship was stronger than or equal to that of traditional counseling. (Cook & Doyle, 2002), in terms of the efficiency of virtual psychological counseling, (Day & Schneider, 2002) conducted a study aimed at comparing the traditional therapy group, the online therapy group by voice, and the treatment group using voice and video calling programs, the study concluded that the differences between the three models are very minor, and they all achieved results compared to the control group that did not receive any therapy sessions.

The world has witnessed these days the pandemic of COVID19, which recorded 114 million confirmed cases of the virus, and 2.53 million deaths, according to the Johns Hopkins University report until 27/2/2021. This pandemic has caused a significant increase in the prevalence of many mental disorders that negatively affect the life of the individual in addition to his family, these disorders include depression, anxiety disorders, phobias, and obsessive-compulsive disorder. (Edition, 1994), where individual needs to increase his psychological immunity.

The term psychological immunity is considered the most recent term in the fields of mental health research and studies, followed by the term positive mental health, and they are closely related where each of them supports the other, and the relationship between them is positive.

Despite the importance of the psychological immunity of the individual in the face of stress, psychological effects, and negative feelings, and as self-defense against crises, threats, and psychological risks. The importance of psychological immunity lies in immunization because of the various sources that cause a kind of intellectual confusion and lack of clarity of vision due to the huge amount of sources from which they derive their ideas, as (Hassanein, 2007) indicates that we must reach the individual to the highest levels of high-class principles and noble human values which transcends the human being and raises him to the level of moral kindness that relegates mankind to the world of transcendence and sublime.

### • Study Problem

The counselor has an important role in promoting students' mental health, especially in times of crisis, and the world is currently experiencing a crisis that resulted from concern about the spread of

COVID-19, and its precautionary measures, so that education suddenly turned into distance learning, and the counselor was obligated to work in the same way.

Therefore, virtual psychological counseling has become an urgent necessity, to provide psychological support, and to help adapt to this new situation that we all face on this planet, and to reach community members to the highest levels of psychological immunity (Zaidan, 2003).

The need for virtual psychological counseling has increased after the World Health Organization declared that COVID-19 has become a pandemic and issued several protocols to support well-being (WHO, 2020) due to high levels of stress, anxiety, depression, and obsessive-compulsive disorder, and many counselors provided counseling through WhatsApp, Zoom and other apps (Ifdil et al., 2020; Rajkumar, 2020). Where the counselor's performance is based on his belief in Virtual Psychological Counseling's pros, determining its cons and facing it through continuous evaluation of his experiences. This study, therefore, aims to identify the effectiveness of a virtual psychological counseling program to activate psychological immunity during the Coronavirus pandemic among students of Mutah University in Jordan.

Virtual psychological counseling has received increased attention due to the rapid development of Internet technologies (Bengtsson et al., 2015); It also use is common around the world (Elsharkasy et al., 2020). It appeared in many countries early on, but it began to be applied in Jordan in 2020/2021 with some researchers' efforts, e.g effectiveness of a counseling program based on the positive psychological support to development quality of life among blind adolescences (Al-Dhmour, 2021).

This study aims to verify the effectiveness of a virtual psychological counseling program aimed at achieving psychological immunity and to help individuals activate their psychological immunity in light of the COVID19 pandemic. So, the current research seeks to activate the program Based on virtual psychological counseling to stimulate psychological immunity.

The problem of the current study is the attempt to reveal the effectiveness of a virtual psychological counseling program to activate the psychological immunity of Mut'ah University students in light of the (COVID-19) pandemic. By answering the following study questions:

1. Are there statistically significant differences between the mean scores of the experimental and control groups on the psychological immunity scale after applying for the counseling program in favor of the experimental group?
2. Are there statistically significant differences between the mean scores of the experimental group on the psychological immunity scale before and after the application of the counseling program in favor of the post-measurement?
3. Are there statistically significant differences between the mean scores of the post and follow-up measurement scores for the experimental group on the psychological immunity scale?

### **1.1 Theoretical Framework**

Effective leaders are a critical component of school improvement efforts. (Al-Dhmour, 2021) states that identification of effective prospective candidates is crucial to the recruitment and selection of effective leaders. The new concept of effective leadership has caused recruitment and selection to be

one of the most problematic human resource functions within the field of education and a major challenge to school reform (Al-Dhmour, 2021).

### **1.1.1 Virtual Psychological Counseling**

The rapid technological development in society today, the accompanying social and professional changes, have affected everyone's lifestyle and the way to deal with psychological, social, and professional problems. Also, a new branch of psychology emerged that it called Internet psychology or technological psychology (Cyberpsychology), which is the science that studies human cognitive, emotional and behavioral experiences related to the impact of technological developments on human behavior, i.e. the study of technological human interactions, including Interactions Topics of Virtual Counseling, Human Identity on the Internet, Internet Addiction and Electronic Relationships (Yan, 2012), In contrast, the practice of counseling in the traditional form requires a physical environment in which both the counselor and the counselee meet face to face but this concept has begun to change slightly through an increasingly small group of practitioners who provide at least part of their professional practice in providing virtual psychological counseling, at a time when the interest of counselors began to increasing providing virtual counseling and therapeutic services, where organizations and Structures to support this new practice. In the late 1990s, the International Society for Mental) Health Online-ISMHO appeared as an institution concerned with promoting the use and development of electronic technology in the areas of providing mental health services, in addition to the Directory Metanoia that contains a selected list of mental health services available online (Chester & Glass, 2006).

