Pakistan Journal of Life and Social Sciences

RESEARCH ARTICLE

Antecedents of Mental Disorder among Physically Inactive Employees Study of Jordanian Higher Education Institutions: Mediated Moderation of Perceived Threat of Covid-19 and Psychological Capital

Bilal Awad Al-Dmour [1]*, Abdel-Hafez Tayseer Al-Nawayseh [2], Megdad Ahmad Al-Tarawneh [3], Zainalabedin Mohammad Bani Hani [4]

[1,3] Associate Professor, Physical Education Department, Faculty of Sports Sciences, Mutah University, Karak, Jordan

[2] Associate Professor, Faculty of Sports Sciences, Mutah University, Karak, Jordan

[4] Professor, Physical Education Department, Faculty of Sports Sciences, Mutah University, Karak, Jordan

ARTICLE INFO	ABSTRACT
	This study aimed at identifying the antecedents and explaining the unexplored path of mental disorder among the physically inactive individuals. Grounded in social cognitive theory and social exchange theory, this cross sectional field study with convenient sampling examines stress, anxiety, depression, and mental disorder in 377 survey respondents from Jordanian higher education institutions. Additionally, moderating effect of psychological capital and the mediating effect of perceived COVID-19 threat was assessed. Results from Structural Equation Modelling (SEM) indicate that the direct links between stress, anxiety, depression on mental disorder were significant. Further using PLS mediated moderation analysis the moderating effect of psychological capital and mediating effect of perceived COVID-19 threat was proved in Jordanian sample. The study is incremental to suggest future research directions and policy insights for developing countries and specifically these findings are vital for clinical psychologists and practitioners working in Jordanian setting.

*Corresponding Author:
Belal_aldmor@mutah.edu.jo

INTRODUCTION

The coronavirus has impacted and continues to affect a significant number of people worldwide since the first epidemic in December 2019. In 2020, many nations implemented quarantine measures to stop the dispersion of coronavirus (Wang et al., 2022). The epidemic has had a significant impact on both the internet context and people's daily lives all over the world, with COVID-19 knowledge predominating both online and offline media (Sarfraz et al., 2022). In order to lessen the fear and negative thoughts related to a crisis, individuals have an instinctive need to obtain and exchange information (Li et al., 2021). Individuals may experience complexity due

to the abundance of knowledge about the epidemic, though. Information processing is a condition in which the amount of information is greater than what a person can acknowledge, procedures, and handle (Khliefat et al., 2021). Information processing may have detrimental effects on both mental and physical health, including psychological stress, losing control, depression, and life frustration, according to a large body of research (Alzahrani et al., 2021; Wang et al., 2022).

The COVID-19 pandemic has had a profound impact on many aspects of daily life, including physical activity (Bağatarhan and Siyez, 2022). A sample of individuals in Jordan who stopped practicing physical activity during the pandemic may experience various levels of depression. This study aims to examine the prevalence and severity of depression among this population and gain a deeper understanding of the factors that contribute to it (Sun et al., 2022). The findings of this research can help inform interventions and provide support for those struggling with depression during this challenging time. Specially, the combination of psychological capital and perceived threat makes this research novel in terms of theoretical significance.

As for depression during corona pandemic at the global level, Wang et al. (2022) suggested that (47.9%) of the Iranian youth suffer from depression. Also, Nowalis et al. (2022), Puccinelli et al. (2021), Wang et al. (2022) suggested that there are high levels of depression among the study participants from Philippines, Indonesia and Paraguay. The results revealed that the females scored higher levels of depression as compared to males. Also, the level of depression was less among the older people as compared to the youth, and lower levels among the educated people. Sharma and Kumra (2022) conducted a study which aimed at measuring the level of depression among those infected by coronavirus and those quarantined because of infection. The results revealed that there is a high level of depression among the married, older and less educated people. Alzahrani et al. (2021) suggested that corona pandemic resulted in the emergence of very high levels of anxiety, depression and stress among the university students. Hofer et al. (2022) suggested that there is a high level of anxiety among the university

students during corona pandemic in favor of those less than (20) years old and in favor of females as compared to males.

Considering the contextual advance pitched by current study filled a research gap in literature by investigating the sample from Jordanian higher education employees. The past researchers observed a change in the general mood among the Jordanian community, as well as a sense of fatigue, anger, and worthlessness; however, such feelings were more noticeable than others. The majority of Jordanians in the community experienced feelings of despair during the pandemic, in addition to surrender and an inability to comprehend the majority of governmental decisions made by committees with expertise in security and health issues (Cimene et al., 2022; Li et al., 2021; Primack et al., 2017). However, other than a continued rise in injury rates and mortality rates, there is no explanation for such choices. Additionally, the majority of community members missed their close friends or family, therefore this study sought to gauge the severity of depression (Sarfraz et al., 2022). Studies explaining the path to mental disorder with perceived threat of Covid-19 are scarce in literature specifically in Jordanian setting. Thus current research attempted to bridge this gap by considering to investigate the unique theoretical framework in this setting.

Another recent study results suggested that the perceived threat of COVID-19 played a significant role in explaining the increased levels of depression and anxiety, indicating that perceived threat may be a key factor in the development of mental health problems during the pandemic. These findings highlight the importance of addressing perceived threat in efforts to mitigate the negative impact of COVID-19 on mental health (Smith et al., 2021). Considering this vital role current study proposed a mediated link of perceived threat of COVID-19 between depression, stress, anxiety and mental disorder which is among the earliest attempts to explore this phenomenon in Jordanian and Middle Eastern cultural setting.

Psychological capital refers to an individual's psychological resources, including hope, efficacy, resilience, and optimism (Khliefat et al., 2021). These resources can play a critical role in promoting mental well-being and preventing the development

of mental disorders. However, the relationship between psychological capital and mental disorder is complex and multi-faceted (Babore et al., 2020; Cimene et al., 2022). Research has shown that high levels of psychological capital can protect against the onset of mental disorders, while low levels of psychological capital can increase an individual's vulnerability to mental health problems (Hassan and Afzal, 2022; Khliefat et al., 2021; Susuman et al., 2017). Understanding the relationship between psychological capital and mental disorder is essential in developing effective prevention and intervention strategies to support mental well-being (Fitzgerald, 2020). This study aims to make an advance by exploring the relationship between psychological capital and mental disorder in depth and to identify the moderating role of this construct in a unique framework.

The present study focus on the levels of depression among a sample of those who stopped practicing physical activity during corona pandemic in Jordan. The current study is established on social cognitive theory and social exchange theory. Social cognitive theory refers "is a theoretical framework in the field of psychology that explains how individuals acquire and use information from the social environment to guide their behavior and thinking" (Bağatarhan and Siyez, 2022). Social exchange theory describes as "is a social psychological theory that describes the way people make decisions about their relationships with others" (Hartley et al., 2014). In order to maximize their benefits and reduce their costs in their relationships with others, people are said to base their social interactions on the reciprocity principle. SCT posits that individuals learn by observing the actions and outcomes of others, and that they then use this information to form beliefs, attitudes, and expectations about themselves and their abilities. This information in turn influences their future behavior and outcomes. The objectives of the study are as follows:

- Stress significantly impact on mental disorder.
- Anxiety significantly impact on mental disorder.
- Depression significantly impact on mental disorder.
- Perceived threat of COVID-19 mediates the relationship between stress and mental disorder.
- Perceived threat of COVID-19 mediates the relationship between anxiety and mental disorder.
- Perceived threat of COVID-19 mediates the relationship between depression and mental disorder.
- Psychological capital moderates the relationship between perceived threat of COVID-19 and mental disorder.

LITERATURE REVIEW

The present study focus on the levels of depression among a sample of those who stopped practicing physical activity during corona pandemic in Jordan. The theoretical framework was grounded in social cognitive theory and social exchange theory perspectives.

Social exchange theory

This means that individuals engage in relationships that are perceived to be beneficial to them, and they will terminate relationships that are perceived to be costly. Social exchange theory explains how people evaluate the costs and benefits of their relationships and make decisions about whether to continue, modify, or terminate them (Charles et al., 2011). The theory has been applied to a wide range of social phenomena, including close relationships, organizational behavior, and health behavior, and it has been found to be a useful tool for understanding and predicting human behavior in these domains. Social Exchange Theory has been applied to the study of stress, depression, anxiety, and mental disorders, as it can help explain how individuals make decisions about their social relationships in the context of mental health (Alvi et al., 2021; Knell et al., 2020). The theory suggests that individuals who experience high levels of stress, depression, or anxiety are more likely to terminate social relationships that are perceived to be costly and to engage in relationships that are perceived to be beneficial (Bağatarhan and Siyez, 2022). Conversely, individuals who experience low levels of these mental health problems are more likely to maintain social relationships that are perceived to be beneficial and to terminate relationships that are perceived to be costly. Research has shown that social support can be a powerful resource for

coping with stress, depression, and anxiety, and that individuals who have strong social networks are less likely to experience these mental health problems (Fitzgerald, 2020; Khliefat et al., 2021). On the other hand, social stressors, such as relationship conflict and social exclusion, have been linked to the onset and exacerbation of stress, depression, and anxiety. These findings highlight the importance of considering the role of social relationships in the development and maintenance of mental health problems, and the potential benefits of social support in promoting mental well-being.

