Psychological Effects of COVID-19 and Counterproductive Work Behavior: A Study on Industrial Companies in Egypt

Author Details: Prof. Dr. Wageeh A. Nafei
University of Sadat City, Menoufia, Egypt

Abstract

The objective of the research is to examine the impact of psychological effects of COVID-19 on Counterproductive Work Behavior (CWB). The research population consists of all employees at Industrial companies in Egypt. The researcher adopted a sampling method to collect data for the study. The appropriate statistical methods were used to analyze the data and test the hypotheses.

The research has reached a number of results, the most important of which are (1) The negative psychological effects of COVID-19 have increased in Egyptian society, such as Obsessive Compulsive Disorders (OCD), Post Traumatic Stress Disorder (PTSD), and General Anxiety Disorders (GAD) among individuals in Egyptian society, (2) there is a statistically significant relationship between the psychological effects of COVID-19 (OCD) and the CWB among employees in the organization. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of CWB, (3) there is a statistically significant relationship between the psychological effects of COVID-19 (PTSD) and the job link among the organization's workers. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of CWB, and (4) there is a statistically significant relationship between the psychological effects of COVID-19 (GAD) and CWB among the organization's workers. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of work association.

The study referred to a number of recommendations, the most important of which are (1) the necessity of making strategic alliances in the medical field and the technological field between South Korea and the rest of the world in order to benefit from its experience in the field of confronting COVID-19, (2) the necessity of conducting many research and studies in the field of artificial intelligence as one of the tools that can be used in facing COVID-19, (3) increasing awareness campaigns on COVID-19 and viewing it as a disease like other diseases that require diagnosis and treatment, (4) seeking assistance from specialists in awareness programs and disseminating all information through social media for the purpose of awareness and prevention of infection COVID-19, (5) providing psychological service to COVID-19 patients inside hospitals in a manner that raises their spirits and confronts this virus, (6) the necessity for the Egyptian Ministry of Health to enhance the level of mental health for all members of society by establishing a psychological aid unit and taking over work to reduce the psychological anxiety from COVID-19, (7) spreading positive feelings among enough community members through the media, explaining that COVID-19 will be overcome, and providing the necessary awareness programs to reduce anxiety problems and sleep disorders, (8) researchers and scholars in the field of psychology and mental health conduct research and studies through which counseling and validation programs for community members are published, and (9) expanding the study of psychological immunology, and focusing on the psychological immunity variables in reducing the negative effects of COVID-19.

Keywords: *Psychological Effects, COVID-19, Work Behavior*

1. Introduction

Corona Virus Disease 2019 (COVID-19) appeared in Wuhan, China at the end of 2019, and then spread to most countries of the world at the beginning of 2020 (Chan et al, 2020).

COVID-19 has recorded 228,376 deaths, 3229966 infected, 1006,988 cures spread over 212 countries. The United States of America, Spain, Italy, Germany, the United Kingdom, France, Turkey, Iran and China are the countries most affected by the spread of COVID-19 (Elflein, 2020 A).

The number of COVID-19 cases in South Korea has escalated frighteningly after 31 cases were recorded, while the number of deaths from the first COVID-19 infection to April 20, 2020, has reached 247 deaths (Elflein, 2020 B).

The numbers recorded in South Korea are very good, as the deaths and injuries are among the least countries compared to other countries, and the United States of America recorded 228,376 deaths until April 2020 compared to South Korea, which recorded 247 deaths until April 2020 (Elflein, 2020 C).

COVID-19 has created a state of fear and anxiety among all peoples, and the patterns of life and social relations have changed, as stress, anxiety, and depression increased in Chinese society specifically in the initial period of its spread (Wang et al, 2020).

The pressures that an individual hears through the news every day about injuries and deaths in the media are among the most important reasons behind fear of COVID-19, which led to individuals feeling fear, terror and anxiety (Lin, 2020).

Fear of COVID-19 is one of the most important predictors of pressures exerting on it, and that is why it is called Corona Phobia or Corona Anxiety, all of which are emotional states that accompany the individual because there is a source of threat (Sun et al, 2020).

The spread of COVID-19 has led to the exposure of all categories of societies to unprecedented changes in a short period of time, such as changes in lifestyle, health care systems, prevention of movement, suspension of flights, and devastation of the economy in many countries (Viswanath & Monga, 2020).

The spread of COVID-19 has also led to home quarantine procedures, travel restrictions, constant examination and monitoring of all individuals in the community, and the spread of a large amount of misinformation through social media (Baberjee, 2020).

Community members live in a state of anxiety and tension on a large scale that humanity has not witnessed before due to the frightening figures that were reported by local and international media on the numbers of injuries and deaths due to COVID-19 (Velavan & Meyer, 2020).

Community members also feel alienated, and symptoms of depression, stress, and stress increased (Dong & Bouey, 2020).

COVID-19 has turned into a global pandemic, with very frightening numbers that surpassed the SARS epidemic. In general, there is a state of boredom and panic among all members of society (Zhai & Du, 2020).

COVID-19 has caused a psychological and social impact on the world level, as well as collective fear, economic burdens and financial losses, which led to the emergence of a large number of negative psychological manifestations such as tension, anxiety, depression, stress, boredom, and distress among all classes of society (Dubey et al, 2020).

COVID-19 has caused many more disturbances in Egyptian society than its counterpart in other cultures, and perhaps this is related to the fact that some studies have been conducted in other societies, especially in Chinese society, which made them deal with COVID-19 and work to limit its spread, unlike the Egyptian environment.

COVID-19 has left negative psychological effects in Egyptian society such as anxiety, distress, fear, and boredom. This is in addition to other social problems such as lack of communication with family and friends, as well as economic problems such as financial pressures, loss of work, and the many demands of life.

In recent years, deviant work behavior has gained increasing attention among organized researchers. This concern is due to the increasing prevalence of these behaviors in the workplace as well as the enormous costs associated with the practice (Fox et bal., 2001; Peterson, 2002). Deviant work behavior includes many practices such as theft, absenteeism, violence, incidents of sabotage, fraud, withholding of effort and aggressive behavior, bad work and misuse of time and resources, bribery and forgery (Ones, 2002; Gruy & Sackett, 2003).

Deviant work behavior is the unethical practices of employees (Raelin, 1994). Also, deviant work behavior is voluntary behavior of employees (Robinson & Bennett, 1995). Deviant work behavior is regulated by organizational aggression (Fox et al., 2001). Deviant work behavior is one that hurts the organization directly by negatively affecting its functions or by harming its staff in a way that reduces their effectiveness (Fox et al., 2001).

2. Literature Review

2.1. COVID-19

2.1.1. COVID-19 Concept

COVID-19 is an animal-based virus that is transmitted to humans upon close contact with farm animals or wild animals infected with this virus, but despite this, this virus remains and needs more research to determine its exact source (Word Health Organization, 2020).

COVID-19 is a broad strain of viruses that may cause disease in animals and humans. It is known that a number of corona viruses cause respiratory diseases in humans, whose severity ranges from common colds to more severe diseases such as MERS and SARS (World Health Organization, 2020).

COVID-19 is an animal virus that developed and turned into a human virus that is transmitted from one person to another, that is, it is one of the diseases that affect the respiratory system. COVID-19 spreads through infection from an infected person and has symptoms of the disease such as heat, cough, difficulty breathing, through droplets resulting from coughing and sneezing, close personal contact with an infected person, touching an object or surface with the virus on it, and then touching the mouth, nose, or eyes without washing hands (US Public Health Administration).