Two years later, the American Counseling Association released a document that included Ethical Standards for Online counseling (Association, 1999). In (2001) the British Association for Counseling and Psychotherapy developed comprehensive policies for virtual counseling and was revised in 2005 on the other hand, practitioners' counselors for e-mental health counseling, as well as special training programs in e-counseling, began to appear (Chester & Glass, 2006). The ability to provide virtual counseling services depends to a large degree on various technological means, including simple ones such as telephone, audio, and video calling (Kasket, 2003).

#### **– Ways to Use Virtual Psychological Counseling**

In terms of the available means of communication between the counselor and the counselee: e-mail, chat rooms, text messages. Video talk (Aron et al., 2004). In terms of the number of counselors: virtual psychological counseling can be used with individuals by providing virtual psychological counseling services to one individual or a group through group counseling (Glasheen et al., 2018).

#### **– In terms of the counseling methods used**

Psychological counseling services can be provided virtually alone by relying entirely on the Internet and various technological means of communication to provide psychological counseling services of all kinds and forms, where virtual psychological counseling services can be provided alongside the traditional psychological counseling process (face to face) or even in conjunction with the use of other methods to provide counseling services, such as counseling over the phone.

Virtual counseling has multiple advantages, including the delivery of counseling services to the geographically remote and marginalized areas, its low cost, the increase in available resources for counseling, the superiority over traditional counseling, the speed of counseling, the assistance of disabled individuals in adapting to their disabilities, the increase in the counselee's self-confidence, the ease of obtaining the service, overcoming distances, alleviating isolation and securing the secrecy of the counselee, reducing the resistance of the counselee and the social harassment, reducing the

risks of personal relationships and expressing emotional issues easily, as people respond more honestly to the socio-psychological evaluation that is conducted by computer than is the case by human interviews as it suits people suffering from shyness and embarrassing problems (Riemer-Reiss, 2000).

Despite the many advantages that support the use of virtual counseling, it is not without its drawbacks, which are: that some problems with a high degree of risk cannot be dealt with by virtual counseling, such as suicides and mental disorders, and the difficulty of making sure of the legal licenses of the psychologist and the inability of the psychologist to Read nonverbal communication messages to the counsees, such as body language, facial expressions, eye language, hand movement, and tongue pitfalls (Rochlen et al., 2004).

Challenges are facing virtual psychological counseling, including moral, legal, and future that require attention and treatment, whether at the individual, institutional or technical level. Among the most important of these challenges is the confidentiality of information related to the counselee as it is easy for any member of his family to access the information stored on his home computer as well as the confidentiality of information related to the psychologist that some people in the specialist's office can see, the lack of use of encryption programs by the participants, which makes them vulnerable to breaching the confidentiality and security of counsees and the possibility of electronic interception of the confidentiality of information exchanged between the counselor and the counsees by intruders and hackers and obtaining the prior consent of parents when dealing with the counsees under the legal age (Chester & Glass, 2006; Riemer-Reiss, 2000).

Where video conferencing enables voice and video transmission, and simultaneous communication (Suler, 2000), and is useful from a counselor's point of view because it allows verbal and non-verbal communication, as opposed to email and text messages (Tsan & Day, 2007). WhatsApp allows simultaneous and asynchronous communication by sending messages and voice recordings (Dowling & Rickwood, 2013) and making calls. It is characterized by its lower cost compared to text messaging (Amos et al., 2020).

### **1.1.2 Psychological Immunity**

Psychological immunity is considered as a protective system that evaluates the causes, tendencies, and trends away from targeting or exposure to psychological injury and raises the ability to cope with individuals, and immunity represents a process of immunization against infection with anger, agitation, revolution, or negative emotions and mental illnesses from others and not to deteriorate to a low level (Albert-Lórcincz et al., 2011) and (Zaidan, 2003) indicated that the vital immune system that defends the body against microbes and viruses, as there are many functions and general characteristics of personal immunity, including Strengthening defense mechanisms and protecting the individual from harm.

#### **– Concept of Psychological Immunity**

The author in (Asfour, 2013) defines it as raising the level of individual awareness, directing an idea to the importance of the type of thinking practiced and its effects on his psychological and physical condition, developing his ability to endure difficult matters and facing challenges, and providing him with psychological and intellectual energy that motivates him to achieve himself and his aspirations.

The author in (Al-Sharif, 2015) defines Psychological immunity as a virtual, emotional, interactive, variable system that participates with the vital immune system by maintaining the stability and

balance of the individual, by maintaining the emotional state from the threat of negative emotions resulting from extreme events, and a high degree of stability in the face of life's ups and downs.

The researcher defines psychological immunity: it is an emotional system that the individual uses to give the ability to perceive psychological risks, protect from them and enhance life. As for the characteristics of individuals with psychological immunity, they feel that they have a special appreciation and stature, they set themselves positive goals and expectations, they believe that they can solve problems and make the right decisions, and they view mistakes, pitfalls, and obstacles as challenges that must be faced, not frustrations that must be avoided, and are well aware of weaknesses they have (Goldstein & Brooks, 2005).