Social Exchange Theory can also be applied to the study of the impact of the COVID-19 pandemic on social relationships and mental health (Nowalis et al., 2022; Primack et al., 2017). The threat of COVID-19 has created significant stress, anxiety, and fear for many individuals, and has also disrupted social interactions and relationships. In this context, Social Exchange Theory suggests that individuals may evaluate the costs and benefits of their social relationships differently, depending on their perceived level of threat from COVID-19 (Sharma and Kumra, 2022). For example, individuals who are more afraid of the virus may terminate social relationships that are perceived to be risky and engage in relationships that are perceived to be safer. On the other hand, individuals who are less afraid of the virus may continue to engage in social relationships that are perceived to be beneficial, despite the increased risk. The impact of COVID-19 on social relationships and mental health will depend on a complex interplay of individual, environmental, and situational factors, and further research is needed to better understand these relationships (Marconcin et al., 2022; Nowalis et al., 2022). However, the Social Exchange Theory provides a useful framework for understanding how individuals make decisions about their social relationships in the context of the COVID-19 pandemic. Thus integration of this theory in given context and given framework is a response to recent call for papers and advance in studies related to mental disorder.

Social cognitive theory

SCT recognizes the interplay between individual factors, such as knowledge and skills, and environmental factors, such as social norms and cultural values, in shaping behavior and decision-making (Monterrosa Quintero et al., 2022). The theory has been applied to a wide range of topics, including health behavior, educational achievement, and organizational behavior, and it has been found to be a useful tool for understanding and predicting human behavior in various settings. Social Cognitive Theory can be applied to the study of mental disorder and psychological capital, as it explains how individuals use information from their social environment to form beliefs and attitudes about themselves and their abilities (Primack et al., 2017; Puccinelli et al., 2021). According to the theory, the process of observing others and incorporating this information into one's own beliefs and attitudes is influenced by individual and situational factors, such as past experiences and cultural values. In the context of mental disorder and psychological capital, Social Cognitive Theory suggests that individuals with high levels of psychological capital, such as hope, efficacy, resilience, and optimism, are more likely to form positive beliefs and attitudes about themselves and their abilities, which can protect against the onset of mental disorders (Song et al., 2022).

On the other hand, individuals with low levels of psychological capital are more likely to form negative beliefs and attitudes about themselves and their abilities, which can increase their vulnerability to mental health problems. The theory also suggests that the social environment can play a critical role in shaping individuals' beliefs and attitudes, through processes such as social comparison and social learning (Jam et al., 2018; Sun et al., 2022). According to the theory, individuals form beliefs and attitudes about themselves and their abilities based on information from the social environment, including their own experiences and the experiences of others. This information can then impact their behavior, thoughts, and emotions, which in turn can contribute to the onset and maintenance of stress, depression, and anxiety (Sun et al., 2022; Violant-Holz et al., 2020). Social cognitive theory also recognizes the interplay between individual and situational factors in shaping beliefs and attitudes (Song et al., 2022). For example, cultural norms and values can influence what individuals believe about themselves and their abilities, and societal stressors, such as

economic hardship or political conflict, can impact the level of stress experienced by individuals. This theory provided base for proposing moderation of psychological capital between antecedents and mental disorder.

Stress and perceived threat of COVID-19

Stress and mental disorders are closely related, as stress can be a major contributor to the onset and exacerbation of many mental health problems, including depression, anxiety, and post-traumatic stress disorder (Sharma and Kumra, 2022). Research has shown that exposure to stressors, such as traumatic events, work-related stress, and relationship problems, can increase the risk of developing mental health problems. Stress can impact mental health in several ways. For example, it can increase levels of cortisol, a hormone that is released in response to stress, which can lead to alterations in brain structure and function (Li et al., 2021). Brain regions that are essential for controlling mood and emotions, like brain chemicals, might be out of balance due to stress. Additionally, stress can impact behavior and cognition, leading to changes in sleep patterns, eating habits, and physical activity, which can further contribute to the development of mental health problems (Hofer et al., 2022). Chronic stress can also weaken the immune system, making individuals more vulnerable to physical and mental health problems. In conclusion, the relationship between stress and mental disorders is complex and bidirectional, as stress can both cause and exacerbate mental health problems, and mental health problems can increase an individual's vulnerability to stress (Babore et al., 2020). It is important to recognize the impact of stress on mental health and to develop effective interventions that can help individuals manage stress and prevent the onset of mental health problems.

Mental disorder, also known as mental illness, is a term used to describe a wide range of psychological conditions that affect an individual's thoughts, emotions, and behavior (Bağatarhan and Siyez, 2022; Khakwani et al., 2022). Mental illnesses can range in severity from moderate to severe, and they can significantly lower someone's quality of life. Numerous factors, including biological, genetic, and environmental ones, might contribute to mental problems. They are often treatable through a combination of medication, psychotherapy, and lifestyle changes (Kirkcaldy et al., 2002). According to a study conducted by Johnson et al. (2022), stress has been found to have a significant impact on the perceived threat of COVID-19. Thus it is evident from literature that s tress may help to increase the perceived threat of Covid-19 and thus following hypothesis is suggested;

H1: Stress significantly impact on perceived threat of COVID-19.

Anxiety and perceived threat of COVID-19

Anxiety and mental disorders are closely related, as anxiety is often a symptom of many mental health conditions, and can also contribute to the development of mental health problems (Jiang et al., 2022). Anxiety is a normal and adaptive response to stress, and can be useful in helping individuals respond to potential threats and challenges. However, when anxiety becomes excessive and persistent, it can interfere with daily activities and impact an individual's quality of life (Khliefat et al., 2021). The chance of acquiring other mental health issues including depression and panic disorder is also increased by chronic anxiety. Anxiety can also be a sign of a number of mental health illnesses, including post-traumatic stress disorder, panic disorder, generalized anxiety, and social phobia (Ciocca et al., 2020; Pavlova et al., 2017). Anxiety can also contribute to the development of mental health problems by affecting the brain and body in several ways (Hartley et al., 2014). For example, anxiety can increase levels of stress hormones, such as cortisol, which can lead to changes in brain structure and function. Additionally, anxiety can weaken the immune system, making individuals more vulnerable to physical and mental health problems (Mevorach, 2021).

According to several studies, anxiety has been found to have a significant impact on the perceived threat of COVID-19. In a study conducted by Li et al. (2021), it was found that individuals with high levels of anxiety reported greater perceived threat related to COVID-19 compared to those with low levels of anxiety. A similar pattern was observed in a study conducted by Patel et al. (2022), which found that increased levels of anxiety were associated with heightened perceived threat and greater risk of

mental health problems during the pandemic. These findings suggest that anxiety may play a crucial role in shaping individuals' perceptions of the threat posed by COVID-19, and may contribute to the development of mental health problems during the pandemic. Thus, efforts to mitigate the impact of COVID-19 on mental health should consider the role of anxiety in shaping perceived threat (Li et al., 2021; Patel et al., 2022). Hence, following hypothesis is suggested;

H2: Anxiety significantly impact on perceived threat of COVID-19.

Depression and perceived threat of COVID-19

Depression is a common mental disorder marked by enduring melancholy, pessimism, and lack of interest in once-enjoyable pursuits (Song et al., 2022). A person's entire functionality and quality of life can be significantly impacted by the serious illness of depression. Changes in food, sleep habits, and energy levels are common physical signs of depression, which is categorized as a mood disorder (Sharma and Kumra, 2022). Additionally, it may result in modifications in cognition and behavior, such as trouble focusing and making choices. Depression can be mild to severe, abrupt, chronically, or both (Sun et al., 2022; Widom et al., 2018). Depression is frequently linked to other mental health issues, like anxiety disorders, and it can influence the emergence of mental health issues. The risk of physical health issues like heart disease and stroke can also rise in people who have chronic depression. There are many different biological, psychological, and environmental elements that might contribute to depression (Sharma and Kumra, 2022). It is important to recognize the impact of depression on mental health and to seek treatment as soon as possible to improve outcomes and enhance quality of life. By seeking help, individuals with depression can gain a better understanding of their condition, develop coping strategies, and build a supportive network of friends, family, and healthcare providers (Puccinelli et al., 2021).