2.1.2. Psychological Effects of COVID-19

The psychological effects of COVID-19 on all individuals in society varied. Many studies have been carried out in all countries of the world, such as the United States of America, China, and the United Kingdom, in order to identify the psychological effects resulting from the spread of COVID-19 and its reflection on the behavior of individuals within society, and some of these effects are as follows:

1. COVID-19 does not affect the physical health of the individual, but rather negatively affects the mental health of the patient and non-patient, and these effects appear in the form of fear, anxiety, tension, and instability in general (Lima et al, 2020)
2. The psychological effects resulting from COVID-19 are fear, depression, OCD, panic, anxiety, tension and others, and all of these factors are negatively reflected on workers in all organizations of all types and sizes in a way that leads to a decrease in the degree of employee engagement and low performance (Dubey et al, 2020).
3. Anxiety and fear are among the most important psychological effects resulting from COVID-19, and this reflects negatively on students in different educational stages. Therefore, family stability and support are among the most important factors that contribute to reducing anxiety and fear among their members (Cao et al, 2020).
4. Anxiety, depression, stress, and OCD are among the most important negative effects resulting from COVID-19, which negatively affects the morale of workers, which leads to difficulty in carrying out the tasks assigned to them (Rajkumar, 2020).
5. Anxiety, depression, and stress are among the most important negative psychological effects on workers, which is reflected in the level of their general performance within the organization. Therefore, psychological support plays an important role in reducing the psychological effects resulting from COVID-19 and thus improving the level of performance of staff (Wang et al, 2020).
6. The psychological effects affecting employees as a result of COVID-19 are fear for their families, fear of infecting colleagues, fear of infection risks, and depression. Psychological support plays an important role in reducing the negative psychological effects of COVID-19 (Dai et al, 2020).
7. The bad psychological effects of COVID-19 are anxiety, stress, depression, fear, insomnia, and others. Therefore, safety measures that must be followed such as rest periods, psychological support, and the provision of a healthy lifestyle contribute to reducing the negative psychological effects of on COVID-19 (Blake et al, 2020).
8. Women are more likely than men in terms of psychological effects from the spread of COVID-19, and the most important of these effects are anxiety, mental stress, depression, stress, and fear (Badahdah et al, 2020).
9. Anxiety and depression are among the most important negative psychological effects resulting from COVID-19, which leads to social problems among community members (Bhat et al, 2020).
10. Anxiety and depression are among the most important negative psychological effects of COVID-19, which leads to an increase in psychological and mental symptoms among community members (Cullen et al, 2020).

11. Anxiety, stress, and depression are among the most important negative effects resulting from COVID-19, which greatly affect young people with chronic diseases compared to others (Ozamiz et al, 2020).
12. High anxiety and disease delusions are among the most important negative effects of COVID-19, and there is also an inverse relationship between knowledge of COVID-19 and anxiety about infection (Jungmann & Witthoft, 2020).
13. OCD, personal sensitivity, phobia, and anxiety are among the most important psychological symptoms resulting from COVID-19, and there are no differences between males and females in terms of psychological symptoms resulting from COVID-19 (Wang et al, 2020).
14. Students in rural areas are less likely than students in big cities in terms of the psychological effects of COVID-19 (Cao et al, 2020).
15. Teachers in various destinations have turned to virtual education, and adherence to quarantine procedures, in order to reduce the negative effects of COVID-19 (Joy & Toquero, 2020).
16. The level of anxiety increases when infected with COVID-19, which results in an increase in the manifestations of disorder, drug abuse, and the spread of suicidal thoughts among community members (Lee, 2020).
17. The level of anxiety increases, and symptoms of depression increase in young people compared to the elderly, in addition to sleep disturbances and other negative effects resulting from COVID-19 (Huang & Zhao, 2020).
18. Females are the most vulnerable groups to anxiety and depression. In addition to that, urban residents are the most common groups that have mental disorders resulting from COVID-19 (Ozdin & Ozdin, 2020).

After examining the previous psychological effects of COVID-19, the researcher can limit these effects to the following (Rajkumar, 2020, Wang et al, 2020):

2.1.2.1. Obsessive Compulsive Disorders

The spread of COVID-19 has led to the infection of many community members with OCD such as fears of contracting the virus, and exaggerated application in terms of hand washing, sterilization, and others (Liu et al., 2020).

The spread of COVID-19 has also led to social distancing, quarantine, increased feelings of detachment and isolation, depression, and a general sense of instability (Fineberg, 2020).

2.1.2.2. Post-traumatic Stress Disorder

There are many and varied disorders that may affect an individual after psychological trauma, and these symptoms are depression, headache, difficulty concentrating, anger attacks, inability to express, and difficulty solving problems, which is reflected in the individual's personal life path (Lee, 2020).

Anxiety plays an important role in affecting individuals suffering from OCD, which leads to the emergence of new symptoms that have implications for the psychological state of the individual (Liu, 2020).

2.1.2.3. Generalized Anxiety Disorder

Anxiety is a disorder, and it has multiple effects such as mental illnesses for community members (Cao et al, 2020).

Anxiety disorder refers to a group of mental disorders characterized by feelings of anxiety, dysphoria, and fear, including Generalized Anxiety Disorder (GAD), Obsessive Compulsive Disorder (OCD), and Posttraumatic Stress Disorder (PTSD) (Wittchen, 2002).

Anxiety is a general mood that occurs in the individual without knowing the motives behind it. Anxiety is different from fear, in that fear occurs in the presence of a perceived threat while anxiety is the result of threats that cannot be controlled or avoided. Fear is associated with specific behaviors such as fleeing and avoiding, while anxiety is associated with fatigue, muscle spasms, and problems with concentration. In general, the feeling of anxiety and fear appears in the form of an exaggerated reaction to a particular situation (Barker, 2017).

Anxiety is considered a normal response to a state of stress that the individual feels, and when anxiety increases, it falls under the classification of anxiety disorders (Sylvers, et al, 2011).

Anxiety is an unpleasant feeling that is accompanied by fear of anticipated events such as fear of death or the occurrence of a certain accident (Davison, 2008).

Anxiety is a future-oriented mood in which the individual is prepared to try to deal with upcoming negative events (Stolker et al, 2001).

Anxiety is a physiological condition that occurs in an individual as a result of an unpleasant feeling associated with discomfort and fear. Anxiety is often accompanied by behaviors that reflect a state of tension and discomfort, and the individual also shows physical symptoms that reflect the state of anxiety he feels (Barlow, 2000).

2.2. Counterproductive Work Behavior

2.2.1. Counterproductive Work Behavior Concept

There are three categories of job behavior practiced by employees in the organization in general. They are task behavior, organizational citizenship behavior and CWB (Rotundo & Sackett, 2002).

Task behavior is the behavior that contributes to the core maintenance and conversion activity of the organization such as product making, sale of goods, delivery of services, followers of managers, scheduling (Motowidlo & Schmit, 1999).

Organizational citizenship behavior is voluntary behavior that is not part of the formal incentive system of the Organization and is intended to enhance the Organization's performance and increase its effectiveness and efficiency (Organ, 1990).

CWB is one that hurts the organization either directly by negatively affecting its functions, or by harming its staff in a way that reduces their effectiveness (Fox et al., 2001).

CWB is voluntary behavior of employees by violating regulatory standards in a way that harms either the organization or its members or both (Robinson & Bennett, 1995).

CWB is the unethical practices of workers, absenteeism, evasion, exaggeration, indifference and immaturity (Raelin, 1994).

CWB is also regulated by organizational aggression (Fox et al., 2001), or dysfunctional (Griffin et al., 1998l) or antisocial behavior (Giacalone & Greenberg, 1997).

In recent years, CWB has gained increasing attention among organized researchers, but attention has shifted from studying desired work behaviors to unwanted work behaviors. This concern is due to the increasing prevalence of these behaviors in the workplace as well as the enormous costs associated with the practice (Fox et bal., 2001; Peterson, 2002).

CWB includes many practices such as theft, absenteeism, violence, incidents of sabotage, fraud, withholding of effort and aggressive behavior, bad work and misuse of time and resources, bribery and forgery (Ones, 2002; Gruy & Sackett, 2003).

Although many studies address the issue of CWB as having two dimensions: organizational deviation and deviation in interpersonal relationships (Robinson & Bennett, 1995, Bennett & Robinson, 2000; Hollinger & Clark, 1982), the current research objective will focus only on the first dimension.

2.2.2. Counterproductive Work Behavior Dimensions

There are five dimensions of CWB. They are abuse against others, production deviance, sabotage, theft and withdrawal (Spector et al. 2006).

Abuse against others is a dimension of CWB. It aimed at harming fellow workers and are considered a direct from of aggression (Spector et al. 2006).

The range of abuse at work place can start from objectionable comments (Cortina & Magley 2003) verbal aggression (Porath & Erez 2009) to stressors like bullying at work (Vickers 2001; Saunders et al. 2007; Monks et al. 2009) and such acts can go on for a longer time period (Ayoko et al. 2003).

If corrective actions are not taken to control this form of CWB, the organization has to ultimately bear its cost (Steffgen 2008) in form of reduced performance (Altman & Akdere 2008) and increased turnover (Baruch 2005).

Production deviance is another dimension of CWB. It has been thoroughly researched. In this type of CWB, the employee negatively affects organizational efficiency by intentionally hampering quality and quality of work (Hollinger & Clark 1982).