#### – **Components of Psychological Immunity**

The study of (Kamel, 2002) believes that the immune system is acquired by the individual and is established through socialization and satisfaction of primary and secondary needs. He considers that psychological immunity consists of four basic units: the logical ideas formation or production unit, the self-control unit, the self-induction unit, and the self-expression unit.

#### – **Symptoms of Psychological Immunodeficiency**

There are many symptoms and manifestations of the loss of psychological immunity, including the high susceptibility to being convinced of all ideas, even if they are incorrect, illogical, irrational, and harmful, an imbalance in the criteria for judging things and situations, and a loss of happiness and pleasure in life, Loss of control and self-control, exhaustion and psychological exhaustion, intellectual stagnation, surrender to failure, and isolationism (Hassan, 2009).

## **1.2 Related Research**

The study of (Chester & Glass, 2006) aimed to identify the development of the e-counseling service provided using the Internet. The results of the study indicated that e-counseling is provided by e-counselors with varying experiences and that the majority of counselees (62%) reside in the United States of America, while that there were a small number of them were from Britain (13%) and (7%) from Australia. (Flores, 2012) conducted a study that showed that there were no statistically significant differences in teachers' attitudes in academic advising programs due to supervisors' attitudes towards the value of e-counseling or discomfort in its use.

The study in (Brown, 2012) conducted on students' attitudes about e-counseling. The results showed that (28.9%) of students have benefited from e-counseling services. The results also indicated that (64.4%) of them have positive attitudes towards e-counseling and consider it a suitable alternative to deal with Mental health issues. The study showed that there were no statistically significant differences in the trends towards e-counseling due to the gender variable and the number of internet hours used per week. The author in (Al-Shawi, 2018) conducted a study aimed at activating psychological immunity to develop positive thinking skills and reduce teaching anxiety among female students trained in the learning profession (Sociology and Philosophy departments), the results reached the effectiveness of the proposed program in developing positive thinking and reducing teaching anxiety in the study sample.

The study of (Al-Sharif, 2015) aimed to identify the effectiveness of a counseling program in strengthening the psychological immune system according to the characteristics of the self-defined personality to reduce the feeling of psychological alienation among Palestinian university students, the results indicated that the effectiveness of the counseling program in the competence of



psychological immunity of the experimental group compared with the control group. The eta square for the total sums for the psychological immune system was (0.88) and for the effect size (2.72). The study (Al-Aqili, 2017) aimed to identify the psychological immunity of university students and its relationship to self-awareness and forgiveness, the results of the study indicated that there is a positive correlation between psychological immunity and both self-awareness and forgiveness.

The study (Al-Shawi, 2018) revealed the relationship between psychological immunity and perceived self-efficacy among students of the College of Social Sciences, the results of the study indicated that there is a positive correlation to psychological immunity and self-efficacy and that the level of psychological immunity among students of the College of Social Sciences was high.

A study in (Khattab, 2018) conducted entitled: The effect of a counseling program based on positive energy on strengthening the psychological immunity of a sample of Helwan University students with mobility disabilities, the study found and the existence of statistically significant differences in the responses of the study sample (experimental group) on the psychological immunity scale in favor of the post-measurement. This indicates the effectiveness of the proposed pilot program in strengthening the psychological immunity of the sample.

The study (Zaid, 2018) aimed to verify the effectiveness of a cognitive-behavioral program in activating the psychological immunity to reduce the emotional sensitivity of a sample of orphans in the Khan Yunis governorate, the results of the study showed statistically significant differences between the mean scores of the experimental sample and the control in the post-measurement on the psychological immunity scale, in favor of the experimental group and raising the degree of psychological immunity, and there were no statistically significant differences between the mean scores of the experimental group in the pre and post-measurement measures on the psychological immunity scale after the follow-up period.

The aim of the study (Dunqul, 2018) is to identify the defense mechanisms of high and low psychological immunity of university students, the results have indicated a higher than average level of psychological immunity, and that they use defense mechanisms that belong to more mature methods, they used the effective control method, the adaptive method and less use of the image distortion method. There were also statistically significant differences in the level of psychological immunity among the research sample due to the defense methods used. The study (Al-Ahmad, 2020) aimed to identify the psychological immunity and its relationship to happiness among a sample of orphan students in the higher primary level, the results of the study concluded that the level of psychological immunity was of a moderate degree and the existence of a correlation between most dimensions of psychological immunity and happiness.

It is noted from the relevant available literature that most of the studies discussed reveal the effectiveness of counseling programs and their effect on psychological immunity. Thus, different counseling programs can affect the stimulation of psychological immunity. As in the studies of (Al-Aqili, 2017; Al-Sharif, 2015; Chester & Glass, 2006; Khattab, 2018; Zaid, 2018), from here, previous studies have shown the importance of virtual psychological counseling, as it is noticed the apparent absence of Arab studies related to the attitudes of psychologists, students, or counselees towards virtual counseling or any other variables, which prompted the researcher to study this important topic that deals with the role of virtual psychological counseling in developing psychological immunity

during the coronavirus pandemic, the current study can be considered the first study locally and in the Arab world, within the limits of the researcher's knowledge.