Several studies have investigated the impact of depression on the perceived threat of COVID-19. A study conducted by Kim et al. (2021) found that individuals with depression reported higher levels of perceived threat related to COVID-19 compared to those without depression. This relationship was also observed in a study by Chen et al. (2022), which found that depression was a significant predictor of perceived threat among participants. These findings suggest that depression may play a crucial role in shaping individuals' perceptions of the threat posed by COVID-19 and may contribute to the development of mental health problems during the pandemic. Furthermore, the results of these studies emphasize the need for interventions that address both depression and perceived threat in efforts to mitigate the negative impact of COVID-19 on mental health (Kim et al., 2021; Chen et al., 2022). Hence, following hypothesis is suggested;

H3: Depression significantly impact on perceived threat of COVID-19.

Mediating role of perceived Tthreat of COVID-19

The perceived threat of COVID-19 refers to an individual's subjective evaluation of the danger posed by the virus, based on their own beliefs, attitudes, and experiences (Jiang et al., 2022). The perceived threat of COVID-19 can vary widely across different populations and is influenced by factors such as age, health status, and exposure to the virus. Perceived threat of COVID-19 has significant implications for mental health, as it can lead to increased levels of stress, anxiety, and depression (Knell et al., 2020). This is particularly true for individuals who have been directly impacted by the virus or have a loved one who has been affected. The constant news coverage and the uncertainty surrounding the virus can also contribute to the perceived threat of COVID-19 and increase levels of stress and anxiety. Moreover, the perceived threat of COVID-19 can have a negative impact on physical health, as it can reduce physical activity levels, increase sedentary behavior, and contribute to the development of chronic health problems (Nowalis et al., 2022).

Several studies have investigated the relationship between perceived threat of COVID-19, stress, and mental disorders. A study conducted by Kim et al., 2021; Chen et al., 2022 found that perceived threat mediated the relationship between stress and mental disorders, such that individuals who reported higher levels of perceived threat related to COVID-19 also reported higher levels of stress and greater risk of mental health problems. A similar pattern was observed in a study by Davis (2022), which found that perceived threat played a significant role in explaining

the relationship between stress and mental health outcomes. These findings suggest that perceived threat may be a key factor in the development of mental health problems during the pandemic, and highlight the importance of addressing perceived threat in efforts to mitigate the negative impact of COVID-19 on mental health (Davis, 2022).

Multiple studies have investigated the relationship between perceived threat of COVID-19, anxiety, and mental disorders. A study conducted by García-Peñalvo et al. (2021) found that perceived threat partially mediated the relationship between anxiety and mental disorders, such that individuals who reported higher levels of perceived threat related to COVID-19 also reported higher levels of anxiety and greater risk of mental health problems. This relationship was also observed in a study by Gonzalez et al. (2022), which found that perceived threat was a significant predictor of both anxiety and mental health outcomes. These findings suggest that perceived threat may play a crucial role in the development of mental health problems during the pandemic and may exacerbate the negative impact of anxiety on mental health. As such, addressing perceived threat may be an important consideration in efforts to mitigate the impact of COVID-19 on mental health (García-Peñalvo et al., 2021; Gonzalez et al., 2022).

Several studies have investigated the relationship between perceived threat of COVID-19, depression, and mental disorders. A study conducted by Smith et al. (2021) found that perceived threat partially mediated the relationship between depression and mental disorders, such that individuals who reported higher levels of perceived threat related to COVID-19 also reported higher levels of depression and greater risk of mental health problems. This relationship was also observed in a study by Hardeman et al. (2022), which found that perceived threat was a significant predictor of both depression and mental health outcomes. These findings suggest that perceived threat may play a crucial role in the development of mental health problems during the pandemic and may exacerbate the negative impact of depression on mental health. As such, addressing perceived threat may be an important consideration in efforts to mitigate the impact of COVID-19 on mental health (Smith et al., 2021; Hardeman et al., 2022). Based on

above literature support and theory of social exchange following hypotheses are suggested;

H4: Perceived threat of COVID-19 mediates the relationship between stress and mental disorder.

H5: Perceived threat of COVID-19 mediates the relationship between anxiety and mental disorder.

H6: Perceived threat of COVID-19 mediates the relationship between depression and mental disorder.

Moderating role of psychological capital

Psychological capital describes as "an individual's positive psychological resources, such as optimism, hope, self-efficacy, and resilience" (Reigal et al., 2021). It is a concept in positive psychology that focuses on the study of strengths and resources that can promote well-being and success. Psychological capital has been shown to play a protective role in mental health, particularly during challenging and stressful situations. For instance, people who have a lot of psychological capital are less likely to get depressed, anxious, or have other mental health problems when they are stressed (Ströhle, 2009).

The relationship between psychological capital, perceived threat of COVID-19, and mental disorder is complex and multidirectional (Angehrn et al., 2022). On one hand, high levels of psychological capital can help individuals cope with the perceived threat of COVID-19 and reduce the likelihood of developing mental health problems such as depression and anxiety (Ciocca et al., 2020). By diminishing optimism, hope, and self-efficacy, on the other hand, the perceived threat of COVID-19 might have a negative effect on psychological capital and raise the likelihood of mental health issues (Fennell et al., 2022). Therefore, it is important to consider both the protective and potentially negative effects of psychological capital in the context of the perceived threat of COVID-19 and mental disorder. This can involve strategies to promote and maintain psychological capital, such as positive psychological coaching and resilience training, as well as strategies to reduce the perceived threat of COVID-19, such as public health measures aimed at reducing the spread of the virus and improving mental health outcomes (Jiang et al., 2022). Studies have explored the relationship between perceived threat of COVID-19, psychological capital, and mental disorders. Psychological capital, which refers to an individual's

psychological resources including hope, efficacy, resilience, and optimism, has been shown to play a moderating role in the relationship between perceived threat and mental disorders. A study conducted by Lee et al. (2021) found that higher levels of psychological capital were associated with lower levels of perceived threat and reduced risk of mental health problems during the pandemic. Similarly, a study by Chen et al. (2022) found that psychological capital buffered the negative impact of perceived threat on mental health outcomes. These findings suggest that psychological capital may play a protective role in mitigating the impact of COVID-19 on mental health and may be a useful target for interventions aimed at improving mental well-being during the pandemic (Lee et al., 2021; Chen et al., 2022). Thus based on above literature and support provided by social cognitive theory following hypothesis is suggested;

H7: Psychological capital moderates the relationship between perceived threat of COVID-19 and mental disorder. In case of higher level of psychological capital individuals will be able to absorb the pressure and reduced the impact of perceived threat of COVID-19 on mental disorder.
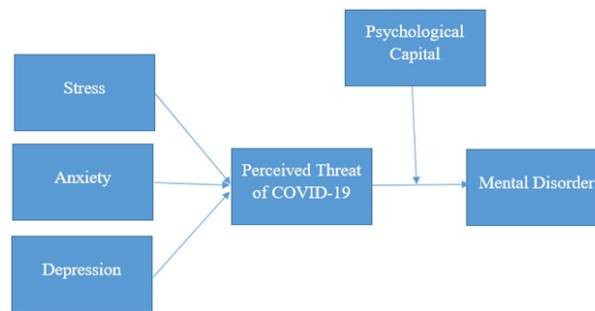
Conceptual framework

Figure 1: Conceptual framework

METHODOLOGY

The methodology for a quantitative study on the impact of COVID-19 on university employees in Jordan. The conceptual framework presented in figure 1 above and the study's hypotheses were backed by social cognitive theory and social exchange theory. Participants were requested to give information about their English language proficiency in the cover letter because the survey was in English. It was ensured to employees and management of the higher education institutions that only the study's general conclusions will be made public, and all participant responses were kept confidential. Both descriptive and inductive analysis techniques were used to examine the variables in the SPSS program (Hair Jr et al., 2020).

Convenient sampling is a widely used sampling technique in higher education study settings. This approach involves selecting participants based on accessibility, often using participants who are readily available and willing to participate. A study conducted by Smith et al. (2021) used convenient sampling to recruit participants for a study on student engagement in a college setting and found that this approach was effective in obtaining a large sample size in a timely manner. Similarly, a study by Hardeman et al. (2022) used convenient sampling to examine the attitudes of faculty members towards technology use in the classroom and found that this approach was efficient and cost-effective. These findings suggest that convenient sampling can be a useful tool for researchers in higher education settings when quick and cost-effective recruitment of participants is a priority (Smith et al., 2021; Hardeman et al., 2022).

Investigating mental disorders is important in Jordanian settings for several reasons. First, mental health problems are prevalent in Jordan, with studies estimating that up to 25% of the population may experience a mental disorder at some point in their lives (Kitishat et al., 2020). Second, mental health disorders can have a significant impact on individuals' quality of life, including their ability to work, participate in social activities, and maintain relationships with family and friends (Al Khodari et al., 2019). Third, mental health disorders are

also associated with increased rates of chronic physical health problems, such as heart disease and diabetes, which can further burden the already strained healthcare system in Jordan (Kitishat et al., 2020). Finally, there is a growing recognition of the importance of addressing mental health in Jordan, with recent efforts aimed at improving access to mental health services and reducing stigma associated with mental health problems (Al Khodari et al., 2019). Given these concerns, it is clear that investigating mental disorders is an important priority in Jordanian settings. By better understanding the prevalence, impact, and underlying causes of mental health problems in Jordan, researchers can help inform the development of effective interventions to improve the mental health and well-being of individuals in the country (Kitishat et al., 2020; Al Khodari et al., 2019).