So when an employee purposefully does not perform a task which he was capable of performing, he is indulged in production deviance. This is serious from of CWB, as an employee who was supposed to

facilitate organizational performance is intentionally creating hurdles against its success (Spector et al. 2006).

Sabotage is another dimension of CWB. The employee is engaged in seditious activities and he damages the physical assets in the organization (Chen & Spector 1992).

Despite the fact that productive deviance is a passive and sabotage is an active approach, theoretically both are intertwined (Spector et al. 2006).

Defaming your organization by criticizing it publically also falls under purview of sabotage (Tucker 1993) while in the new era misuse of information and communication technology against organizational interest is also referred to as sabotage (Weatherbee 2010).

Theft is a dimension of CWB. The employee intends to intentionally harm the organization (Niehoff & Paul 2000) and it can be a form of falsified records, forgery, payroll frauds (Gabbidon et al. 2006) and stealing cash (Schmidtke 2007).

Theft is a problem for all business and sectors including the public sector organizations (Saucer 2007).

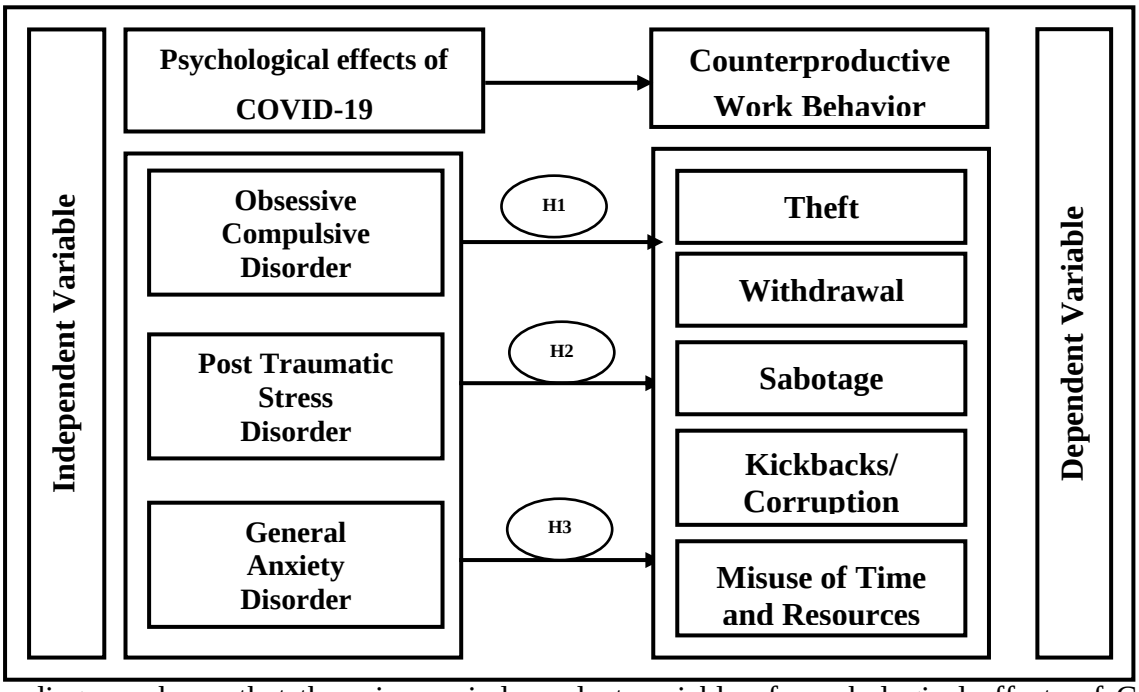
Theft in organizations is facilitated by employee discontent (Bolin & Heatherly 2001) dissatisfaction (Kulas et al. 2007) and a perception that they will not be caught due to poor control system (Hollinger & Clark 1983).

Since in USA alone, each year billions of dollars are lost due to employee theft, organizations should focus on controlling theft by formulating best possible policies and using well planned and well thought out security procedures (Lipman & McGraw 1988).

Similarly when an employee remains absent, takes unauthorized breaks, attends late, leaves early or takes a fake sick leave, the employee is involved in time theft and such behaviors are commonly referred to as withdrawal (Spector et al. 2006; Kulas et al. 2007). Withdrawal has a unique place in domain of CWB (Marcus & Schuler 2004).

3. Research Model

Figure (1) Proposed Comprehensive Conceptual Model



The diagram shows that there is one independent variable of psychological effects of COVID-19. There is one dependent variable of CWB.

Psychological effects of COVID-19 is measured in terms of OCD, PTSD and GAD (Rajkumar, 2020; Wang et al., 2020).

CWB is measured in terms of theft, withdrawal, sabotage, kickbacks/corruption, and misuse of time and resources (Spector et al., 2006).

4. Research Questions

The topic of COVID-19 is one of the modern topics of the day, as time has become available for conducting academic and scientific research and studies in this field. Therefore, this study is of great importance in providing an academic reference on which researchers rely in studying such topics in the future.

There is a group of viruses known to cause diseases ranging from colds to more serious diseases, as happened with MERS and SARS (World Health Organization, 2020).

The world is currently witnessing a new health pandemic, which specialists initially called COVID-19. After that, it was agreed on the scientific name for it COVID-19. It is a respiratory disease that causes SARS to attack the respiratory system and lead to many diseases such as fever, cough, and difficulty breathing. It may also lead to death by 3.4% of the number of infected people (WHO, 2020).

COVID-19 appeared in mid-December 2019, and spread to China and then to the rest of the world. This virus has caused several negative effects on various social, economic, political, cultural and other fields, which prompted countries of the world to adopt different methods to confront this virus, which was classified as a pandemic in March 2020 (Word Health Organization, 2020).

The spread of COVID-19 has affected global mental health, as it has led to a high rate of psychological stress, anxiety, symptoms of depression, anger, and pathological violations among all members of society (Torales et al, 2020).

The spread of COVID-19 has changed human life in various countries of the world, whether developed or developing, and problems of fear, trauma, depression, and anxiety have spread (Joy & Toquero, 2020). COVID-19 has become the main source of fear, tension, and anxiety around the world (Kim & Su, 2020, Reznik, 2020).

COVID-19 has led to the spread of anxiety among all members of society, as rates of anxiety and depression ranged between 16-28% during COVID-19. Also, psychological stress reached 8%, in addition to other psychological disorders such as hypochondria and sleep disorders (Rajkumar, 2020).

Mental immunity plays an important role in mitigating the negative effects of COVID-19, and these variables are resilience, recovery, coping strategies, mindfulness, social support, and orientation towards long-term goals (Polizzi, et al, 2020). The research problem has two sources. The first source is to be found in previous studies. There is a lack in the number of literature review that dealt with the analysis of the relationship between psychological effects of COVID-19 and CWB. This called for the researcher to test this relationship in the Egyptian environment.

In light of the review of previous studies towards psychological effects of COVID-19, there is a study aimed at exploring the effects of COVID-19 on mental health, economics, and social life. The study found that 67.5% of the sample individuals had increased psychological problems such as anxiety and depression, and that 53.5% had social problems (Bhat et al, 2020).

There is another study that aimed at identifying mental health in the period of COVID-19 in a Chinese city. The study found an increase in anxiety symptoms in 29% of the sample, and an increase in depression symptoms in 17% of the sample, which led to an increase in psychological and mental symptoms (Cullen, et al, 2020).

There is another study interested in identifying levels of stress, anxiety, and depression in the first period of COVID-19 in a Spanish city. The study found high rates of stress, anxiety, and depression among the sample members, and it also increased significantly among young people with chronic diseases compared to others (Ozamiz et al, 2020). There is a study that aimed at identifying health anxiety and delusions during the COVID-19 period in a German city. The study found a rise in anxiety associated with COVID-19 and hypochondria. The study also indicated that there is an inverse relationship between knowledge of COVID-19 and anxiety about infection (Jungmann & Witthoft, 2020).

There is another study concerned with learning about psychological diseases of Chinese citizens during the first period of COVID-19. The study found an increase in the psychological symptoms of OCD, personal sensitivity, phobia, and anxiety. The study indicated that there are no differences between males and females in terms of psychological symptoms of COVID-19 (Wang et al, 2020).

The second source is the pilot study, which was conducted an interview with (30) employees at industrial companies in Egypt. The researcher found several indicators notably the important role that could be played by COVID-19 in affecting CWB. The research questions of this study are as follows:

Q1: What is the relationship between psychological effects of COVID-19 (OCD) and CWB at industrial companies in Egypt?

