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Recognizing the Role of ChatGPT in Decision-Making and Recognition of Mental Health Disorders among Entrepreneurs

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Abstract

Nowadays, mental health disorders have become a significant concern for everyone. There are diverse reasons emanating from the workplace, business, and everyday environment. Therefore, there is a current need to use technology to detect and review their symptoms and causes. Accordingly, in this study, the researcher attempted to recognize ChatGPT's role in decision-making and the recognition of mental health disorders among Egyptian entrepreneurs. The researcher used a quantitative approach in this study based its findings on 332 valid samples. The study's results through path analysis using Analysis of Moment Structures (AMOS) confirmed a positive effect of user perception of ChatGPT and trust in ChatGPT on the decision-making process and recognition of mental disorders. On the other hand, the study found a negative effect of the decision-making process in recognizing mental disorders. On the other hand, this study's findings demonstrate that the decision-making process hurts recognizing mental health disorders. This study's results assist the development of policies to improve available digital services, such as ChatGPT or AI, to increase societal awareness. Moreover, by providing empirical evidence from Egyptian entrepreneurs in a developing country context, this study's findings contribute to the existing psychology, digital technology, and management literature.

Keywords
Recognition of mental health disorders; perceptions of ChatGPT; trust in ChatGPT; decision-making process; Egyptian entrepreneurs

1. Introduction

Nowadays, psychological and mental health disorders and problems are severe for both individuals and organizations alike [1]. For individuals psychological mental health disorders have a significant impact on individuals by reducing their quality of life and raising concerns about serious risks to their health. Likewise, these issues translate into substantial economic costs for organizations resulting from poorer productivity, greater absenteeism, and higher healthcare expenses. Therefore, the diagnosis of problems, such as stress, anxiety, depression, and mental health disorders, is also a significant issue for businesses, ordinary individuals, and medical practitioners [2]. In this regard, ChatGPT is a considerable tool that positively supports the detection or diagnosis of the symptoms of different mental and psychological health disorders [3]. First, it should be remembered that ChatGPT is not an assistant for professional mental health care. Nevertheless, it has the advantages of availability, first-level screening, immediate access to support, and providing healthcare professionals with educational functions and data to help them deal with mental and psychological health disorders. By providing a comprehensive, knowledge-based service, numerous ChatGPT-associated constructs positively support the recognition of mental health disorders and diseases and the decision-making process [4]. ChatGPT is easier to use and supports the development of individuals' trust in rational decision-making to address their mental health disorders and diseases [5]. In the existing literature, several constructs provide the best means of recognizing individuals' mental health disorders and making the best diagnoses. These constructs are trust, reliability, accuracy, confidence, consistency, innovative ideas, ChatGPT ability, user perception, communication, decision-making process, users' intentions, user easiness, experience, satisfaction, goal orientation, social influence, and performance expectancy [6-12], however, despite confronting their challenges about mental health disorders and either the pressure of the workplace or the responsibility of their business activities and accomplishments. There have been no previous studies of Egyptian entrepreneurs [13, 14]. Therefore, in this study, the researcher aimed to answer the following question:

RQ1: What is the role of user perception of ChatGPT and trust in ChatGPT in developing the recognition of mental health disorders and the associated decision-making process among Egyptian entrepreneurs?

This study's contribution aims to engender among Egyptian entrepreneurs the connections between AI technology (ChatGPT) and user psychology (perception and trust), the decision-making processes, and mental health consciousness within a specific cultural and work-related context, namely that of Egyptian entrepreneurs (This study's findings can help to update AI design ideologies, mental health involvements, and provide support for Egyptian entrepreneurs' bespoke strategies and possibly those from comparable cultural backgrounds. In addition to the introduction section 1, this paper is organized as follows. Section 2 is the literature review and the development of this

study's model and hypotheses. Section 3 is the method used in this study. Section 4 highlights the analysis, Section 5 is the discussion and finaly Section 6 is conclusion.