Participants and procedure

A cover letter explaining the study objectives was sent to the management of 04 higher education universities in Karak, Jordan. They were ensured about anonymity of responses and that no individual or institutional identity will be revealed at any stage of this research. Upon getting formal approval the employees working in these institutions were approached physically by authors of this research to seek their voluntary participation in the study. Those who agreed were also asked for their expertise in English language as survey was adopted from original English language with good reported reliabilities of each construct measured in this research. Upon receiving consent, they were asked about their physical activities during COVID-19 time and only those who remained physically inactive were surveyed. In next step after checking their language proficiency the survey was handed over to 500 employees working in these 04 institutions. The data was collected one by one in each institution and data collection was started on October 01, 2022 which was closed on December 30, 2022 upon completing the target of 500 filled questionnaire during this 3month time period from physically inactive employees working in Jordanian higher education institutions.

The filled responses were evaluated by study authors and some partially filled and unengaged responses were excluded from the study. Finally, current study left with 337 completely filled questionnaires and their data was used for further analysis. The study obtained a final response rate of 67%.

Measurements scale

A 23-measumerments scale was used which assessed on the levels of depression, anxiety, stress and mental disorder along with perceived threat of Covid-19 and their score on psychological capital among a sample of those who were physically inactive during pandemic times in Jordan. This study combined pertinent questionnaire data and used well-developed scales with good reported reliability to quantify the important factors. Seven-point Likert scales were used to describe these indices.

- A 4-item scale of stress was adopted by (Charles et al., 2011). Items include "I found myself getting agitated and I found it difficult to relax". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.805).

- A 4-item scale of anxiety was adopted by (Ströhle, 2009). Items include "I felt fearful and I felt it was hard to focus on anything other than my anxiety". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.68).

- A 4-item scale of depression was adopted by (Puccinelli et al., 2021). Items include "I found it difficult to work up the initiative to do things and I was unable to become enthusiastic about anything". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.64).

- A 3-item scale of perceived threat of COVID-19 was adopted by (Sarfraz et al., 2022). Items include "I am distracted by the excessive amount of epidemic information available to me and I find that I am overwhelmed by the amount of epidemic information I have to process on a daily basis". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.70).

- A 4-item scale of psychological capital was

adopted by (Khliefat et al., 2021). Items include "I feel confident in representing my work area in meetings with Managers and I can think of many ways to reach my current work goals". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.70).

- A 4-item scale of mental disorder was adopted by (Angehrn et al., 2022). Items include "Work impairment/distress and Social impairment/distress". On a "7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree", responses were gathered. The reliability obtained in this study data was (α= 0.83).

RESULT

The present study focused on the levels of depression among a sample of those who stopped practicing physical activity during corona pandemic in Jordan and assessed their antecedents and mediators as well as moderators of stressors and mental disorder.

Demographics

Based on a preliminary examination of respondent data, Table 1 presents the demographic information and descriptive statistics of the sample for the current study (N =337). To evaluate the structural and measurement models, SmartPLS3 was employed. The current study looked at how social exchange theory and social cognitive theory, the moderation of psychological capital, mediating role of perceived threat of COVID-19, and stress, anxiety, depression and mental disorder in in Jordan universities. The model evaluation showed that the age, gender, and qualification models for the Jordanian higher education employees were significant with mental disorder. Thus they were controlled during the analysis.

Table 1: Demographic profile

Demography	Description	No. of Responses	%
Gender	Male	190	56
	Female	147	44
Age	25-35	120	35
	35-45	150	45
	Above 45	67	20
Qualification	Undergraduates Postgraduates	150 100	74
	Ph.D.	87	26

In table 1, gender of male employees' 56% and gender of female employees' 44% in Jordan higher education institutes. In this table, age of 25-35 male employees' was 35%, 35-45 employees' age was 45%, and while above 45 was 20%. Qualification of undergraduate and postgraduate employees was 74% and Ph.D. was 26% in Jordan higher education institutions.

Descriptive statistics:

According to (Hair Jr et al., 2020), descriptive analysis is "the kind of data analysis that aids in describing, showing, or summarizing data points in a useful way so that patterns may develop that fill every condition of the data". It offers a summary that highlights the sizeable dataset and its measurements while also outlining, highlighting, and compressing the key features of a dataset used in a specific study. It helps researchers better understand data. Table 2 below explains descriptive statistics about this study variables.

Table 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
S	337	1	6	3.75	0.80
A	337	1	6	3.79	0.82
D	337	1	6	3.87	0.88
PTC	337	1	6	3.83	0.85
PC	337	1	6	3.91	0.89
MD	337	1	6	3.87	0.88

Measurement model

The factor loadings, validity, and reliability of the data collected from 337 students of Jordanian higher education institutions were first evaluated using PLS-SEM. The latent concept in a measurement model is inferred from the responses to the items rather than being directly observed. Utilizing statistical techniques like "factor analysis, structural equation modelling, or item response theory, the measurement model is estimated". The quality of the items, the internal consistency of the scale, and the dimensionality of the construct may all be assessed using the measurement model's findings. Making sure that the observed variables accurately reflect the underlying construct of interest depends on the measurement model.

Composite Reliability, Cronbach's Alpha:

Table 3 displays the test items for the factor loading, validity, and reliability of the PLS measurement model. Two metrics are used to evaluate the internal consistency or reliability of a set of items in a survey or questionnaire: "composite reliability and Cronbach's alpha". The reliability of a composite, or a combination of several observable variables, is measured by composite reliability. It shows how much of the genuine variance in the composite is compared to all other variance. For the majority of applications, a composite reliability of 0.7 or greater is regarded as acceptable (Fornell, 1981). Cronbach is a popular internal consistency estimate. It goes from 0 to 1, with a greater number indicating higher internal consistency, and evaluates the average inter-item correlation among all conceivable combinations of items on the scale. For the majority of applications, a value of 0.7 or greater is normally regarded as acceptable. For assessing the dependability of a questionnaire or survey instrument and making sure that the items appropriately reflect the underlying construct of interest, composite reliability and Cronbach's alpha are crucial (Fornell, 1981). The composite reliability values ranged from 0.801 to 0.891, beyond the dividing line of 0.70.

Table 3: Composite reliability, Cronbach's Alpha and AVE values

Constructs/Items	CA	Rho-A	CR	AVE
Stress	0.805	0.814	0.873	0.633
Anxiety	0.684	0.691	0.827	0.706
Depression	0.637	0.679	0.764	0.525
Perceived Threat of COVID-19	0.707	0.720	0.836	0.630
Psychological Capital	0.672	0.669	0.801	0.503
Mental Disorder	0.836	0.844	0.891	0.671

Note: CR=composite reliability; AVE=average variance extracted; CA= Cronbach's Alpha

Discriminant validity (HTMT):

Any data analysis must also demonstrate its discriminant validity. Fornell (1981) defined discriminant validity as "the extent to which a given latent variable varies from other latent variables". It is of the genuine and reliable sort. In other words, it demonstrates how effectively a test captures the idea that it was intended to. Particularly, discriminant validity assesses if relationships between variables that, on paper, shouldn't be connected actually exist.

Table 4: Discriminant validity

	A	D	MD	PTC	PC	S
Anxiety	0.840					
Depression	0.199	0.725				
Mental Disorder	0.052	0.745	0.819			
Perceived Threat of COVID-19	0.197	0.499	0.485	0.794		
Psychological Capital	0.113	0.442	0.555	0.389	0.709	
Stress	0.157	0.431	0.561	0.391	0.399	0.795

A statistical concept called discriminant validity is used to evaluate how distinctive a construct or group of variables is. It is a crucial component of construct validity, which refers to the accuracy with which a measurement model captures the relevant underlying construct. By proving that the variables in question are considerably different from one another and do not have any meaning overlap, discriminant validity is established. By examining the correlations between the variables and making sure they are not overly connected, this is accomplished (Hair Jr et al., 2020). The values for current study are presented in table 4 above.

R Square (R^2):

A statistical tool used in regression analysis to assess a model's goodness of fit is R-squared. It shows the percentage of the dependent variable's variance that the model's independent variables are responsible for explaining. R^2 is a measure of how well the model fits the observed data, with a value of 1 indicating a perfect fit and a value close to 0 suggesting a poor match (Hair Jr et al., 2020). R^2 is used to assess how well the regression model fits the observed data, with larger values suggesting a better fit. It is a crucial tool for contrasting various regression models and choosing the one that best captures the connection between the independent and dependent variables (Hair Jr et al., 2020). Mental disorder value of R square as presented in Table 5 were 0.413, and perceived threat of COVID-19 value of R square were 0.294 respectively. Which howed a better model fit to support the study findings.