Q2: What is the nature of the relationship between psychological effects of COVID-19 (PTSD) and CWB at industrial companies in Egypt?

Q3: What is the extent of the relationship between psychological effects of COVID-19 (GAD) and CWB at industrial companies in Egypt?

5. Research Hypotheses

In the light of a review of previous studies towards psychological effects of COVID-19, there is a study that aimed at identifying the psychological impact of COVID-19 on university students in a major Chinese city. The study found that 90% of the total sample have severe anxiety, 2.7% have moderate anxiety, and 21.3% have low anxiety. The study also indicated that students in rural areas are less anxious than students in large cities (Cao et al, 2020).

Another study aimed at learning how teachers in a Philippine city deal with the anxiety associated with COVID-19. The study found that teachers turned to virtual learning, and adhering to quarantine measures, in order to reduce anxiety associated with COVID-19 (Joy & Toquero, 2020).

Another study aiming to identify the anxiety associated with COVID-19 found a high level of anxiety during COVID-19 infection, higher manifestations of disorder, drug abuse, and the spread of suicidal thoughts during COVID-19 (Lee, 2020).

Another study aimed at identifying anxiety, depression, and sleep quality during the period of COVID-19 in a Chinese city. The study found a higher level of anxiety and more depressive symptoms among young people compared to the elderly, in addition to multiple disturbances during sleep (Hung & Zhao, 2020).

There is also another study aiming at identifying levels of anxiety, depression, and health anxiety during COVID-19 in a Turkish city. The study found that females are the most vulnerable groups to health anxiety and depression. In addition, individuals who inhabit geographical regions are more groups with mental disorders compared to others (Ozdin & Ozdin, 2020).

The following hypotheses were developed to decide if there is a significant correlation between psychological effects of COVID-19 and CWB.

H1: There is no statistically significant relationship between psychological effects of COVID-19 (OCD) and CWB at industrial companies in Egypt.

H2: Psychological effects of COVID-19 (PTSD) have no statistically significant effect on CWB at industrial companies in Egypt.

H3: There is no relationship between psychological effects of COVID-19 (GAD) and CWB at industrial companies in Egypt.

6. Research Population and Sample

The total population of the industrial companies in Sadat city in Egypt is 11550 employees. The sample size was calculated using the formula (Daniel, 1999) as follows:

$$n = \frac{N \times (Z)^2 \times P\,(1-P)}{d^2\,(N-1) + (Z)^2 \times P\,(1-P)}$$

The number of samples obtained by 377 employees at the industrial companies in Sadat city in Egypt is presented in Table (1).

Table (1) Distribution of the Sample Size

Industrial Companies	Employees	Percentage	Sample Size
1. Iron and Steel Sector	8100	40%	377X 40% = 150
2. Construction Sector	5926	29%	377X 29% = 110
3. Food Industries Sector	2087	10%	377X 10% = 38
4. Textile Sector	2520	13%	377X 13% = 49
5. Chemical Industries Sector	1567	8%	377X 8% = 30
Total	**20200**	**100%**	**377X 100% = 377**

Source: Personnel Department at Industrial Companies, Sadat City, Egypt, 2020

Table (2) Characteristics of the Sample

Demographic Variables		Frequency	Percentage
1. Gender	Male	240	80%
	Female	60	20%
	Total	**300**	**100%**
2. Marital Status	Single	100	33%
	Married	200	67%
	Total	**300**	**100%**
3. Age	From 30 to 45	170	57%
	Above 45	130	43%
	Total	**300**	**100%**
4. Educational Level	University	250	83%
	Post Graduate	50	17%
	Total	**300**	**100%**
5. Period of Experience	From 5 to 10	210	70%
	More than 10	90	30%
	Total	**300**	**100%**

7. Procedure

The goal of this study was to identify the impact of psychological effects of COVID-19 on CWB. A survey research method was used to collect data. The questionnaire included three questions, relating to psychological effects of COVID-19, CWB, and biographical information of employees at industrial companies in Egypt. About 344 survey questionnaires were distributed. Multiple follow-ups yielded 300 statistically usable questionnaires. Survey responses were 87%.

8. Research Variables and Methods of Measuring

The 13-item scale psychological effects of COVID-19 section is based on Rajkumar, 2020; Wang et al., 2020. There were five items measuring OCD, five items measuring PTSD, and five items measuring GAD.

The 21-item scale CWB section is based on Spector et al., 2006. There were four items measuring theft, four items measuring withdrawal, three items measuring sabotage, five items measuring kickbacks/corruption, and five items measuring misuse of time and resources.

Responses to all items scales were anchored on a five (5) point Likert scale for each statement which ranges from (5) “full agreement,” to (1) for “full disagreement”.

9. Data Analysis and Hypotheses Testing

9.1. Coding of Variables

The research consists of two main variables. The first is psychological effects of COVID-19 (independent variable). The second is CWB (dependent variable). Each variable consists of sub-variables. Description and measuring of the research variables is presented in Table (3) as follows:

Table (3) Description and Measuring of the Research Variables

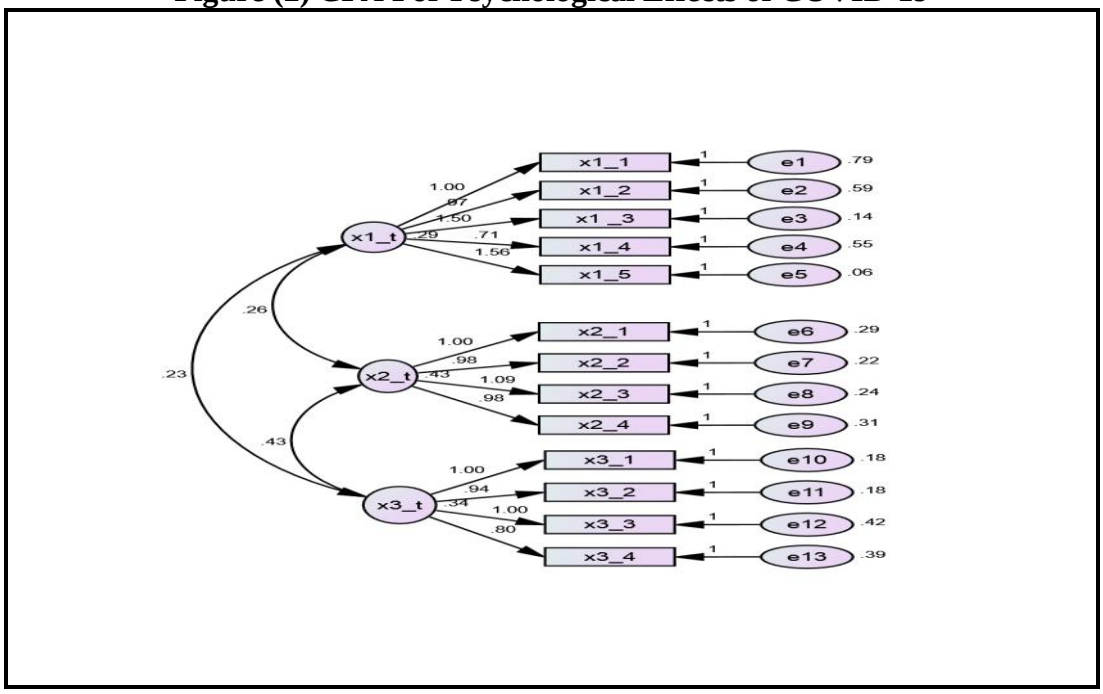
Main Variables		Sub-Variables	Number of Statement	Methods of Measuring Variables
Independent Variable	Psychological Effects of COVID-19	Obsessive Compulsive Disorder	5	Rajkumar, 2020 Wang et al., 2020
		Posttraumatic Stress Disorder	4	
		General Anxiety Disorder	4	
Total Psychological Effects of COVID-19			**13**	
Dependent Variable	Counterproductive Work Behavior	Theft	4	Spector et al., 2006
		Withdrawal	4	
		Sabotage	3	
		Kickbacks/Corruption	5	
		Misuse of Time and Resources	5	
Total CWB			**21**	

9.2. Construct Validity

9.2.1. Psychological Effects of COVID-19

The researcher used Confirmatory Factor Analysis (CFA) for psychological effects of COVID-19. This can be illustrated by the following figure:

Figure (2) CFA For Psychological Effects of COVID-19



From the previous figure, it is clear that all the statement of psychological effects of COVID-19 are greater than 0.50, which corresponds to GFI. This is a good indicator of all other statistical analysis. The quality indicators for psychological effects of COVID-19 can be illustrated in the following table:

Table (4)

Quality Indicators for Psychological Effects of COVID-19 Using AMOS Analysis

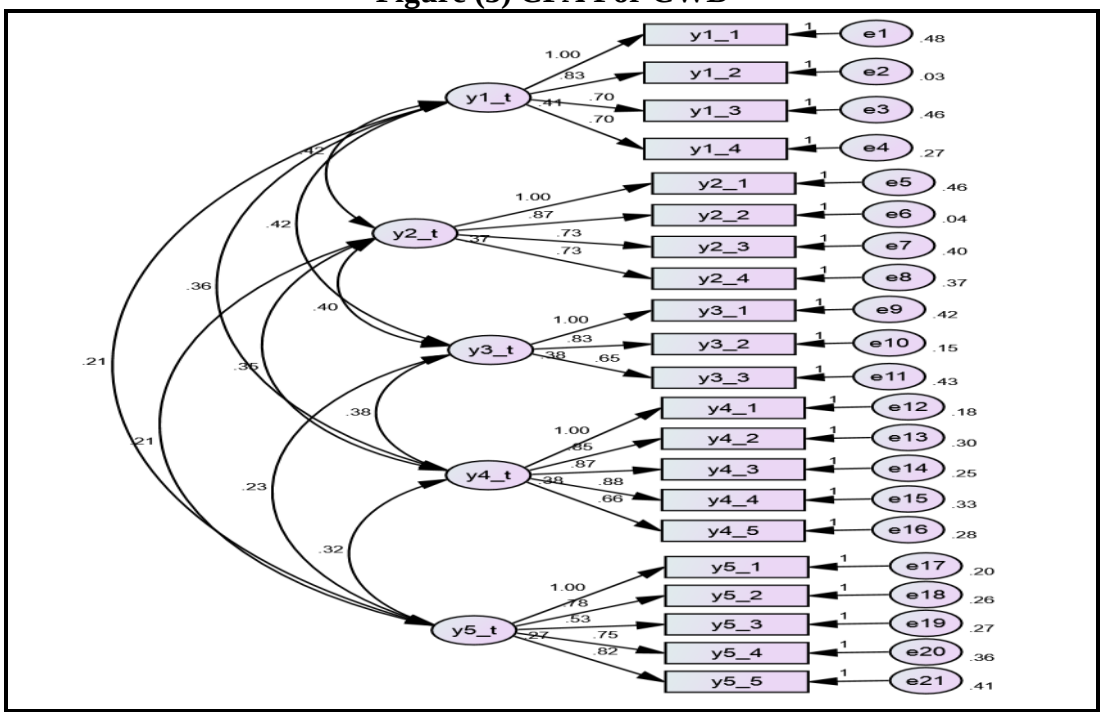
Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	**Test Value**
X^2 / Degree of freedom >5	457.756
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.814
Tuker-Lewis Index (TLI) > 0.95	0.830
Comparative Fit Index (CFI) > 0.90	0.865
Normed Fit Index (NFI) > 0.90	0.848
Incremental Fit Index (IFI) > 0.95	0.866
Relative Fit Index (RFI) > 0.90	0.809
Root Mean Square Residual (RMR) < 0.5	0.066
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.146

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.2. Counterproductive Work Behavior

The researcher used CFA for CWB which consists of five dimensions. This can be illustrated by the following figure:

Figure (3) CFA For CWB



According to Figure (2), it is clear that all the statement of CWB are greater than 0.50. This is a good indicator of all other statistical analysis. The quality indicators for CWB can be illustrated in the following table:

Table (5) Quality Indicators for CWB Using AMOS Analysis

Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
X^2 / Degree of freedom < 5	451.682
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.724
Tuker-Lewis Index (TLI) > 0.95	0.537
Comparative Fit Index (CFI) > 0.95	0.686
Normed Fit Index (NFI) > 0.90	0.679
Incremental Fit Index (IFI) > 0.95	0.688
Relative Fit Index (RFI) > 0.90	0.527
Root Mean Square Residual (RMR) < 0.5	0.178
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.276

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.3. Descriptive Analysis

Table (6)
Mean and Standard Deviations of Psychological Effects of COVID-19 and CWB

Variables	The Dimension	Mean	Standard Deviation
Psychological Effects of COVID-19	Obsessive Compulsive Disorder	2.22	0.697
	Posttraumatic Stress Disorder	1.78	0.713
	General Anxiety Disorder	2.15	0.610
	Total Measurement	**2.06**	**0.620**
Counterproductive Work Behavior	Theft	2.30	0.603
	Withdrawal	2.34	0.594
	Sabotage	2.33	0.619
	Kickbacks/Corruption	2.34	0.576
	Misuse of Time and Resources	2.58	0.479
	Total Measurement	**2.39**	**0.506**

According to Table (6), most of the respondents identified the presence of psychological effects of COVID-19 (OCD) (M=2.22, SD=0.687), psychological effects of COVID-19 (PTSD) (M=1.78, SD=0.713), psychological effects of COVID-19 (GAD) (M=2.15, SD=0.610), and total psychological effects of COVID-19 (M=2.06, SD=0.620).

Regarding to CWB, most of the respondents identified the presence of a theft (M=2.30, SD=0.603). This was followed by withdrawal (M=2.34, SD=0.594), sabotage (M=2.33, SD=0.619), kickbacks/corruption (M=2.34, SD=0.576), misuse of time and resources (M=2.58, SD=0.479), and total CWB (M=2.39, SD=0.506).

9.4. Evaluating Reliability

Table (7) Reliability of Psychological Effects of COVID-19 and CWB

Variables	Dimension	Number of Statement	ACC
Psychological Effects of COVID-19	Obsessive Compulsive Disorder	5	0.818
	Post Traumatic Stress Disorder	4	0.869
	General Anxiety Disorder	4	0.798
	Total Measurement	**13**	**0.926**
Counterproductive Work Behavior	Theft	4	0.797
	Withdrawal	4	0.785
	Sabotage	3	0.714
	Kickbacks/Corruption	5	0.838
	Misuse of Time and Resources	5	0.738
	Total Measurement	**21**	**0.942**

Table (7) presents the reliability of psychological effects of COVID-19. The 13 items of psychological effects of COVID-19 are reliable because the ACC is 0.926. OCD, which consists of 5 items, is reliable because the ACC is 0.818. The 4 items related to PTSD, are reliable because the ACC is 0.869 while the 4 items of GAD are reliable because the ACC is 0.798. Thus, the internal consistency of psychological effects of COVID-19 can be acceptable.

The 18 items of CWB are reliable because the ACC is 0.942. Theft, which consists of 4 items, is reliable because the ACC is 0.797. The 4 items related to withdrawal are reliable because ACC is 0.785 while the 3 items related to sabotage is reliable because the ACC is 0.714. The 5 items related to kickbacks/corruption are reliable because ACC is 0.838 while the 5 items related to misuse of time and resources is reliable because the ACC is 0.738. Thus, the reliability of CWB can be acceptable.

9.5. The Means, St. Deviations and Correlation among Variables

Table (8) Means, Standard Deviations and Intercorrelations among Variables

Variables	Mean	Std. Deviation	Psychological Effects of COVID-19	CWB
Psychological Effects of COVID-19	2.06	0.620	1	
Counterproductive Work Behavior	2.39	0.506	0.838**	1

Table (8) shows correlation coefficients between psychological effects of COVID-19 and CWB. Psychological effects of COVID-19 is (Mean=2.06; SD=0.620), while CWB is (Mean=2.39; SD= 0.506). Also, the correlation between psychological effects of COVID-19 and CWB is (R=0.838; P <0.01).

9.6. The Correlation between Psychological Effects of COVID-19 and CWB

Based on Table (9), correlation between psychological effects of COVID-19 (OCD) and CWB is 0.609 whereas psychological effects of COVID-19 (PTSD) and CWB shows correlation value of 0.877. Also, psychological effects of COVID-19 (GAD) and CWB is 0.889. The overall correlation between psychological effects of COVID-19 and CWB is 0.838.