2. Literature Review, Model and Development of Hypotheses

2.1 User Perceptions of ChatGPT

User perceptions of ChatGPT involve numerous vital features underlying individuals' views and interrelationships with the AI tool. Users assess ChatGPT based on its availability, ease of use, influence on their lives, endorsement by others, trustworthiness, comfort in usage, reliability, contribution to decision-making, inclusive experience, and improvements in productivity and efficiency [15, 16]. Individuals consider ChatGPT a constructive tool that helps them accomplish their goals. They find it easy to use and suitable for several tasks [17]. Users believe that ChatGPT positively influences their lives and are likely to suggest it to others based on their positive experiences [18]. From a user's standpoint, significant factors are trust in the information provided by ChatGPT, its consistency, and the extent to which it contributes to decision-making processes. Ultimately, the users rate their experience with ChatGPT and measure their productivity and efficiency in completing tasks. Together, these represent their overall satisfaction with the tool [19]. According to [10, 11], ChatGPT has a meaningful role in developing individuals' attitudes toward ChatGPT and skill development. [12]'s findings show that, in healthcare sectors, ChatGPT is of positive assistance in decision-making. The findings of scholars, such as [20-22], also confirm ChatGPT's constructive role in counseling and mental health education.

2.2 Trust in ChatGPT

Trust in ChatGPT embraces belief, reliability and confidence in the accuracy and honesty of its information [11]. Users trust that, compared to other sources, ChatGPT compromises pertinent and supportive information they depend on to various extents [23]. Trust is also comprised of faith in the system's capacity to deliver reliable and accurate content [24] consistently. Moreover, users' satisfaction with ChatGPT's information is crucial in developing their trust in the system. Eventually, trust in ChatGPT is a multidimensional factor that imitates users' perceptions of its helpfulness, reliability, and consistency in providing valuable information [25]. [6]'s and [7]'s findings demonstrate ChatGPT's positive effects in developing individuals' trust in mental health and medical practices. [26]'s findings underline a positive link between user perceptions, trust in ChatGPT, and psychological well-being. Factors such as performance expectancy, social influence and trust positively predict the users' intentions to use ChatGPT [8, 9].

2.3 Decision Making Perceptions

Decision-making perceptions underline individuals' perceptions of ChatGPT's role in assisting their decision-making processes [12]. This embraces their evaluation of the extent to which ChatGPT benefits them in making informed and timely decisions for as long as they need relevant information and visions [27]. In addition, decision-making perceptions include the individuals' willingness to base their decisions on the endorsements and advice provided by ChatGPT [28]. This feature imitates the level of trust and confidence individuals place in ChatGPT's capability to deal with valuable and consistent proposals that can be represented with a pledge [29]. In a nutshell, decision-making

perceptions include gauging ChatGPT's efficiency in backing informed decision-making and to what extent individuals are exposed to trusting its approvals [20]. The findings of scholars, such as [30-34], provide evidence of the substantial contribution made by decision-making in identifying psychological and mental disorders in the healthcare sector. [20]'s and [35]'s findings show that user intentions and perceptions concerning using technology like ChatGPT for self-diagnosis and health-related purposes indicate an increasing interest in innovative healthcare solutions.

2.4 Recognition of Mental Disorders

ChatGPT's recognition of mental health disorders involves the use of its capabilities in various mental health contexts, i.e., diagnosing without always necessitating expert therapists, conditions, and supportive therapy settings [7]. It includes ChatGPT's capability to deliver customized responses to individuals looking for mental health support, enlightening communication and nurturing a deeper consideration of their apprehensions [3]. Moreover, by analyzing conversational patterns and developing specialized therapies over time, ChatGPT aids physicians and counselors in accurately diagnosing mental health illnesses [4]. This innovative approach reimagines individuals' attachments to their thoughts and identifies compassionate paths to recovery that eventually contribute to better mental well-being [5]. As a powerful tool for improving mental health, ChatGPT's potential lies in its ability to improve diagnosis, offer personalized support, and improve communication, transforming mental health care provision [35].

Consequently, in the existing literature, there are several constructs that are the best predictors of the recognition/diagnosis of mental health disorders among a diverse range of individuals [6-12]. These constructs are ChatGPT's ability, user perceptions, communication, decision-making process, trust, reliability, accuracy, confidence, consistency, innovative ideas, ease of use, experience, satisfaction, goal orientation, social influence**,** performance expectancy and users' intentions. However, the existing literature still lacks a constructive single framework that may offer an integrated approach comprising constructs such as user perception in ChatGPT, trust in ChatGPT, and the decision-making process toward the recognition/diagnosis of mental health disorders. Moreover, there remains a need to investigate this matter fully among Egyptian entrepreneurs. Therefore, in this study, the researcher attempts to develop a model (see Figure 1) based on filling the existing gaps in the literature. The proposed model is based on three predictors: user perceptions of ChatGPT, trust in ChatGPT, recognition/diagnosis of mental health disorders, and the linked decision-making process. In this study, the researcher explores these factors among Egyptian entrepreneurs to understand how entrepreneurs use ChatGPT in recognizing/diagnosing psychological and mental health disorders and making their business decisions.