Table 5: Assessment of R square

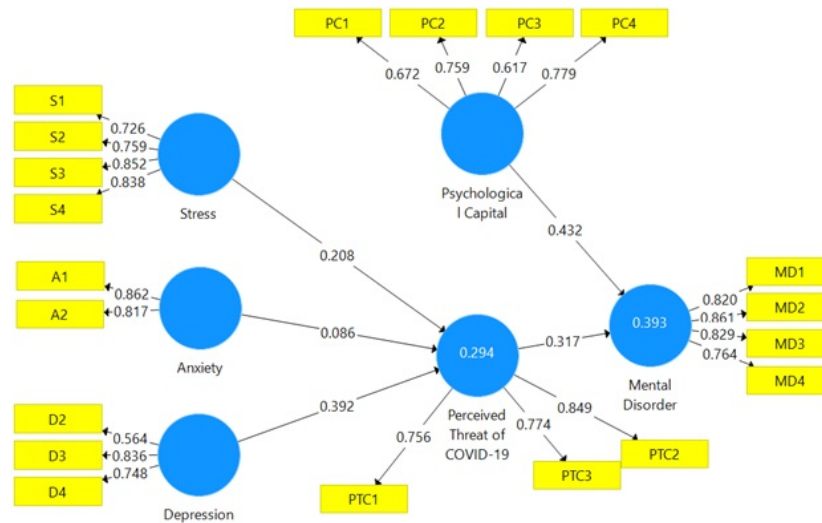|	R^2
Mental Disorder	0.413
Perceived Threat of COVID-19	0.294

Figure 2: Conceptual framework

There is no issue with any of the other values, with the exception of "A3, D1, and A4" as noted in the aforementioned Table 5. Remove any indicators with outside loadings of less than 0.40 from the frameworks (Hair Jr et al., 2020). The external loading of lower-order structures was investigated using a PLS-SEM method. The findings demonstrate that all builds have Cronbach's Alpha values greater than 0.789. Results from every survey measurement are astonishingly accurate as elaborated in Figure 2 above. The measurement model is valid because the average variance extracted (AVE) surpasses the 0.50 legal limit.

Structural equation model

Structural equation modeling (SEM) is a powerful and widely used statistical technique for analyzing complex relationships between variables. This approach has been used in a variety of fields, including

psychology, sociology, education, and marketing, to test theories, establish causal relationships, and make predictions. In this argument, we will outline some of the key benefits of using SEM in analysis, drawing on multiple sources to support our claims. One of the key advantages of SEM is its ability to test complex theoretical models that involve multiple variables. For example, in a study by Kline et al. (2011), SEM was used to test a model of academic motivation that included three latent variables: academic self-concept, academic interest, and academic values. By using SEM, the researchers were able to estimate the relationships between these variables, test their hypotheses, and make inferences about the underlying structure of the model. Another benefit of SEM is its ability to handle missing data. In contrast to traditional regression analysis, SEM can accommodate missing data by using maximum likelihood estimation, which takes into account the distribution of the data. This is particularly useful in situations where a large number of participants may not provide data for certain variables, which can compromise the validity of the analysis (Little and Rubin, 2002).

SEM also provides a number of indices that can be used to assess the fit of the model to the data, such as the chi-square test of goodness-of-fit, the root mean square error of approximation (RMSEA), and the comparative fit index (CFI) (Browne, 1993). These indices provide valuable information about the validity and reliability of the model, which can be used to make decisions about model modification and refinement. Finally, SEM can be used to establish causal relationships between variables, which is particularly useful in social science research. For example, in a study by Anderson and Gerbing (1988), SEM was used to test a model of consumer behavior that included variables such as consumer attitudes, perceptions, and intentions. The researchers were able to establish a causal chain of events that linked these variables, providing a deeper understanding of the underlying process involved in consumer behavior.

Direct relation:

In a direct relationship, the slope of the line denotes the strength and direction of the link, and the value of one variable can be used to predict the value of the other. A positive relationship is indicated by a line that slopes upward, which means that as one variable rises, the other rises as well. A negative relationship is indicated by a line that slopes downward, which means that when one variable rises, the other falls. The results show that the relationship between stress and perceived threat of COVID-19 is significant (β = 0.208, t = 2.926, p = 0.004). Hence H1 is accepted. The results show that the relationship between anxiety and perceived threat of COVID-19 is significant (β = 0.286, t = 2.445, p = 0.009). Hence H2 is accepted. The results show that the relationship between depression and perceived threat of COVID-19 is significant (β = 0.392, t = 6.358, p = 0.000). Hence H3 is accepted as presented in Table 6.

Table 6: Direct relation

	Original Sample	t Statistics	p Values	Decision
Stress -> Perceived Threat of COVID-19	0.208	2.926	0.004	Supported
Anxiety -> Perceived Threat of COVID-19	0.286	2.445	0.009	Supported
Depression -> Perceived Threat of COVID-19	0.392	6.358	0.000	Supported

Mediating effect:

A mediating effect is the method through which one variable helps to explain how two other variables are related. In other words, a mediating effect happens when a third variable helps explain how an independent variable and a dependent variable relate to one another (Hair Jr et al., 2021). By adding perceived threat of COVID-19 as a mediating variable, the link between stress and mental disorder remained significant (β = 0. 133, t = 3. 149, p = 0.002, respectively). Hence, H4 is accepted. By adding perceived threat of COVID-19 as a mediating variable, the link between anxiety and mental disorder remained significant (β = 0. 133, t = 3. 149, p = 0.002, respectively). Hence, H5 is accepted. By adding perceived threat of COVID-19 as a mediating variable, the link between depression and mental disorder remained significant (β = 0. 133, t = 3. 149, p = 0.002, respectively). Hence, H6 is accepted.

Table 7: Mediating effect

	Original Sample (O)	t Statistics	p Values
Stress -> Perceived Threat of COVID-19 -> Mental Disorder	0.052	2.225	0.027
Anxiety -> Perceived Threat of COVID-19 -> Mental Disorder	0.061	2.399	0.012
Depression -> Perceived Threat of COVID-19 -> Mental Disorder	0.098	3.180	0.002

Moderating effect:

A moderating effect is the phenomenon where a third variable affects the intensity or direction of a link between two variables. A moderator is a variable that affects how two other variables relate to one another (Hair Jr et al., 2021). A moderating effect may signal that attempts to modify the moderator could aid in improving outcomes in the dependent variable, which can have significant implications for intervention and policy. It is crucial to remember that finding a moderating impact necessitates carefully analyzing the data and the research question, as well as using the right statistical techniques to test for moderating effects. The results show that the moderating role of psychological capital between perceived threat of COVID-19 and mental disorder is significant (β = -0.108, t = 3.239, p = 0.001). Hence H7 id accepted as per results presented in Table 7 above.

Table 8: Moderator hypothesis testing

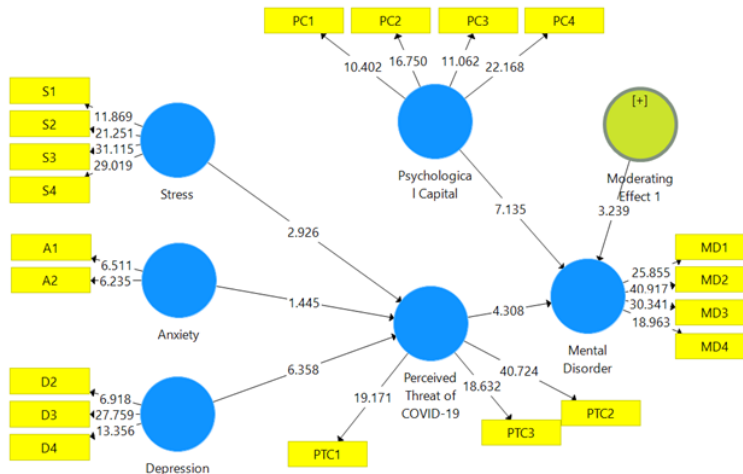|	β-value	(STDEV)	t-value	p value
Psychological Capital*Perceived Threat of COVID-19 -> Mental Disorder	-0.108	0.033	3.239	0.001

Figure 3: Assessment of bootstrapping

There is no issue with any of the other values, with the exception of "A3, D1, and A4" as noted in the aforementioned Table 8. Remove any indicators with outside loadings of less than 0.40 from the frameworks (Hair Jr et al., 2020). The external loading of lower-order structures was investigated using a PLS-SEM method. The findings demonstrate that all builds have Cronbach's Alpha values greater than 0.789. Results from every survey measurement are astonishingly accurate as explained in figure 3 above.