### 1.3 Purpose of the Study

The current study aims to verify the effectiveness of a virtual psychological counseling program to activate the psychological immunity of Mut'ah University students during the Coronavirus pandemic, with the following:

1. Verifying the effectiveness of a program based on virtual psychological counseling in activating the psychological immunity of the members of the experimental group, compared with the members of the control group.
2. Following-up the effect of the virtual psychological counseling program after the end of the application and between the application and the follow-up after a month among the members of the experimental group on activating psychological immunity during the Corona pandemic.

The study significance is as follows:

1. Opening the way for the researcher to conduct more research and studies on virtual psychological counseling for all groups of society and in various fields, especially during the Coronavirus pandemic.
2. The current study derives its importance from the lack of Arab research in the field of virtual psychological counseling, especially during the Corona pandemic.
3. The results of this study can also benefit from the possibility of applying the virtual psychological counseling approach in developing other aspects.

## 2. Method and Materials

The study depends on the experimental approach, which is the most consistent with the study problem and its objectives.

### 2.1. Participants

The students of Mu'tah University are the study population, and the study sample consisted of 30 students who are chosen randomly, as their ages ranged from (17-25) years who obtained a low score on the psychological Immunity Scale with a standard deviation of 1.76, the sample was randomly divided into two groups. **Control Group:** It consisted of (15) individuals who did not receive the program, and the experimental group consisted of (15) individuals who received the program.

#### – **Verification of the equivalence between the experimental and control groups in the psychological immunity scale**

The researcher applied the psychological immunity scale on the students of the control and experimental groups, after which the answers were corrected and scored, and to ensure that the control and experimental groups were equivalent in the psychological immunity scale, the Mann Whitney test was used for the differences between the two groups, the following table illustrates the differences



between the means of the ranks for the experimental and control group, and the level of statistical significance, for the pre-measurement psychological immunity scale.

Table 1. The value of "U" and its statistical significance for the differences between the mean ranks of the experimental and control group scores in the pre-measurement psychological immunity scale

Psychological immunity scale dimensions	Ranks	N	Mean ranks	Sum ranks	U value	Significance level
Total degree	Experimental	15	15.23	228.5	108.5	Not significant
	Control	15	15.77	236.5		

From the previous table, it is clear that there are no statistically significant differences at the level of (0.05) between the mean ranks of the experimental group and the control group in the pre-measurement of the psychological immunity scale, this indicates the equivalence of the experimental group and the control group in pre-measurement psychological immunity scale.

## 2.2. Data Collection Tools

The study tools consisted of:

### 1. The Psychological Immunity Scale

The researcher used the psychological Immunity Scale (Al-Maliki, 2019), the scale consists of nine dimensions, items that represent each of the nine dimensions have been formulated, and a set of **answers** for each of the items of the scale according to 4 point Likert scale has been developed, that the answer (I strongly agree) is given 4, While the answer (I agree) is given 3, the answer (I disagree) is given 2 and the answer (I strongly disagree) is given 0. High score indicates high levels of psychological immunity, and low scores indicate a low level of psychological immunity, and since the scale has positive and negative expressions, scores were calculated as follows (4, 3, 2, 1) for positive expressions, while the score (1, 2, 3, 4) for negative expressions is calculated. Thus, the scores of individuals on the scale range between (54-216), the number of positive statements is 40, the number of negative statements is 14 statements. The scale is applied individually and collectively.

- **Psychological properties of the psychological immunity scale:**

The author in (Al-Maliki, 2019) calculated the internal consistency for the scale to verify its validity, the analysis resulted in high indicators of validity between the items and the dimensions to which they belong, as they ranged between (0.334-0.732) and between the overall score of the scale on the validity and reliability of the scale, as the reliability of the scale was between (0.436-0.723), the reliability of the scale that was measured by the Cronbach alpha method was (0.856). In the current study, the researcher applied the psychological immunity scale on the members of the pilot sample consisting of 50 individuals, to calculate the internal consistency and the discriminant/divergent validity and the validity of the psychological immunity scale as follows:

### 1. Calculating Internal Consistency

The internal consistency of the psychological immunity scale was calculated after applying it to a random sample of 50 individuals other than the study sample, through:

- **Calculation of the correlation coefficient of each item with the total of the dimension belonging to it:**

The correlation coefficients of each item with the total of the dimension to which it belongs were calculated, and the results were as shown in the following tables:

Table 2. The correlation coefficients of each item of the psychological immunity scale with the total the scale

Dimensions	Item number	Correlation coefficient	Significance level	Dimensions	Item number	Correlation coefficient	Significance level	
Positive thinking	1	0.572	0.01	Self-efficacy	28	0.752	0.01	
	2	0.785	0.01		29	0.684	0.01	
	3	0.746	0.01		30	0.74	0.01	
	4	0.468	0.01		31	0.712	0.01	
	5	0.732	0.01		32	0.441	0.01	
	6	0.764	0.01		33	0.721	0.01	
	7	0.717	0.01		34	0.687	0.01	
	8	0.682	0.01		35	0.807	0.01	
	9	0.647	0.01		36	0.714	0.01	
	10	0.783	0.01		37	0.826	0.01	
Creativity and problem solving	11	0.582	0.01	Self-confidence	38	0.59	0.01	
	12	0.711	0.01		39	0.606	0.01	
	13	0.618	0.01		Challenge and perseverance	40	0.543	0.01
	14	0.77	0.01			41	0.691	0.01
Self-control and balance	15	0.74	0.01	42	0.773	0.01		
	16	0.677	0.01	43	0.569	0.01		
	17	0.752	0.01	44	0.749	0.01		
	18	0.802	0.01	Psychological flexibility and adaptation	45	0.741	0.01	
	19	0.771	0.01		46	0.785	0.01	
	20	0.636	0.01		47	0.605	0.01	
Resilience and mental toughness	21	0.558	0.01	48	0.728	0.01		
	22	0.406	0.01	49	0.784	0.01		
	23	0.794	0.01	Optimism	50	0.761	0.01	
	24	0.818	0.01		51	0.859	0.01	
	25	0.853	0.01		52	0.837	0.01	