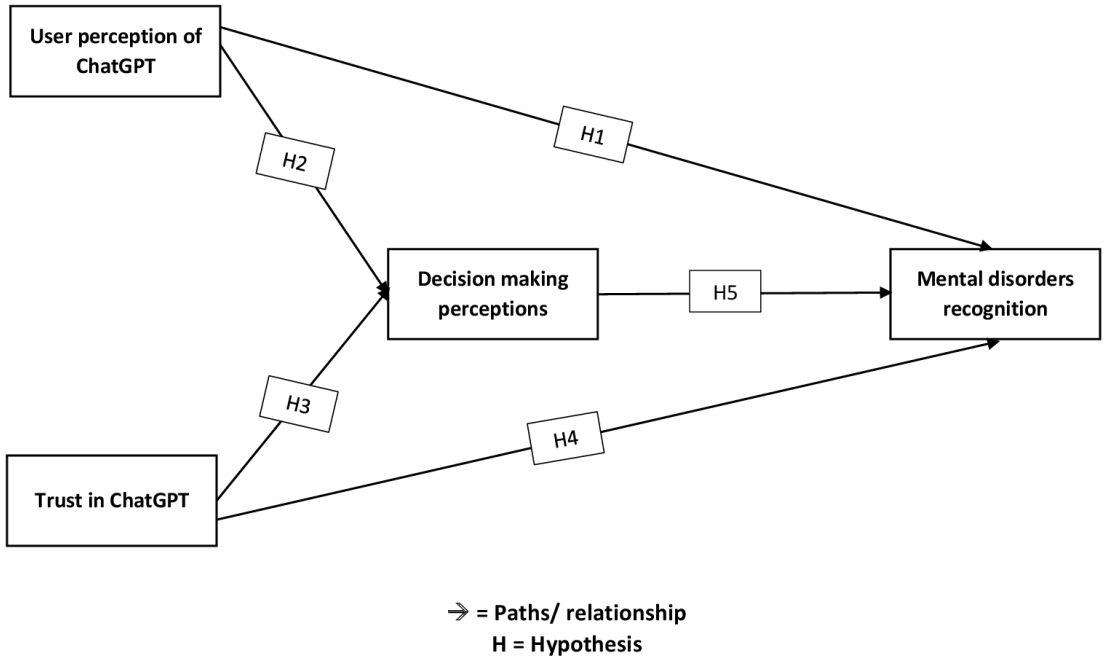

Figure 1 Model of the study. Source: Developed by the researcher.

2.5 ChatGPT User Perceptions, Decision-Making Perceptions, and Mental Disorders Recognition

The use of ChatGPT is favorable for making decisions about the different processes. Users consider ChatGPT-powered decision-making more effective than traditional methods [16]. The findings of [12]'s cross-sectional study about healthcare user perspectives of ChatGPT show positive decision-making. Its health-related purposes are a massive construct in developing user intentions for self-diagnosis [20]. The "digital addiction" in terms of addiction to social media, the Internet, video games, smartphones, and other digital technologies facilitates the development of the base of knowledge [36]. his digital addiction positively enhances academic achievement among students [37]. Similarly, students' perceptions of using ChatGPT in counseling and mental health education have enormous benefits [22]. They know ChatGPT is a tool that significantly improves user acceptance [21]. Likewise, [10]'s findings show the development of healthcare students' attitudes through using ChatGPT. [11]'s findings demonstrate people's trust in healthcare information from Google and ChatGPT.