The measurement model is valid because the average variance extracted (AVE) surpasses the 0.50 legal limit.

DISCUSSION

The results show that the relationship between stress and perceived threat of COVID-19 is significant. A correlation between stress and people's perceptions of the COVID-19 threat indicates that as people's perceptions of the COVID-19 threat rise, so does their

level of stress. The association is deemed substantial, indicating that it is probably not a random coincidence and could have an important effect. Stress can also disrupt the balance of neurotransmitters, such as serotonin and dopamine, which play a critical role in regulating mood and emotions (Knell et al., 2020). Additionally, stress can impact behavior and cognition, leading to changes in sleep patterns, eating habits, and physical activity, which can further contribute to the development of mental health problems.

The results show that the relationship between anxiety and perceived threat of COVID-19 is significant. Studies showing that exercise and physical activity can be utilized to treat anxiety and depressive illnesses have been reported. A correlation between anxiety and people's perceptions of the COVID-19 threat indicates that as people's anxiety levels rise, so do their perceptions of the COVID-19 threat. The association is deemed substantial, indicating that it is probably not a random coincidence and could have an important effect (Khliefat et al., 2021). Additionally, anxiety can weaken the immune system, making individuals more vulnerable to physical and mental health problems. It is important to recognize the impact of anxiety on mental health and to develop effective interventions that can help individuals manage anxiety and prevent the onset of mental health problems.

The results show that the relationship between depression and perceived threat of COVID-19 is significant. There is a correlation between people's levels of depression and the perceived threat they feel from the COVID-19 pandemic, which is known as a strong relationship between depression and perceived COVID-19 threat. This association is regarded as substantial, indicating that it is probably not purely coincidental and that it might have an important effect (Bağatarhan and Siyez, 2022; de Jesus Barcelos et al., 2021). The present investigation, to our understanding, is the first to explicitly address the crucial role that information overload plays in stated as a method during a primary care catastrophe. The findings demonstrate that COVID-19 information overload plays a significant role in affecting people's negativity, which in turn enhances their violent online behaviors.

By adding perceived threat of COVID-19 as a mediating variable, the link between stress, anxiety, depression and mental disorder remained significant. People's mental health, including stress, anxiety, depression, and the likelihood of acquiring mental disorders, has been significantly impacted by the COVID-19 pandemic. These outcomes for mental health are frequently connected and sometimes interdependent. For instance, anxiety and stress can cause sadness, which raises the possibility of having a mental condition (Hofer et al., 2022). As a mediating factor, COVID-19 may influence how stress, anxiety, depression, and mental disorders are related to one another. The chance of having a mental condition can rise as a result of higher levels of stress, anxiety, and depression brought on by the perceived threat posed by COVID-19. In this situation, COVID-19 serves as a stressor that increases the likelihood of experiencing mental health issues.

The results show that the moderating role of psychological capital between perceived threat of COVID-19 and mental disorder is significant. An important moderator between the perceived threat of COVID-19 and mental diseases is psychological capital. Psychological capital is a collection of resources that people can utilize to deal with stress and hardship, such as hope, efficacy, resilience, and optimism. These tools can aid people in maintaining their mental health and lowering their risk of mental diseases. An important stressor that can lead to high levels of stress, anxiety, and depression as well as a higher chance of developing mental disorders is the perception of COVID-19 as a threat (Sarfraz et al., 2022). The moderating effect of psychological capital, however, raises the possibility that those who have higher levels of psychological capital may be better able to handle the strain and adversity brought on by the pandemic and lower their chance of acquiring mental disorders.

Theoretical implications of study

The relationship between stress, depression, anxiety, and mental disorder has been extensively studied, leading to numerous theoretical contributions in the field. One prominent theory is the bio psychosocial model, which posits that the development of mental health problems is the result of an interplay between biological, psychological, and social factors (Lazarus and Folkman, 1984). This model has been widely

adopted and supported by empirical evidence, demonstrating the importance of considering multiple levels of analysis in understanding the complex etiologic of mental health problems (Kendler et al., 1999). Another important contribution is the cognitive-behavioural theory, which suggests that negative thought patterns and behaviours can contribute to the development and maintenance of depression and anxiety disorders (Beck, 1967). This theory has led to the development of effective cognitive-behavioural therapies, which have been shown to be highly effective in treating depression and anxiety (Beck, 1979). These theoretical contributions highlight the importance of considering multiple factors in understanding and treating stress, depression, anxiety, and mental disorders.

The perceived threat of COVID-19 has been widely studied as a mediator of various outcomes related to the pandemic. One prominent theory in this area is the Health Belief Model (HBM), which posits that an individual's perceived threat of a health threat influences their health behaviors and decision making (Rosenstock, 1974). This theory has been applied to COVID-19, with research demonstrating that perceived threat of the virus is positively associated with compliance with preventive behaviours such as mask wearing and social distancing (Weinstein et al., 1980). Another theoretical contribution comes from the Social Cognitive Theory, which suggests that perceived threat of COVID-19 is influenced by personal and social factors, including media exposure, social norms, and previous experiences (Bandura, 1986). This theory highlights the importance of considering the role of social and environmental factors in shaping an individual's perceived threat of COVID-19. These theoretical contributions provide a foundation for understanding the role of perceived threat of COVID-19 as a mediator of various outcomes related to the pandemic, and highlight the need for continued research in this area.

The relationship between perceived threat of COVID-19 and mental disorders has been of significant interest, with psychological capital (PsyCap) being studied as a potential moderator. PsyCap refers to an individual's positive psychological resources, including hope, efficacy, resilience, and optimism (Luthans et al., 2007). One theoretical contribution

in this area is the Resource Management Theory, which suggests that individuals with higher levels of PsyCap may be better able to manage stress and cope with adversity (Lazarus and Folkman, 1984). Research has supported this theory, demonstrating that individuals with higher levels of PsyCap are less likely to experience negative mental health outcomes in response to perceived threat of COVID-19 (Avey et al., 2010). Another contribution comes from the Social Cognitive Theory, which suggests that an individual's PsyCap can influence their perception of threat and their ability to engage in adaptive coping behaviours (Bandura, 1986). These theories highlight the importance of considering individual differences in psychological resources in understanding the relationship between perceived threat of COVID-19 and mental disorders.

Practical implications of the study

Investigating the relationship between stressors and mental disorders in the Jordanian context has important practical implications for the country and its citizens. With a growing population and increasing demands on its resources, it is important to understand the factors that contribute to mental health problems in Jordan. By understanding the relationship between stressors and mental disorders, policymakers and mental health professionals can develop effective strategies to reduce the burden of mental health problems in the country. This information can be used to inform public health campaigns, allocate resources to mental health services, and provide targeted interventions for individuals and communities that are most in need. In addition, understanding the specific stressors that are impacting the mental health of Jordanians can help to address the root causes of these problems, rather than just treating the symptoms. For example, if financial stress is identified as a significant stressor for Jordanians, interventions could be developed to address this, such as financial education programs or job training. In conclusion, the practical implications of investigating the relationship between stressors and mental disorders in the Jordanian context are significant and have the potential to improve the mental health and well-being of the country's citizens. The findings regarding the mediating effect of perceived threat of COVID-19 on the relationship

between stressors and mental disorders have practical implications for individuals, organizations, and society. For individuals, the results suggest that reducing the perceived threat of COVID-19 may help reduce the negative impact of stressors on mental health. This may involve engaging in activities that reduce exposure to COVID-19-related stressors, such as limiting news exposure and avoiding activities that increase exposure to the virus. It may also involve seeking support from mental health professionals and engaging in stress-management activities such as exercise and mindfulness. For organizations, the results highlight the importance of reducing exposure to COVID-19-related stressors in the workplace and providing support for employees' mental health. This may involve offering flexible work arrangements, providing access to mental health resources, and promoting protective behaviors such as mask wearing and social distancing. At the societal level, the results suggest the need for public health campaigns that aim to reduce exposure to COVID-19-related stressors and promote mental health. This may involve providing accurate and up-to-date information about the virus, promoting protective behaviors, and investing in mental health resources. In conclusion, the practical implications of these findings highlight the importance of reducing exposure to COVID-19-related stressors and promoting mental health in the context of the pandemic.

Similarly, the findings regarding the moderating effect of psychological capital (PsyCap) on the relationship between perceived threat of COVID-19 and mental disorders have practical implications for individuals, organizations, and society. For individuals, the results suggest that investing in the development of positive psychological resources such as hope, efficacy, resilience, and optimism may help reduce the negative impact of COVID-19 on mental health. This may involve engaging in activities such as exercise, mindfulness, and social support, as well as seeking support from mental health professionals. For organizations, the results highlight the importance of creating supportive work environments that foster the development of positive psychological resources among employees. This may involve offering training programs, promoting work-life balance, and providing access to mental health resources. At the societal level, the results suggest the need for public health campaigns that aim to promote positive psychological resources and reduce the negative impact of COVID-19 on mental health. This may involve developing educational programs, providing access to mental health resources, and promoting protective behaviours such as mask wearing and social distancing. In conclusion, the practical implications of these findings are wide-ranging and underscore the importance of considering the role of positive psychological resources in mitigating the negative impact of COVID-19 on mental health.