Table (9)
Correlation Matrix between Psychological Effects of COVID-19 and CWB

Research Variables	1	2	3	4
Obsessive Compulsive Disorder	1			
Post Traumatic Stress Disorder	0.711**	1		
General Anxiety Disorder	0.677**	0.941**	1	
Job Engagement	0.609**	0.877**	0.889**	1

9.6.1. Psychological Effects of COVID-19 (OCD) and CWB

Table (10) MRA Results for Psychological Effects of COVID-19 (OCD) and CWB

Psychological Effects of COVID-19 (OCD)	Beta	R	R^2
1. I have the power to overcome bad thoughts related to the epidemic.	0.125*	0.407	0.165
2. I can overcome the idea of my inevitable infection with the virus.	0.168**	0.479	0.229
3. I follow the moderation in prevention measures and not exaggerate the pathology.	0.002	0.465	0.216
4. I do not doubt that everyone around me may be infected.	0.240**	0.455	0.207
5. I do not resort to the drugs used to treat the virus as long as I am not infected.	0.275**	0.527	0.277
▪ MCC ▪ DC ▪ Calculated F ▪ Degree of Freedom ▪ Indexed F ▪ Level of Significance	0.621 0.386 36.933 5, 294 3.01 0.000		

As Table (10) proves, the MRA resulted in the R of 0.621 demonstrating that the 5 independent variables of psychological effects of COVID-19 (OCD) construe CWB significantly. Furthermore, the value of R^2, 5 independent variables of psychological effects of COVID-19 (OCD) can explain 0.38% of the total factors in CWB level. Hence, 62% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between psychological effects of COVID-19 (OCD) and CWB.

9.6.2. Psychological Effects of COVID-19 (PTSD) and CWB

As Table (11) proves, the MRA resulted in the R of 0.882. This means that CWB has been significantly explained by the 5 independent variables of psychological effects of COVID-19 (PTSD). As a result of the value of R^2, the four independent variables of psychological effects of COVID-19 (PTSD) justified 77% of the total factors in CWB. Hence, 23% are explained by the other factors. So, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between psychological effects of COVID-19 (PTSD) and CWB.

Table (11) MRA Results for Psychological Effects of COVID-19 (PTSD) and CWB

Psychological Effects of COVID-19 (PTSD)	Beta	R	R2
1. I have no difficulty falling asleep and concentrating.	0.225**	0.710	0.504
2. I can control my emotions.	0.256**	0.732	0.535
3. I do not resort to taking sedative medications.	0.169**	0.740	0.547
4. I do not tend to be alone at rest.	0.387**	0.791	0.625
▪ MCC ▪ DC ▪ Calculated F ▪ Degree of Freedom ▪ Indexed F ▪ Level of Significance	0.882 0.778 258.643 4, 295 3.31 0.000		

9.6.3. Psychological Effects of COVID-19 (GAD) and CWB

Table (12) MRA Results for Psychological Effects of COVID-19 (GAD) and CWB

Psychological Effects of COVID-19 (GAD)	Beta	R	R^2
1. I have confidence in the healing of a large number of patients.	0.235**	0.733	0.537
2. I do not see this disease as dangerous, it is just a virus that can be cured.	0.390**	0.791	0.625
3. I have the ability to take fateful decisions without fear or hesitation.	0.168**	0.627	0.393
4. I do not feel tired until a long time has passed in doing my job.	0.320**	0.687	0.471
▪ MCC ▪ DC ▪ Calculated F ▪ Degree of Freedom ▪ Indexed F ▪ Level of Significance	0.898 0.806 306.265 4, 295 3.31 0.000		

As Table (12) proves, the MRA resulted in the R of 0.898 demonstrating that the 4 independent variables of psychological effects of COVID-19 (GAD) construe CWB significantly. Furthermore, the value of R^2, 4 independent variables of psychological effects of COVID-19 (GAD) can explain 0.80% of the total factors in CWB level. Hence, 20% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between psychological effects of COVID-19 (GAD) and CWB.

10. Research Results

1. The negative psychological effects of COVID-19 have increased in Egyptian society, such as OCD, PTSD, and GAD among individuals in Egyptian society in terms of:
   - Changing lifestyles and social relationships, increasing stress, anxiety, depression, changing health care systems, preventing movement, stopping flights, and spreading a large amount of misinformation through social media.
   - Individuals are living in a state of anxiety and tension on a large scale that humanity has not witnessed before, due to the frightening numbers that were reported through local and international media about the numbers of injuries and deaths due to COVID-19.
   - Feelings of fear, economic burdens and financial losses led to the emergence of a large number of negative psychological manifestations such as tension, anxiety, depression, stress, boredom, and distress among all classes of society.
   - General disorder and negative psychological effects such as anxiety, distress, fear, and boredom, in addition to social and economic problems were found among the Egyptian community.
2. There is a statistically significant relationship between the psychological effects of COVID-19 (OCD) and the CWB among employees in the organization. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of CWB. The spread of COVID-19 has led to the infection of many members of the Egyptian community with OCD such as fears of contracting the virus, and the exaggerated application in terms of hand washing, sterilization, and others. Also, the spread of COVID-19 has also led to social distancing, quarantine, and isolation, depression, and a general sense of instability for individuals in Egyptian society.
3. There is a statistically significant relationship between the psychological effects of COVID-19 (PTSD) and the job link among the organization's workers. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of CWB. The spread of COVID-19 has led to the multiplicity and diversity of disorders that may affect an individual after psychological trauma, and these symptoms are depression, headache, difficulty concentrating, outbursts of anger, inability to express, and difficulty solving problems, which has an impact on the individual's personal life path. Anxiety also plays an important role in affecting individuals suffering from PTSD, which leads to the emergence of new symptoms that have implications for the psychological state of individuals in Egyptian society.

4. There is a statistically significant relationship between the psychological effects of COVID-19 (GAD) and CWB among the organization's workers. In other words, there is a negative relationship between the study variables, so the more negative psychological effects COVID-19 have, the lower the degree of work association. The spread of COVID-19 has led to a psychological state that forms in the individual as a result of an unpleasant feeling associated with uneasiness and fear, and anxiety is often accompanied by behaviors that reflect a state of tension and unease. Also, the individual shows physical symptoms that reflect the state of anxiety he feels. This is considered a natural reaction to the state of stress felt by the individual, and the state of GAD increases for individuals in the Egyptian society.

11. Recommendations

In the light of the previous results, the researcher concluded with a set of recommendations summarized as follows:

1. The necessity of making strategic alliances in the medical field and the technological field between South Korea and the rest of the world in order to benefit from its experience in the field of confronting COVID-19.
2. The necessity of conducting many research and studies in the field of artificial intelligence as one of the tools that can be used in facing COVID-19.
3. Increasing awareness campaigns on COVID-19 and viewing it as a disease like other diseases that require diagnosis and treatment, and focusing on the need for the patient to contact the relevant authorities as soon as symptoms appear on him so that his health and psychological condition does not worsen.
4. Seeking assistance from specialists in awareness programs and disseminating all information through social media for the purpose of awareness and prevention of infection COVID-19.
5. Providing psychological service to COVID-19 patients inside hospitals in a manner that raises their spirits and confronts this virus. This is in addition to conducting many research studies in the field of coping with COVID-19 and reducing its psychological effects.
6. The necessity for the Egyptian Ministry of Health to enhance the level of mental health for all members of society by establishing a psychological aid unit and taking over work to reduce the problems of fear and psychological anxiety from COVID-19.
7. Spreading positive feelings among enough community members through the media, explaining that COVID-19 will be overcome, and providing the necessary awareness programs to reduce anxiety problems, sleep disorders and others.
8. Researchers and scholars in the field of psychology and mental health shall conduct research and studies through which counseling and validation programs for community members are published, focusing on limiting the effects of the spread of COVID-19.
9. Expanding the study of psychological immunology, and focusing on the psychological immunity variables in reducing and mitigating the negative effects of COVID-19, which are resilience, recovery, coping, mindfulness, and social support. This is in addition to the necessity of training on psychiatric immunology skills.
10. Paying attention to psychological support programs for different groups of students during the COVID-19 period and expanding the applications of positive orientation in psychology, especially in the field of education.
11. Designing a set of programs based on mental immunity by imposing a reduction in anxiety resulting from COVID-19, and working to link mental immunity with methods of protection from COVID-19.
12. The need to provide a set of psychological and therapeutic programs on the part of psychological institutions with the aim of mitigating the psychological effects of COVID-19. Neglecting it will have serious consequences at the individual and community level, and it also leads to the spread of depression and psychological loneliness between members of the society.
13. Overcoming OCD by not suspecting that everyone around me is infected, and not using sedative drugs without the need for them, and not exaggerating the use of preventive measures.
14. The importance of overcoming the post-traumatic stress phase through adequate rest and calm, controlling personal emotions, integrating individuals, avoiding isolation, and taking precautionary measures.