ChatGPT is a valuable tool that is easy to use and positively impacts people's lives. [22]'s findings show that students' perceptions of using ChatGPT in counseling and mental health education provide benefits, such as accessibility and anonymity, and that it helps to address challenges such as privacy concerns. According to [26], there are positive connections between user perceptions, trust in ChatGPT, stereotypical perceptions, and their impact on self-esteem and psychological well-being. Significant insights can be obtained from the quality and potential risks of using ChatGPT for mental health and substance abuse education. The findings of qualitative studies by scholars, such as [6, 7], prove through users' experiences and perceptions ChatGPT's effectiveness in delivering mental health support [8]'s findings show that factors, i.e., social influence and performance expectancy can positively enhance the users' intentions to use ChatGPT. When comparing perspectives on schizophrenia recovery among generative AI, [5]'s findings demonstrate that the views of mental health experts and public members substantially affect perceptions of AI in mental

health treatment. In the same vein, [38]'s findings demonstrate, on the one hand, that ChatGPT's use improves the accuracy of therapeutic dialogue systems; this confirms its potential to enhance AI-driven mental health involvements. On the other hand, [39]'s findings argue that ChatGPT is not yet ready to be used due to ethical concerns about its accuracy in evaluating mental health problems and treatments and insinuations. [40]'s findings show that ChatGPT-based AI technology in campus psychological counseling potentially provides positive benefits. Lastly, [19]'s findings establish a connection between trust and personality traits and the General Attitudes towards Artificial Intelligence Scale (GAAIS).

While engaging in a conversation, an intelligent learning prompt can improve the efficiency of the chatbot's action algorithm with an appropriately accurate response to a query. In the case of consultations about skin-related questions, the employment of AI can help the chatbot support the user better. Transferring knowledge into intelligent prompt-based learning and AI-supported visual chatbots can reap more robust and better-focused rewards regarding user engagement and overall satisfaction. This makes the concepts extremely valuable in advancing skin research and healthcare technology [41].

Consequently, the above-mentioned existing literature underlines the positive and meaningful contribution of ChatGPT user perceptions in recognizing mental health disorders. Mental health problems are increasing among young entrepreneurs because of high levels of stress and the risk-bearing nature of their activities. These call for better identification and management. In one of the examinations of processing natural language or, more specifically, conversational agent or ChatGPT, it was possible to point out that the system could help the user identify the symptoms of certain mental health disorders. The favorable opinions observed by users of ChatGPT in different contexts increase optimism that the platform can allow entrepreneurs to express their mental health problems without prejudice. This study indicates how ChatGPT can assist with the promotion of self-awareness of one's mental state and early detection of mental health concerns that enhance an entrepreneur's mental health. Similarly, decision-making is vital in any entrepreneurial business because it can determine its success or failure, especially in an environment characterized by stiff competition. The findings of several studies also prove that ChatGPT can help users make reasonable and logical decisions by supplying them with specific information, proposing choices, and giving opinions without prejudice. The users' perceptions show that ChatGPT is reliable and can be trusted by entrepreneurs when making choices. Therefore, any support ChatGPT can provide for Egyptian entrepreneurs, who may encounter certain cultural, economic, and market factors is helpful.

Therefore, testing these associations, particularly for Egyptian entrepreneurs, helps us understand the relevance and efficiency of ChatGPT in the context of a developing country's cultural and business environment. Moreover, it allows us to gauge the extent to which ChatGPT can serve as a valuable tool to improve Egyptian entrepreneurs' decision-making process, thereby potentially improving their business performance and quality of life. Therefore, the researcher formulated the following hypotheses:

H1. ChatGPT user perceptions positively help to recognize mental health disorders among Egyptian entrepreneurs.

H2. ChatGPT user perceptions positively help Egyptian entrepreneurs to develop their decision-making perceptions.

2.6 Trust in ChatGPT, Decision-Making Perceptions, and Recognition of Mental Health Disorders

Trust in ChatGPT positively enhances healthcare decision-making and affects the users' willingness to rely on its credibility [12]. [42]'s results indicate that user trust plays a positive role in the adoption and use of ChatGPT. This confirms a direct correlation between trust and decision-making perceptions regarding AI technologies (ChatGPT). Likewise, from an empirical investigation of students' perceptions of ChatGPT in academic tasks, [43]'s findings confirm that trust in AI systems can affect educational decision-making processes, such as reliance on AI feedback for learning and grading strategies. Similarly, the findings of [25]'s attempt to develop a framework to understand better trust in AI systems demonstrate the positive connections between trust and decision-making perceptions in AI-assisted settings. User perceptions, trust, and stereotypical perceptions about ChatGPT indicate a massive association between trust, perception, and decision-making outcomes, predominantly on self-esteem and psychological well-being [26]. Moreover, having explored the effects of ethical and quality issues of generative AI, including ChatGPT, on travel decisions, [44]'s findings emphasize that, in the travel industry, trust in ChatGPT substantially affects users' decision-making. Similarly, the effects of AI ChatGPT on travel decision-making show that trust has a meaningful role in ChatGPT in developing travel solutions [45].