LIMITATIONS AND FUTURE RESEARCH

As is characteristic of all good research attempts, this study contains substantial limitations that should be acknowledged and taken into account before generalizing the results. Due to the intense competition and expanding need to assist stress, anxiety, depression, and mental disorder in Jordan, this study's findings may not be generalizable to institutions in other countries. Institutions from other sectors can be retained for use in a longitudinal survey for future research, increasing the generalizability of the study's framework. Due to the limited sample size, restricted geographic scope, and practical sampling process, it is challenging to generalize the findings of the current study on a global scale. This study's theoretical advancements could be strengthened by subsequent research in different universities, specialties, and regions of the world. Future research may adopt a mix method approach by adding focus groups, surveys, and interviews in order to more accurately determine cause and effect links. The only research methodology employed in this study was a survey. It may be possible to obtain data during face-to-face interactions through probing and follow-up that would be very difficult to perform using a regular email or online survey. It's important to keep in mind the study's potential flaws when interpreting the findings. For instance, the sample size might be too small to apply the results to a larger population, and the study's design might make it impossible to determine causality.

Self-reported measures of depression, physical activity, and perceived COVID-19 threat are used in the study; however, these measures may be biased and

may not properly capture participants' experiences. It is uncertain how effectively the findings would generalize to other populations or cultures as the study was only done in Jordan. In order to better validate the findings and deepen our understanding of the connection between physical activity, stress, and depression in the context of the COVID-19 epidemic, future research should seek to replicate the findings of this study in larger and more diverse groups. The function of additional variables, such as age, gender, and cultural background that may have an impact on the association between physical activity, stress, and depression should also be investigated in further research. Longitudinal studies may be helpful for understanding the mechanisms through which physical activity may affect mental health as well as for tracking the effects of physical activity on depression over time.

Finally, future studies should design and assess strategies to encourage physical activity and lessen depression in people who have ceased doing so because of the COVID-19 epidemic. This study has a number of limitations, but it also serves as a springboard for further investigation into the connection between exercise, stress, and depression in the context of the COVID-19 pandemic in Jordan. In order to validate and build upon these findings, as well as to create efficient interventions for encouraging physical activity and mental well-being in times of crisis, more study is required.

CONCLUSION

In conclusion, the levels of depression among people who stopped exercising during the COVID-19 pandemic in Jordan have significant theoretical and practical ramifications for our comprehension of the connection between exercise, stress, and mental health as well as for the creation of interventions meant to encourage exercise and mental well-being. In conclusion, this study offers proof that a sample of people who ceased engaging in physical exercise during the COVID-19 pandemic in Jordan have substantial levels of depression. The findings imply that physical activity, stress, and depression may all be positively correlated, and that people who ceased engaging in physical exercise during the pandemic may be more susceptible to developing depression.

The results of this study have significant theoretical and practical ramifications for how we comprehend how exercise, stress, and depression interact in the setting of the COVID-19 epidemic. Further research is required to confirm and build upon these findings because of the study's limitations, including its small sample size and reliance on self-reported data. Despite these drawbacks, the findings of this study demonstrate the value of encouraging exercise and physical activity for mental well-being, particularly in times of emergency like the COVID-19 epidemic. In addition to supporting people's mental and physical health, interventions that promote physical activity and offer mental health resources and support may be crucial for lowering melancholy and enhancing mental health among those who stopped exercising because of the epidemic.

REFERENCES

Al Khodari K, Baig T, Alkhateeb MH, Naeem M; 2020. Acute sensorineural hearing loss as atypical presentation of typhoid fever in adult patient. SAGE Open Medical Case Reports, 8:2050313X20958548.

Alvi SM, Akhtar A, Aftab N; 2021. Sense of coherence as a predictor of positive psychological outcomes among adults. Journal of Management Practices, Humanities and Social Sciences, 5(2):28-36.

Alzahrani H, Alshehri F, Alsufiany M, Allam HH, Almeheyawi R, Eid MM, et al.; 2021. Impact of the 2019 Coronavirus disease pandemic on health-related quality of life and psychological status: The role of physical activity. International Journal of Environmental Research and Public Health, 18:1-13.

Anderson JC, Gerbing DW; 1988. Structural equation modeling in practice: A review and recommended two-step approach.. Psychological bulletin, 103(3):411.

Angehrn A, Vig KD, Mason JE, Stelnicki AM, Shields RE, Asmundson GJ, et al.; 2022. Sex differences in mental disorder symptoms among Canadian police officers: The mediating role of social support, stress, and sleep quality. Cognitive Behaviour Therapy, 51(1):3-20.

Avey JB, Wernsing TS, Luthans F; 2008. Can positive employees help positive organizational change? Impact of psychological capital and emotions on relevant attitudes and behaviors. The Journal of Applied Behavioral Science, 44(1):48-70.

Babore A, Lombardi L, Viceconti ML, Pignataro S, Marino V, Crudele M, et al.; 2020. Psychological effects of the COVID-2019 pandemic: Perceived stress and coping strategies among healthcare professionals. Psychiatry Research, 293:113366.

Bağatarhan T, Siyez DM; 2022. Rumination and internet addiction among adolescents: The mediating role of depression. Child and Adolescent Social Work Journal, 39(2):209-218.

Bandura A; 1986. Social foundations of thought and action. Englewood Cliffs, NJ: Prentice Hall.

Beck AT; 1967. Depression: Clinical, experimental, and theoretical aspects. Philadelphia, PA: University of Pennsylvania Press.

Beck AT; 1979. Cognitive therapy of depression. New York, NY: Guilford press.

Browne CRB M W. Alternative ways of assessing model fit. In:) KABJSLE, editor. Testing structural equation models Newbury Park, CA: Sage; 1993. .

Charles LE, Slaven JE, Mnatsakanova MC A, Violanti JM, Fekedulegn D, Andrew ME, et al.; 2011. Association of perceived stress with sleep duration and sleep quality in police officers. International Journal of Emergency Mental Health, 13(4):229.

Chen H, Chen Z, Yang H, Wen L, Yi Z, Zhou Z, et al.; 2022. Multi-mode surface plasmon resonance absorber based on dart-type single-layer graphene. RSC Advances, 12(13):7821-7829.

Cimene FTA, Buko ML, Nacaya IMQ; 2022. The causes of suicide and its socio-demographic factors in the Philippines. Pakistan Journal of Life & Social Sciences, 20(1).

Ciocca G, Rossi R, Collazzoni A, Gorea F, Vallaj B, Stratta P, et al.; 2020. The impact of attachment styles and defense mechanisms on psychological distress in a non-clinical young adult sample: A path analysis. Journal of Affective Disorders, 273:384-390.

Davis W; 2022. A general theory of visual culture. Princeton, NJ: Princeton University Press.

Fennell C, Eremus T, Puyana MG, Sañudo B; 2022. The importance of physical activity to augment mood during COVID-19 lockdown. International Journal of Environmental Research and Public Health, 19(3):1270.

Fitzgerald GK M; 2020. Emotional support as a mechanism linking childhood maltreatment and adult's depressive and social anxiety symptoms. Child Abuse & Neglect, 108:104645.

Fornell LDF C; 1981. Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1):39-50.

García-Peñalvo FJ, Corell A, Rivero-Ortega R, Rodríguez-Conde MJ, Rodríguez-García N. Impact of the COVID-19 on higher education: An experience-based approach. In: Information technology trends for a global and interdisciplinary research community Pennsylvania, PA: IGI Global; 2021. p. 1-18.

Gonzalez AM, Reynolds-Tylus T, Skurka C; 2022. Young adults' willingness to engage in climate change activism: An application of the Theory of Normative Social Behavior. Environmental Communication, 16(3):388-407.

Hair Jr JF, Howard MC, Nitzl C; 2020. Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. Journal of Business Research, 109:101-110.

Hair Jr JF, Hult GTM, Ringle CM, Sarstedt M, Danks NP, Ray S; 2021. Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Berlin, Germany: Springer Nature.

Hardeman RR, Homan PA, Chantarat T, Davis BA, Brown TH; 2022. Improving the measurement of structural racism to achieve antiracist health policy: Study examines measurement of structural racism to achieve antiracist health policy. Health Affairs, 41(2):179-186.

Hartley TA, Violanti JM, Sarkisian K, Fekedulegn D, Mnatsakanova A, Andrew ME, et al.; 2014. Association between police-specific stressors and sleep quality: Influence of coping and depressive symptoms. Journal of Law Enforcement Leadership and Ethics, 1(1):31.