15. Overcoming public anxiety disorders by dealing with COVID-19 as a curable virus, not being afraid of making important decisions, and having confidence in the cure of a large number of diseases afflicted by COVID-19, and raising their spirits.

12. Future Studies

The present study attempts to reveal the psychological effects of COVID-19 and its impact on the CWB, but the scope of this study, the methods used and its findings indicate that there are areas for other future studies.

Among these research areas are (1) the impact of COVID-19 on job performance, (2) the role of psychological effects of COVID-19 in increasing workplace anxiety, (3) the impact of COVID-19 on unproductive work behaviors, (4) the role of psychological effects of COVID-19 in increasing administrative corruption, (5) the impact of psychological effects of COVID-19 on mental health of workers, (6) the impact of raising morale in reducing the effects of COVID-19, (7) the role of psychological immunity in reducing the effects of COVID-19, (8) the role of human resource maintenance strategies in overcoming the negative psychological effects of COVID-19, and (9) the role of artificial intelligence in facing the effects of COVID-19, and (10) the impact of COVID-19 on education, tourism and the Egyptian economy.

References

i. *Altman, B. A., & Akdere, M. (2008). Towards a theoretical model of performance inhibiting workplace dynamics. Human Resource Development Review, 7(4), PP. 408–423.*

ii. *Ayoko, O. B., Callan, V. J., & Hartel, C. E. (2003). Workplace conflict, bullying and counterproductive behaviors. International Journal of Organizational Analysis, 11(4), PP. 283–301.*

iii. *Baberjee, D. (2020). The COVID-19 outbreak: Crucial role the psychiatrists can play. Asian Journal of Psychiatry, doi:https://doi.org/10.1/j.ajp.20.4.*

iv. *Barker, P. (2017). Psychiatric and mental health nursing: The craft of caring. CRC Press.*

v. *Barlow, D. (2000). Unraveling the mysteries of anxiety and its disorders from the perspective of emotion theory. American psychologist, 55(11), 1247.*

vi. *Barlow, D. (2002). Anxiety and its Disorder: The Nature and Treatment of Anxiety and Panic, 2nd Ed, New York: Guilford Press.*

vii. *Baruch, Y. (2005). Bullying on the net: Adverse behavior on e-mail and its impact. Information Management, 42, PP. 361–371.*

viii. *Bennett, R.J. & Robinson, S.L. (2000). Development of measure of workplace deviance. Journal of Applied Psychology, 85, PP.349-360.*

ix. *Bhat,B.Khan,S,Manzoor,S.,Niyaz,A.,Tak,H.,Anees,S.,Gull,S.,Ahmed,I.(2020).A Study on Impact of COVID-19 Lockdown on Psychological Health, Economy and Social Life of People in Kashmir, International Journal of Science and Healthcare Research, 5(2) ,36-46.*

x. *Blake, H., Bermingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the psychological impact of COVID-19 on healthcare workers: a digital learning package. International Journal of Environmental Research and Public Health, 17(9), 2997.*

xi. *Bolin, A., & Heatherly, L. (2001). Predictors of employee deviance: The relationship between bad attitudes and bad behavior. Journal of Business and Psychology, 15(3), PP.405–418.*

xii. *Cao, W.; Fang, Z.; Hou, G.; Han, M.; Xu, X.; Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry research, 112934.*

xiii. *Chan, J. et al., (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. The Lancet. 395, 514-523. https://doi.org/10.1016/S0140-6736(20)30154-9.*

xiv. *Chen, P. Y., & Spector, P. E. (1992). Relationships of work stressors with aggression, withdrawal, theft and substance use: An exploratory study. Journal of Occupational and Organizational Psychology, 65(3), PP. 177–184.*

xv. *Cortina, L. M., & Magley, V. J. (2003). Raising voice, risking retaliation: Events following interpersonal mistreatment in the workplace. Journal of Occupational Health Psychology, 8(4), PP. 247–265.*

xvi. *Cullen, W.,Gulati, G.,Kelly, B.(2020). Mental health in the COVID-19 pandemic, An International Journal of Medicine, 113(5), 311-312.*

xvii. *Dai, Y.; Hu, G.; Xiong, H.; Qiu, H., & Yuan, X. (2020). Psychological impact of the coronavirus disease 2019 (COVID-19) outbreak on healthcare workers in China. MedRxiv.*

xviii. *Davison, G. C. (2008). Abnormal Psychology. Toronto: Veronica Visentin (154). ISBN 978-0-470-84072.*

xix. *Dong, L. and Bouey, J. (2020). Public Mental Health Crisis during COVID-19 Pandemic, China. Emerg Infect Dis, 2020 Mar 23;26 (7). doi: 10.3201/eid2607.200407. [Epub ahead of print].*

xx. *Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., ... & Lavie, C. J. (2020). Psychosocial impact of COVID-19. Diabetes & Metabolic Syndrome: Clinical Research & Reviews.*

xxi. *Elflein J. (2020 a). COVID-19 cases, recoveries, deaths among most impacted countries as of April 30, 2020, Statista, New York, USA, www.statista.com/statistics/1105235/coronavirus-19-casesrecoveries-deaths-most-affected-countries-worldwide/, consulted:01/05/2020.*

xxii. *Elflein J. (2020 b). Number of (COVID-19) confirmed and death cases in South korea from January 20 to April 30, 2020, Statista, New York, USA, www.statista.com/statistics/1098721/south-korea-coronavirusconfirmed-and-death-number/, consulted: 01/05/2020.*

xxiii. *Elflein J. (2020 C). COVID-19 deaths worldwide as of April 30, 2020, Statista, New York, USA, www.statista.com/statistics/1093256/novel-coronavirus-2019-ncovdeaths-worldwide-by-country/, consulted: 01/05/2020.*

xxiv. *Fineberg, Na (2020). How to manage obsessive-compulsive disorder (OCD) under COVID-19: A clinician's guide from the International College of Obsessive Compulsive Spectrum Disorders (ICOCS) and the Obsessive-Compulsive Research Network (OCRN) of the European College of Neuropsychopharmacology. Elsevier Public Health Emergency Collection. PMC7152877.*

xxv. *Fox, S., Spector, P., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. Journal of Vocational Behavior, 59, PP. 291–309.*

xxvi. *Gabbidon, S. L., Patrick, P. A., & Peters, S. A. (2006). An empirical assessment of employee theft lawsuits involving allegations of employer misconduct. Journal of Criminal Justice, 34, PP. 175–183.*

xxvii. *Giacalone, R. A., & Greenberg, J. (1997). Antisocial behavior in organizations. Thousand Oaks, CA: Sage Publications, Inc.*

xxviii. *Gruys, M., & Sackett, P. (2003). Investigating the dimensionality of counterproductive work behavior. International Journal of Selection and Assessment, 11, PP. 30-42.*

xxix. *Hollinger, R. C., & Clark, J. P. (1982). Formal and informal social controls of employee deviance. The Sociological Quarterly, 23(3), PP.333–343.*

xxx. *Hollinger, R. C., & Clark, J. P. (1983). Deterrence in the workplace: Perceived certainty, perceived severity, and employee theft. The University of North Carolina Press, 62(2), PP. 398–418.*

xxxi. *Huang, Y & Zhao (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey", Psychiatry Research, 288, 1-6.*

xxxii. *Joy, K & Toquero,C, C.(2020). Philippine Teachers' Practices to Deal with Anxiety amid COVID-19, Journal of Loss and Trauma, DOI: 10.1080/15325024.2020.1759225.*

xxxiii. *Jungmann, S & Witthoft, M.(2020). Health anxiety, cyberchondria, and coping in the current COVID-19 pandemic: Which factors are related to coronavirus anxiety?, Journal of Anxiety Disorders, 73,1-9.*

xxxiv. *Kim S, Su K. (2020).Using psychoneuroimmunity against COVID-19 ,Brain, Behavior, and Immunity. doi:10.1016/j.bbi.2020.03.025.*

xxxv. *Kulas, J. T., McInnerney, J. E., Demuth, R. F., & Jadwinski, V. (2007). Employee satisfaction and theft: Testing climate perceptions as a mediator. The Journal of Psychology, 141(4), PP. 389-402.*

xxxvi. *Lee, J. (2020). Mental health effects of school closures during COVID-19. The Lancet Child & Adolescent Health, 4(6), 421.*

xxxvii. *Lee, S. (2020). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety, Death studies, 44(7), 393-401.*