This trust is essential in the context of recognizing mental health issues. ChatGPT plays a role in the field of psychiatry and, more specifically, in identifying mental disorders by facilitating the classification of these disorders. In other words, if individuals trust ChatGPT, it can be used efficiently to recognize and diagnose mental health issues [7, 46]. According to [11], health information from sources like ChatGPT supports the development of trust and acceptance of its effectiveness in identifying mental health disorders [11]. According to [9], trust develops ChatGPT's use in making mental health diagnoses. Moreover, as shown by the findings of [8]'s [47]'s and [48]'s empirical investigations, trust positively affects users' intentions to use ChatGPT. This points to the prominence of individuals' reliance on AI for mental health tasks. On the one hand, among students, their attitudes and trust in AI during crises show the dynamics in utilizing ChatGPT to recognize mental health disorders and support mechanisms [49]. On the other hand, [50]'s findings raise concerns about trust in AI-based systems, like ChatGPT, for mental health problems and reflect the potential drawbacks and challenges.

Consequently, the existing literature provides the persuasive contribution made by the trust in ChatGPT, which assists in detecting mental health or psychological disorders. Trust in ChatGPT guides entrepreneurs in making rational decisions. However, the effect of trust in ChatGPT on detecting mental health disorders and making decisions still needs to be confirmed among Egyptian entrepreneurs. Therefore, to confirm these, the researcher formulated the following hypotheses:

H3. Trust in ChatGPT helps Egyptian entrepreneurs develop their decision-making perceptions.

H4. Trust in ChatGPT positively helps to recognize mental health disorders among Egyptian entrepreneurs.

2.7 Decision-Making Perceptions and Recognition of Mental Health Disorders

Mental health disorders can be recognized through decision-making perceptions in the context of mental healthcare. [51]'s findings underline the prevalent impact of implicit and explicit stigma relating to mental illness and underscore its detrimental influences on clinical care. This stigma can

affect individuals' attitudes and behaviors towards mental health services and inspire their engagement in shared decision-making processes [52]. In addition, having explored user intentions and perceptions concerning the use of technology like ChatGPT for self-diagnosis and health-related purposes, the findings of scholars, such as [20, 35], explore an increasing interest in innovative healthcare solutions. The findings of numerous scholars' studies of the healthcare profession demonstrate decision-making's predictive and positive effect in diagnosing psychological and mental health disorders [30-34]. Moreover, the transformation towards recovery-oriented care underlines the reputation of evolving decision-making paradigms within mental health services to align them with recovery-oriented principles [34, 53].

Consequently, the literature mentioned above confirms decision-making perceptions' substantial and meaningful role in identifying mental health disorders. However, in the presence of perceptions and trust in ChatGPT constructs, three remains the need to confirm among Egyptian entrepreneurs the association between decision-making perceptions and the identification of mental health disorders. Therefore, the researcher formulated the following hypothesis:

H5. Decision-making perceptions positively help in recognizing mental disorders among Egyptian entrepreneurs.

3. Methods

3.1 Approach and Respondents

In this study, the researcher applied quantitative methods and, more particularly, focused on the deductive approach since it is the best and most constructive one for business, medicine, management, and social sciences [54]. Quantitative research is beneficial when accuracy in measuring variables, assessment of frequencies and numbers, and numerical data and statistical results are relevant to the study's objectives [55]. Deductive reasoning complements this approach by providing a methodological validation of this study's hypotheses either from the existing literature or by using a theory that is relevant to the research [56]. Similarly, the characteristics of quantitative data ensure that the findings are very reliable since they can be easily verified through other research tools that employ quantitative data. Accordingly, these enhance this study's credibility [57]. The researcher can strengthen the argument for choosing a quantitative approach and deductive reasoning for this study by explaining how these methods enhance these goals, why it is possible to gather quantitative data, and how the findings can be precise and statistically informed. Moreover, the researcher followed the same approach as previous scholars, such as [6-12], when they examined the role of ChatGPT in different aspects of psychology and medicine.