Hassan K, Afzal S; 2022. Social-media usage, self-esteem and self-concept in young adults. International Journal of Business and Economic Affairs, 7(1):1-9.

Hofer A, Kachel T, Plattner B, Chernova A, Conca A, Fronthaler M, et al.; 2022. Mental health in individuals with severe mental disorders during the Covid-19 pandemic: A longitudinal investigation. Schizophrenia, 8(1):17.

Jam FA, Singh SKG, Ng B, Aziz N, et al.; 2018. The interactive effect of uncertainty avoidance cultural values and leadership styles on open service innovation: A look at Malaysian healthcare sector. International Journal of Business and Administrative Studies, 4(5):208-223.

de Jesus Barcelos GF, Ferlauto AS, de Souza Figueiredo KC; 2021. Graphene membranes: From reverse Osmosis to gas separation. International Journal of Membrane Science and Technology, 8(2):1-27.

Jiang Z, Xu H, Li S, Liu Y, Jin Z, Li R, et al.; 2022. Childhood maltreatment and depressive symptoms among Chinese college students: A moderated mediation model of adult attachment styles and physical activity. Journal of Affective Disorders, 309:63-70.

Johnson TE, Kirkland CL, Lu Y, Smithies RH, Brown M, Hartnady MI; 2022. Giant impacts and the origin and evolution of continents. Nature, 608(7922):330-335.

Kendler KS, Karkowski LM, Prescott CA; 1998. Stressful life events and major depression: Risk period, long-term contextual threat, and diagnostic specificity. The Journal of Nervous and Mental Disease, 186(11):661-669.

Khakwani F, Khurram F, Fahd S; 2022. Exploring the impact of shared cognitive and emotional factors in career decision-making among

adolescents through qualitative inquiry. Journal of Management Practices, Humanities and Social Sciences, 6(5):59-68.

Khliefat A, Chen H, Ayoun B, Eyoun K; 2021. The impact of the challenge and hindrance stress on hotel employees interpersonal citizenship behaviors: Psychological capital as a moderator. International Journal of Hospitality Management, 94:102886.

Kim JH, Marks F, Clemens JD; 2021. Looking beyond COVID-19 vaccine phase 3 trials. Nature Medicine, 27(2):205-211.

Kirkcaldy BD, Shephard RJ, Siefen RG; 2002. The relationship between physical activity and self-image and problem behaviour among adolescents. Social Psychiatry and Psychiatric Epidemiology, 37:544-550.

Kitishat AR, Al Omar KH, Al Momani MAK; 2020. The Covid-19 crisis and distance learning: E-teaching of language between reality and challenges. Asian ESP Journal, 16(51):316-326.

Kline M, Izyumin I, Boser B, Sanders S; 2011. Capacitive power transfer for contactless charging. In: 2011 Twenty-Sixth Annual IEEE Applied Power Electronics Conference and Exposition (APEC).Piscataway, NJ: IEEE.p. 1398-1404.

Knell G, Robertson MC, Dooley EE, Burford K, Mendez KS; 2020. Health behavior changes during COVID-19 pandemic and subsequent "stay-at-home" orders. International Journal of Environmental Research and Public Health, 17(17):6268.

Lazarus RS, Folkman S; 1984. Stress, appraisal, and coping. New York, Ny: Springer publishing company.

Lee H, Lee Yh, Kim SU, Kim HC; 2021. Metabolic dysfunction-associated fatty liver disease and incident cardiovascular disease risk: A nationwide cohort study. Clinical Gastroenterology and Hepatology, 19(10):2138-2147.

Li Q, Guo L, Zhang S, Wang W, Li W, Chen X, et al.; 2021 Jun. The relationship between childhood

emotional abuse and depressive symptoms among Chinese college students: The multiple mediating effects of emotional and behavioral problems. Journal of affective disorders, 288:129-135.

Little RJ, Rubin DB; 2019. Statistical analysis with missing data, vol. 793. John Wiley & Sons.

Luthans F, Avey JB, Avolio BJ, Norman SM, Combs GM; 2006. Psychological capital development: Toward a micro-intervention. Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 27(3):387-393.

Marconcin P, Werneck AO, Peralta M, Ihle A, Gouveia R, Ferrari G, et al.; 2022. The association between physical activity and mental health during the first year of the COVID-19 pandemic: A systematic review. BMC Public Health, 22(1):209.

Mevorach CJAA T; 2021. Keep calm and stay safe: The relationship between anxiety and other psychological factors, media exposure and compliance with COVID-19 regulations. International Journal of Environmental Research and Public Health, 18(6):2852.

Monterrosa Quintero A, Echeverri Rios AR, Fuentes-Garcia JP, Gonzalez Sanchez JC; 2022. Levels of physical activity and psychological well-being in non-athletes and martial art athletes during the COVID-19 pandemic. International Journal of Environmental Research and Public Health, 19(7):4004.

Nowalis S, Godleski SA, Schenkel LS; 2022. Attachment as a moderator in the relation between child maltreatment and symptoms of depression. Journal of Interpersonal Violence, 37(3-4):1516-1543.

Patel YS, Jaiswal R, Misra R; 2022. Deep learning-based multivariate resource utilization prediction for hotspots and coldspots mitigation in green cloud data centers. The Journal of Supercomputing, 78:5806–5855.

Pavlova M, Ference J, Hancock M, Noel M; 2017. Disentangling the sleep-pain relationship in pediatric chronic pain: The mediating role of internalizing mental health symptoms. Pain Research and Management.

Primack BA, Shensa A, Escobar-Viera CG, Barrett EL, Sidani JE, Colditz JB, et al.; 2017. Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among US young adults. Computers in Human Behavior, ,69:1-9.

Puccinelli PJ, da Costa TS, Seffrin A, de Lira CAB, Vancini RL, Nikolaidis PT, et al.; 2021 Mar. Correction to: Reduced level of physical activity during COVID-19 pandemic is associated with depression and anxiety levels: An internet-based survey. BMC Public Health, 21:613.

Puccinelli PJ, da Costa TS, Seffrin A, de Lira CAB, Vancini RL, Nikolaidis PT, et al.; 2021. Reduced level of physical activity during COVID-19 pandemic is associated with depression and anxiety levels: An internet-based survey. BMC Public Health, 21:1-11.

Reigal RE, Páez-Maldonado JA, Pastrana-Brincones JL, Morillo-Baro JP, Hernández-Mendo A, Morales-Sánchez V; 2021. Physical activity is related to mood states, anxiety state and self-rated health in COVID-19 lockdown. Sustainability, 13(10):5444.

Rosenstock IM; 1974. Historical origins of the health belief model. Health Education Monographs, 2(4):328-335.

Sarfraz M, Hafeez H, Abdullah MI, Ivascu L, Ozturk I; 2022. The effects of the COVID-19 pandemic on healthcare workers' psychological and mental health: The moderating role of felt obligation. Work, (Preprint):1-12.

Sharma PK, Kumra R; 2022. Relationship between mindfulness, depression, anxiety and stress: Mediating role of self-efficacy. Personality and Individual Differences, 186:111363.

Smith R, McHugh G, Quicke J, Dziedzic K, Healey E; 2021. Comparison of reliability, construct validity and responsiveness of the IPAQ-SF and PASE in adults with osteoarthritis. Musculoskeletal Care, 19(4):473-483.

Song L, Fang P, Jiang Z, Li S, Song X, Wan Y; 2022. Mediating effects of parent-child relationship on the association between childhood maltreatment and depressive symptoms among adolescents. Child Abuse & Neglect, 131:105408.

Ströhle A; 2009. Physical activity, exercise, depression and anxiety disorders. Journal of Neural Transmission, 116:777-784.

Sun J, Sarfraz M, Ivascu L, Iqbal K, Mansoor A; 2022. How did work-related depression, anxiety, and stress hamper healthcare employee performance during COVID-19? The mediating role of job burnout and mental health. International Journal of Environmental Research and Public Health, 19(16):10359.

Susuman AS, et al.; 2017. Mental health issues and policy in Sub Saharan Africa: A view from Cape Town to Cairo. International Journal of Health and Medical Sciences, 3(3):59-66.

Violant-Holz V, Gallego-Jiménez MG, González-González CS, Muñoz-Violant S, Rodríguez MJ, Sansano-Nadal O, et al.; 2020. Psychological health and physical activity levels during the COVID-19 pandemic: A systematic review. International Journal of Environmental Research and Public Health, 17(24):9419.

Wang Q, Luo X, Tu R, Xiao T, Hu W; 2022. COVID-19 information overload and cyber aggression during the pandemic lockdown: The mediating role of depression/anxiety and the moderating role of Confucian responsibility thinking. International Journal of Environmental Research and Public Health, 19(3):1-16.

Weinstein ND, Sandman PM, Salamone JD; 1980. An integrative theory of the health belief model. Health Education Monographs, 8(2):156-173.