Dimensions	Item number	Correlation coefficient	Significance level	Dimensions	Item number	Correlation coefficient	Significance level
	26	0.746	0.01		53	0.876	0.01
	27	0.553	0.01		54	0.809	0.01

From the previous table: It is evident that the correlation coefficients were significant at the level of significance 0.05, 0.01, which indicates the strong correlation between the items of the psychological immunity scale with the total scale.

- **Calculation of the correlation coefficient of each dimension with the overall score of the psychological immunity scale.**

To ensure the validity of the hypothesis (construct validity) of the psychological immunity scale, the correlation coefficient of each dimension was calculated with the total of the scale, and the following table shows the correlation coefficients and their levels of significance:

Table 3. Correlation coefficients of the dimensions of the psychological immunity scale with the overall score of the scale

Dimensions	Correlation coefficient	Significance level
Positive thinking	0.834	0.01
Creativity and problem solving	0.824	0.01
Self-control and balance	0.872	0.01
Resilience and mental toughness	0.641	0.01
Self-efficacy	0.793	0.01
Self-confidence	0.891	0.01
Challenge and perseverance	0.77	0.01
Psychological flexibility and adaptation	0.708	0.01
Optimism	0.683	0.01

From the previous table: It is clear that the correlation coefficients are positive and statistically significant at a significance level of 0.05, which indicates the validity and internal consistency of the psychological immunity scale.

## 2. Calculating the scale reliability with the Cronbach alpha equation:

The reliability of the scale was calculated by the Cronbach alpha method, whereby this method is based on calculating the variance of the scale items, by which the extent of the scale items correlation with each other, and the correlation of each item with the overall score of the scale, the results are as shown in the following table:

Table 4. Alpha Cronbach reliability coefficients for the scale

The scale as total	Number of items	Alpha Cronbach coefficient
	54	0.96

It is clear from the previous table that the reliability coefficient for the scale as a whole was 0.96, which is an acceptable reliability coefficient for the alpha, which indicates the scale's suitability for research purposes.

## 2. The Virtual Psychological Counseling Program

The researcher has prepared a virtual psychological counseling intervention in light of the theoretical contradictions that (Barak et al., 2009) determined for counseling interventions and treatment based on the use of the Internet (virtual) and in light of the previous studies and research that dealt with the foundations of psychological counseling and its methods through the Internet, this included the online counseling on the following activities with the use of a protection system to preserve the privacy of the counselees and maintain the integrity of the experimental procedures.

The researcher relied on a counseling program based on virtual psychological counseling to activate psychological immunity, relying on counseling sessions aimed at positive thinking, creativity, problem-solving, self-control, balance, resilience, mental toughness, self-efficacy, and self-confidence. Challenge, perseverance, psychological flexibility, adaptation, and optimism, also, it included a set of instructional techniques such as modifying negative thoughts, dialogue, discussion, distraction, reverse intent, modeling, reverse role play, relaxation, feedback, and homework, that new trend in psychology, mental health and psychological counseling that is concerned with focusing on strong aspects, the program has passed through several stages, starting with the sources of the program passing through the construction steps (planning, implementation, evaluation) and ending with the final form.

The virtual psychological counseling program through chat rooms (zoom) consisted of 19 group of counseling sessions, for a period of (6) weeks (3) sessions per week, and the duration of each session was (50 minutes), aiming to stimulate the psychological immunity of the experimental group. Where the application of the program through the chat room was subject to several technical and ethical principles, which were adhered to by the researcher and the counselees, including the ethical charter for counseling work, complete confidentiality, adherence to the session schedule, adherence to the rules of conversation within the room, and adherence to HomeWorks.

In the beginning of each session, the counselor devoted 10 minutes (that is not counted within the basic period) to review the homework, to answer questions, to know the extent to which the counselees meet the skills of the previous session, and to work on linking them with the skills of the new session, in addition to inquiring about the events of the week related to the counseling topic, which makes the duration of each session (60) minutes.

Table 5. The content of the counseling program that was applied through the chat rooms on the (Zoom) program

Session number	Session title	Overall session objective	Session number	Session title	Overall session objective
1.	Introductory meetings	The acquaintance between the researcher and the members of the experimental group is a first step to building a successful counseling relationship.	11.	Positive self-esteem	Helping participants to achieve self-esteem.
2.	Introducing the counseling program	Introducing the participants to the counseling program.	12.	Control of impulses	Helping participants control their emotions.
3.	Positive expectations	Helping participants form positive expectations.	13.	self-control	Training participants to develop self-control.
4.	Positive thinking	Familiarizing participants with positive thinking.	14.	Developing self-confidence	Training participants to develop self-confidence.