xxxviii. *Lima, C. K. T.; de Medeiros Carvalho, P. M.; Lima, I. D. A. S.; de Oliveira Nunes, J. V. A.; Saraiva, J. S.; de Souza, R. I., ... & Neto, M. L. R. (2020). The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). Psychiatry research, 112915.*

xxxix. *Lin, C. Y. (2020). Social Reactions toward the 2019 Novel Coronavirus (COVID19-). Social Health and Behavior, 2-1,3.*

xl. *Lipman, M., & McGraw, W. R. (1988). Employee theft: A $40 billion industry. The Annals of the American Academy of Political and Social Science, 498, PP. 51–59.*

xli. *Liu, C. Y.; Yang, Y. Z.; Zhang, X. M.; Xu, X.; Dou, Q. L.; Zhang, W. W., & Cheng, A. S. (2020). The prevalence and influencing factors in anxiety in medical workers fighting COVID-19 in China: a cross-sectional survey. Epidemiology & Infection, 1-17.*

xlii. *Liu, J. J.; Bao, Y.; Huang, X.; Shi, J., & Lu, L. (2020). Mental health considerations for children quarantined because of COVID-19. The Lancet Child & Adolescent Health, 4(5), 347-349.*

xliii. *Marcus, B., & Schuler, H. (2004). Antecedents of counterproductive behavior at work: A general perspective. Journal of Applied Psychology, 89(4), PP. 647–660.*

xliv. *Monks, C. P., Smith, P. K., Naylor, P., Barter, C., Ireland, J. L., & Coyne, I. (2009). Bullying in different contexts: Commonalities, differences and the role of theory. Aggression and Violent Behavior, 14, PP. 146–156.*

xlv. *Motowidlo, S. J., & Schmit, M. J. (1999). Performance assessment in unique jobs. In D. R. Ilgen & E. D. Pulakos (Eds.), The changing nature of performance, San Francisco, Jossey-Bass, PP. 56-86*

xlvi. *Niehoff, B. P., & Paul, R. J. (2000). Causes of employee theft and strategies that HR managers can use for prevention. Human Resource Management, 39(1), PP. 51–64.*

xlvii. *Ones, D. S. (2002). Introduction to the special issue on counterproductive behaviors at work. International Journal of Selection and Assessment, 10, PP. 1–4.*

xlviii. *Organ, D. (1990). The motivational basis of organizational citizenship behavior, Research in Organizational Behavior, 12, PP. 43-72.*

xlix. *Ozamiz, N., Santamaria, M. Gorrochategui, M.Mondragon, N (2020). Stress, anxiety, and depression levels in the initial stage of the COVID-19 outbreak in a population sample in the northern Spain, Reports of public Health, 36(4), 1-9.*

l. *Özdin & Özdin (2020). Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender, International Journal of Social Psychiatry, 1-8.*

li. *Peterson, D. (2002). Deviant workplace behavior and the organization's ethical climate. Journal of Business and Psychology, 17, PP. 47-61.*

lii. *Polizzi, C., Lynn, S.J., Perry, A. (2020). Stress and Coping in the Time of COVID-19: Pathways to Resilience and Recovery. Clinical Neuropsychiatry, 17 (2), 59-62.*

liii. *Porath, C. L., & Erez, A. (2009). Overlooked but not untouched: How rudeness reduces onlookers' performance on routine and creative tasks. Organizational Behavior and Human Decision Processes, 109, PP. 29–44.*

liv. *Raelin, J. A. (1994). Three scales of professional deviance within organizations. Journal of Organizational Behavior, 15, PP.483-501.*

lv. *Rajkumar, R. (2020). COVID-19 and mental health: A review of the existing literature, Asian Journal of Psychiatry, 52, 1-6.*

lvi. *Rezink, A., Gritsenko,V., Konstantinov,V., Khamenka,N., Isralowitz,R. (2020). COVID-19 Fear in Eastern Europe: Validation of the Fear of COVID-19 Scale, International Journal of Mental Health and Addiction, https://doi.org/10.1007/s11469-020-00283-3.*

lvii. *Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. Academy of Management Journal, 38, PP. 555–572.*

lviii. *Rotundo, M., & Sackett, P. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: a policy-capturing approach. Journal of Applied Psychology, 87, PP. 66-80.*

lix. *Saucer, Jr. W. I. (2007). Employee theft: Who, how, why, and what can be done. Sam Advanced Management Journal, PP. 13–25.*

lx. *Saunders, P., Huynh, A., & Delahunty, J. G. (2007). Defining workplace bullying behavior professional lay definitions of workplace bullying. International Journal of Law and Psychiatry, 30, PP. 340–354.*

lxi. *Schmidtke, J. M. (2007). The relationship between social norms consensus preceived similarity and observers reactions to coworkers theft. Human Resource Management, 46(4), PP. 561–582.*

lxii. *Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? Journal of Vocational Behavior, 68, PP. 446–460.*

lxiii. *Stolker, J. J.; Heerdink, E. R.; Leufkens, H. G.; Clerkx, M. G., & Nolen, W. A. (2001). Determinants of multiple psychotropic drug use in patients with mild intellectual disabilities or borderline intellectual functioning and psychiatric or behavioral disorders. General hospital psychiatry, 23(6), 345-349.*

lxiv. *Stouten, J.; Van Dijke, M. and De Cremer, D. (2012). Ethical leadership: An Overview and Future Perspectives«, Journal of Personnel Psychology, 11, PP. 1–6.*

lxv. *Sun, L., Sun, Z., Wu., Zhu, Z., Zhang, F., Shang, Z., & Liu, N. (2020). Prevalence and Risk Factors of Acute Posttraumatic Stress Symptoms during the COVID19- Outbreak in Wuhan, China. MedRxiv. https://doi.org/2020.03.06.20032425/10.1101.*

lxvi. *Sylvers, P.; Lilienfeld, S. O., & LaPrairie, J. L. (2011). Differences between trait fear and trait anxiety: Implications for psychopathology. Clinical psychology review, 31(1), 122-137.*

lxvii. *Torales, J., O'Higgins, M., Maia, J., Ventriglio, A. (2020). The outbreak of COVID-19 coronavirus and its impact on global mental health, International Journal of Social Psychiatry, 1-4.*

lxviii. *Tucker, J. (1993). Everyday forms of employee resistance. Sociological Forum, 8 (1), PP.25-45.*

lxix. *Velavan, T. and Meyer, C. (2020). The Covid-19 epidemic. Tropical medicine & international health: TM & IH.*

lxx. *Vickers, M. H. (2001). Bullying as unacknowledged organizational evil: A researcher's story. Employee Responsibilities and Rights Journal, 13(4), PP. 205–217.*

lxxi. *Viswanath, A. and Monga, P. (2020). Working through the COVID-19 outbreak: Rapid review and recommendations for MSK and allied heath personnel. Journal of Clinical Orthopaedics and Trauma. DOI:https://doi.org/10.116/j.j14.*

lxxii. *Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. C., & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID19- epidemic in China, Brain. Behav. Immun, https://doi.org/10.1016/j.bbi.2020.04.028.*

lxxiii. *Wang, C.; Pan, R.; Wan, X.; Tan, Y.; Xu, L.; Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 corona virus disease (COVID-19) epidemic among the general population in China. International journal of environmental research and public health, 17(5), 1729.*

lxxiv. *Wang, D., Hu, B., Hu, C., Zhu, F., Liu, X., Zhang, J. & Zhao, Y. (2020). Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–infected pneumonia in Wuhan, China. JAMA, 323(11), 1061–1069.*

lxxv. *Wang, Y., Di, Y., Ye, J., & Wei, W. (2020). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. Psychology, Health & Medicine. Advance online publication. https://doi.org/10.1080/13548506.2020.1746817.*

lxxvi. *Weatherbee, T. G. (2010). Counterproductive use of technology at work: Information & communications technologies and cyber deviancy. Human Resource Management Review, 20, PP. 35–44.*

lxxvii. *World Health Organization (2020a). Covid-19: Questions and answers, www.emro.who.int/health-topics/corona-virus/questions-andanswers. html, consulted : 21/04/2020.*

lxxviii. *World Health Organization. (2020b). Corona virus desease 2019 (COVID-19), Situation Report – 100, 29 April 2020, Geneva, Switzerland, pp 01-13.*

lxxix. *Zhai, Y. and Du, X. (2020). Mental health care for international Chinese students affected by the COVID-19 outbreak. The Lancet Psychiatry, 7 (4 April), P. 22.*