Session number	Session title	Overall session objective	Session number	Session title	Overall session objective
5.	Psychological flexibility	Introduce participants to the concept of psychological resilience.	15.	optimism	That the participants realize the importance of optimism in their lives.
6.	Positive perception	Developing the positive perception of the participants and training them on it.	16.	Positive self-talk	Training participants on positive self-talk.
7.	Mental toughness	Introduce participants to the importance of mental toughness and its effect on psychological construction.	17.	Self-efficacy	Training participants on the concept of self-efficacy.
8.	Problem Solving	Training participants on problem-solving skills.	18.	Program evaluation	Application of program tools.
9.	Challenge & Perseverance (1)	Introduce participants to the concept of challenge and perseverance.	19.	Post-measurement follow-up	Application of program tools.
10.	Challenge persistence (2)	Introduce participants to the importance of challenge and perseverance in our life.			

### 2.3. Data Collection Process

In the beginning , an advertisement was posted on social media (Facebook, Twitter) in the Mu'tah University forums affiliated to the official website of the university for two weeks, stating that those who feel a low level of psychological immunity (positive thinking, creativity, and problem-solving, self-control and balance, resilience and mental toughness, Self-efficacy, ...), and if they want to benefit from the experience of virtual psychological counseling in complete privacy, they must apply to join by sending an email, at the end of the two weeks, the number of applicants to join the experimental group reached 200 counselees.

Then, they were asked to answer the psychological immunity scale via a link within a week from the date of sending the e-mail, accurately and objectively, the number of counselees who did not answer the link on the psychological immunity scale was 75, the number of those who responded to the scale was 125, and the number of counselees who met all the conditions for selecting the study sample reached 75 and the number of counselees who achieved a low score on the psychological immunity scale was 60.

After that, an email was sent to the counselees who did not meet the conditions for the study sample and who did not achieve a low score on the scale, including thanking them and an explanation of the reason for excluding them from the application of the program. Forty counselees were selected randomly, of whom 30 formed the final study sample, thus remaining 30 counselees, an email was sent to them informing them that they are on the waiting list, meaning that the priority for them in the event of withdrawal or apology of one of the participants from the study sample.

The final study sample consisting of 30 counselees was divided randomly into two groups: experimental groups of 15 counselees and a control group of 15 counselees. After ensuring that all the counselees meet the conditions, an email was sent to the counselees of the control group informing them that according to the random division they had fallen into the control group, explaining what is

meant by this, and the need for scientific research purposes to send them a copy of the scale in the form of a link, at a later time to answer it a second time (post-measurement).

At the same time, an email was sent to the counselees of the experimental group, informing them that they had been selected within the experimental group that would receive the virtual psychological counseling. The email contained comprehensive information about the study and its objectives, in addition to the user data, the researcher made sure of the equivalence of the experimental and control groups in the pre and post-measurement and the overall degree of the psychological immunity scale. Also, The counselees' opinion was taken regarding the best days of the week and times for the implementation of the virtual psychological counseling sessions, and after taking the opinion of the majority, the days (Saturday, Monday, and Thursday) were decided for the implementation of the psychological sessions, from the time (5:00 pm - 6:00 pm).

The implementation of the program continued over a period of 6 weeks, by applying virtual psychological counseling, while the control group was left without counseling intervention, then the website was permanently closed. The researcher then sent a copy of the psychological immunity scale to the control and experimental groups (post-measurement), and all answers were completed within (7) days.

After (4) weeks of the completion of all forms of virtual psychological counseling to all counselors, the researcher sent the psychological immunity scale to all participants of the experimental group (the follow-up measurement). All answers were completed within (7) days.

## 2.4. Data Analysis

Mann-Whitney test was applied to investigate the existence of differences between the post-measurement of the experimental group and the post-measurement of the control group in the psychological immunity scale.

Wilcoxon test was applied to check for differences between the pre and post-measurement of the experimental group in the psychological immunity scale. Also, the effect size of the integrated counseling program on the development of psychological immunity was calculated by the following equation: Effect size = Z value / $\sqrt{N}$ .

## 1. Results

- ***The answer of the first question, its analysis:***

The first question: ***“Are there statistically significant differences between the mean scores of the experimental and control groups on the psychological immunity scale after applying the counseling program for the benefit of the experimental group?”***

To clarify the differences between the mean ranks of the scores of the experimental and control groups in the psychological immunity scale, the researcher used the Mann - Whitney test of the independent groups in the case of the nonparametric statistics (given that the size of the experimental group and the control group is less than 30). The following table shows the value of U and its statistical significance for the differences between the post-measurement of the experimental and control groups in the dimensions of the psychological immunity scale.



Table 6. The U values and their statistical significance for the differences between the mean ranks of the scores of the experimental and control group in the dimensions of the psychological immunity scale and its overall score

Psychological immunity scale dimensions	Group	N	Mean ranks	Sum ranks	U value	Significance level
Positive thinking	Experimental	15	22.87	343	2	Not significant
	Control	15	8.13	122		
Creativity and problem solving	Experimental	15	22.4	336	9	Not significant
	Control	15	8.6	129		
Self-control and balance	Experimental	15	23	345	Zero	Not significant
	Control	15	8	120		
Resilience and mental toughness	Experimental	15	22.77	341.5	3.5	Not significant
	Control	15	8.23	123.5		
Self-efficacy	Experimental	15	21.03	315.5	29.5	Not significant
	Control	15	9.97	149.5		
Self-confidence	Experimental	15	22.7	340.5	4.5	Not significant
	Control	15	8.3	124.5		
Challenge and perseverance	Experimental	15	22.87	343	2	Not significant
	Control	15	8.13	122		
Psychological flexibility and adaptation	Experimental	15	22.53	338	7	Not significant
	Control	15	8.47	127		
optimism	Experimental	15	22.2	333	12	Not significant
	Control	15	8.8	132		
<b>Overall score</b>	Experimental	15	23	345	Zero	Not significant
	Control	15	8	120		

***It is clear from the previous table that:***

The values of "U" = (2-9- zero- 3.5- 29.5- 4.5- 2-7-12- zero), which are statistically significant values at a significance level of 0.01 in favor of the experimental group, indicating that there is a difference between the mean scores of the experimental group and the control group in the post-measurement psychological immunity scale in favor of the experimental group.

- ***The answer of the second question, its analysis:***

The second question: ***“Are there statistically significant differences between the mean scores of the experimental group on the psychological immunity scale pre and post-measurement of the counseling program in favor of the post-measurement?”***

To clarify the differences between the mean ranks of the pre and post-measurement scores of the experimental group in the dimensions of the psychological immunity scale and the overall score, the researcher used the Wilcoxon Test for the non-parametric statistic (given that the size of the experimental group = 15, which is less than 30), the following table illustrates that the Z value and its statistical significance for the differences between the pre and post-measurement of the experimental group in the dimensions of the psychological immunity scale and the overall score.

Table 7. The Z value and its statistical significance for the differences in the pre and post measurement of the experimental group in the dimensions of the psychological immunity scale and the overall score

Psychological immunity scale dimensions	Ranks	N	Mean ranks	Sum ranks	value Z	Significance level	η <sup>2</sup> value	Effect size
Positive thinking	Negative	Zero	Zero	Zero	3.42	Significant at 0.01	0.884	Large
	Positive	15	8	120				
	Neutral	-	-	-				
Creativity and problem solving	Negative	Zero	Zero	Zero	3.301	Significant at 0.01	0.853	Large
	Positive	14	7.5	105				
	Neutral	1	-	-				
Self-control and balance	Negative	3	3.17	9.5	2.521	Significant at 0.05	0.651	Large
	Positive	10	8.15	81.5				
	Neutral	2	-	-				
Resilience and mental toughness	Negative	Zero	Zero	Zero	3.33	Significant at 0.01	0.861	Large
	Positive	15	8	120				
	Neutral	-	-	-				
Self-efficacy	Negative	2	2.5	5	3.421	Significant at 0.01	0.884	Large
	Positive	13	8.85	115				
	Neutral	-	-	-				
Self-confidence	Negative	1	1	1	3.152	Significant at 0.01	0.815	Large
	Positive	13	8	104				
	Neutral	1	-	-				
Challenge and perseverance	Negative	Zero	Zero	Zero	3.413	Significant at 0.01	0.882	Large
	Positive	15	8	120				
	Neutral	-	-	-				
Psychological flexibility and adaptation	Negative	Zero	Zero	Zero	3.433	Significant at 0.01	0.887	Large
	Positive	15	8	120				
	Neutral	-	-	-				
optimism	Negative	Zero	Zero	Zero	3.192	Significant at 0.01	0.825	Large
	Positive	13	7	91				
	Neutral	2	-	-				
Overall score	Negative	Zero	Zero	Zero	3.41	Significant at 0.01	0.881	Large
	Positive	15	8	120				
	Neutral	-	-	-				

***It is clear from the previous table that:***

The Z values = (3.42 - 3.301 - 2.521 - 3.933 - 3.421 - 3.152 - 3.413 - 3.433 - 3.192 - 3.41), which are statistically significant values at a significance level of 0.05 in favor of the post-measurement of the experimental group in the dimensions of the psychological immunity scale and the overall score, which indicates that there is a difference between the mean scores of the experimental group in the dimensions of the psychological immunity scale and the overall score in favor of the post measurement, and the effect of the Integrated Counseling Program on the development of psychological immunity is large.

- ***The answer to the third question, its analysis:***

The third question stated: ***"Are there statistically significant differences between the mean scores of the post and follow-up measurement scores of the experimental group on the psychological immunity scale?"***

To clarify the differences between the mean ranks of the *post and follow up measurement scores* for the experimental group on the dimensions of the psychological immunity scale and the overall score, the researcher used the Wilcoxon test for the related groups in the case of the abnormal statistic (given that the size of the experimental group = 15, which is less than 30), and the following table illustrates The value of (Z) and its statistical significance for the differences between the *post and follow-up measurements* of the experimental group in the dimensions of the psychological immunity scale and the overall score.

Table 8. The value of (Z) and its statistical significance for the differences, the post and follow-up measurement of the experimental group for the dimensions of the psychological immunity scale, and the overall score

Psychological immunity scale dimensions	Ranks	N	Mean ranks	Sum ranks	Z value	Significance level
Positive thinking	Negative	2	1.5	3	1.342	Not Significant at 0.05
	Positive	Zero	Zero	Zero		
	Neutral	13	-	-		
Creativity and problem solving	Negative	2	1.5	3	1.342	Not Significant at 0.05
	Positive	Zero	Zero	Zero		
	Neutral	13	-	-		
Self-control and balance	Negative	Zero	Zero	Zero	1	Not Significant at 0.05
	Positive	1	1	1		
	Neutral	14	-	-		
Resilience and mental toughness	Negative	Zero	Zero	Zero	1	Not Significant at 0.05
	Positive	1	1	1		
	Neutral	14	-	-		
Self-efficacy	Negative	1	1	1	1	Not Significant at 0.05
	Positive	Zero	Zero	Zero		
	Neutral	14	-	-		
Self-confidence	Negative	Zero	Zero	Zero	1	Not Significant at 0.05
	Positive	1	1	1		
	Neutral	14	-	-		
Challenge and perseverance	Negative	1	1.5	1.5	Zero	Not Significant at 0.05
	Positive	1	1.5	1.5		
	Neutral	13	-	-		
Psychological flexibility and adaptation	Negative	Zero	Zero	Zero	1	Not Significant at 0.05
	Positive	1	1	1		
	Neutral	14	-	-		
optimism	Negative	Zero	Zero	Zero	1.342	Not Significant at 0.05
	Positive	2	1.5	3		
	Neutral	13	-	-		
Overall score	Negative	5	3.9	19.5	0.82	Not Significant at 0.05
	Positive	5	7.1	35.5		
	Neutral	5	-	-		

***It is clear from the previous table that:***

The values of "Z" = (1.342- 1.342- 1- 1- 1- 1- 0- 1- 1.342- 0.82) were non-statistically significant values at a significance level of 0.05, which indicates that there is no difference between the mean of the experimental group's scores in the pre and post measurement of the psychological immunity scale.

## 2. Discussion

The researcher explains the differences in the ranks of the psychological immunity scale (its overall score - dimensions) in the post-measurement in favor of the experimental group to the exposure of the experimental group to the activities and sessions of the virtual psychological counseling program, which includes techniques and activities that develop the positive aspects of the experimental group, which strengthens their psychological immunity through techniques and strategies such as modifying negative thoughts, dialogue, discussion, distraction, reverse psychology and modeling, reverse role play, relaxation, and feedback. This is consistent with many studies, including (Al-Ahmad, 2020; Al-Shawi, 2018; Khattab, 2018; Zaid, 2018), these studies support the effectiveness of the counseling program in developing the positive aspects of the experimental group.

The differences in the level of psychological immunity for pre, post measurement of the experimental group means that the virtual counseling program has been successful in strengthening the psychological immunity of the experimental group, through the implementation of a set of educational activities based on the instructional techniques, including: a group of behavioral techniques (modeling, behavioral contracting, role playing, homework, positive self-reinforcement) and a group of skillful techniques (establishing social relationships, developing social responsibility) and a group of cognitive techniques (scientific thinking, time management, relational thinking), a group of emotional techniques (optimism, self-confidence, self-control, sympathy and love) and these activities included in the proposed program develop personality, modify negative trends, and acquire a set of life skills that make them able to achieve and control negative thoughts, psychological strength, which protects from depression and tension, confidence in his abilities, as well as the ability to form social relationships that enjoy love and optimism and achieve dreams in the future. These results are consistent with many studies, including (Al-Ahmad, 2020; Zaid, 2018).

The results of the third question is consistent with many studies, including (Al-Ahmad, 2020; Zaid, 2018). Which indicated the effectiveness of the virtual counseling programs in improving the level of psychological immunity of the experimental group, this continuous improvement indicates the effectiveness and strength of the virtual counseling program, as the program acquired the experimental group a set of skills that contributed to raising their level of psychological immunity and maintaining that level over time, this means that the program has not been affected by the passage of a period. It also indicates the validity of the counseling program and that its effect is not temporary.

## 3. Conclusion

This study aims to identify the effectiveness of a virtual psychological counseling program to activate psychological immunity during the Coronavirus pandemic among students of Mutah University in Jordan. The study was conducted, and the counseling program was implemented during the second semester of the year (2019-2020). The study sample consisted of 15 students as control group and 15 students as experimental group who obtained a low score on the psychological immunity scale. The psychological immunity scale and a program based on virtual psychological counseling were implemented. The study indicated the presence of statistically significant differences between the mean scores of the experimental and control groups on the psychological immunity scale after applying the virtual psychological counseling program for the experimental group, there were statistically significant differences between the mean scores of the experimental group on the psychological immunity scale before and after the implementation of the virtual psychological

counseling program in favor of the post-measurement, the results showed that the members of the experimental group retained the effect after the follow-up measurement 30 days after the end of the program of the psychological immunity scale.

#### 4. Recommendations

1. Ensuring more practical applications of the program based on virtual psychological counseling of psychological immunity on other samples.
2. Paying attention to more applied research and programs based on virtual counseling in the field of mental illness prevention.
3. Proposing research and studies based on virtual counseling programs to support psychological immunity, quality of life, and self-efficacy.
4. Adopting programs by the educational institutions based on virtual counseling prepared by researchers so that the benefit extends to all segments of society.

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