In this study, the researcher targeted, as respondents, Egyptian entrepreneurs since it is well known that, despite providing constructive contributions to the field of entrepreneurship, they experience significant mental health challenges. Consequently, they use ChatGPT to diagnose the symptoms of their mental health disorders [13, 14]. Furthermore, the recruitment of Egyptian entrepreneurs for this study required me to engage people with proven use of ChatGPT and the skills to apply it in identifying their mental health disorders. This task involved me reaching out to them through professional connections, social media, personal email invites, and a pre-screening questionnaire about their awareness of ChatGPT and mental health uses. Other requirements relating to the selection process included minimum usage of ChatGPT in the last six months, a

minimum of once per week, and evidence of use in mental health, and that the respondents had to be Egyptian entrepreneurs.

3.2 Questionnaire and Data Collection

The researcher employed a questionnaire to collect the data. The survey is adopted from the field literature. Before distributing the final questionnaire to gather large-scale data, the researcher conducted a pilot study to ensure its reliability and validity. In this regard, 18 sample sizes were used to ensure these critical aspects. The researcher warranted the questionnaire's reliability by calculating Cronbach's alpha (α) and factor loadings. Consequently, the questionnaire's overall reliability is 0.857, which is above the required reliability (>0.70), and the reliability of each factor is also above the required values (>0.70). In addition, the loading scores' values are more significant than 0.70, which is acceptable—turning to the questionnaire's validity. The researcher sent the questionnaire to two university professors for their consideration; one was an expert in SEM analysis, and the other was a field expert closely associated with digital technology in medicine. The experts suggested minor comments about the questionnaire's design and content. In addition, the researcher sought feedback from the respondents since the researcher wished to know if they had any difficulty understanding the language and the theme of the questionnaire. Regarding the questionnaire's validity, the experts and respondents suggested minor changes, which the researcher included in the final version. Consequently, the researcher distributed a questionnaire (reliable and valid) to gather large-scale data.

The ethical committee of the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia, approved the questionnaire under project grant KFU241050.

After that, the researcher used online and offline modes to collect the data. The researcher used a convenience sampling strategy to target Egyptian entrepreneurs and collected the online data by sending an electronic link to the questionnaire through emails, WhatsApp, and Facebook groups. In addition, the researcher visited different areas where Egyptian entrepreneurs engaged in various entrepreneurship activities. In doing so, the researcher informed the respondents about this study's aim and objectives, and the researcher obtained signed consent forms from them, in which they acknowledged their voluntary participation and willingness to contribute to this study. The researcher respected the respondents' ethical values and assured them of the confidentiality and privacy of their responses. Finally, the researcher was able to collect 332 valid samples and proceeded to analyze them.

3.3 The Full Collinearity Test

As [58, 59] recommended, the researcher conducted a full collinearity test to calculate vertical and lateral collinearity. The researcher applied a Variance Inflation Factor (VIF) vital aspect to examine this critical aspect. With Common Method Bias (CMB), a VIF more significant than 3.3 suggests extreme collinearity, while its score equal to or less than 3.3 indicates no presence of CMB. As shown in Table 1, the VIF values for this study's latent variables underline that there is no assumption of CMB since all the scores are less than 3.3.

Table 1 Full collinearity VIF.

Construct	VIF [<3.3]
User perception of ChatGPT	2.472
Trust in ChatGPT	1.772
Decision-making process	2.520
Mental disorders recognition	1.698

Note: Common method bias.

Source: Calculated by the researcher.

3.4 Measures

The researcher borrowed all the items from domain literature, where the user perception of ChatGPT was measured on ten items. These items are adopted from [19]. The researcher applied ten items [25] to measure trust in ChatGPT. Moreover, the decision-making process construct is gauged by adopting two items from the investigation [20]. Finally, the researcher used six items [35] to evaluate the mental disorders recognition construct. The researcher applied a five-point Likert scale "(1 = strongly disagree; 2-disagree; 3 = neutral; 4 = agree and 5 = strongly agree)" to measure all the items. The details of all scale items are provided in the appendix below.

4. Analysis

The researcher applied the Statistical Package for Social Sciences (SPSS) version 27 to assess the demographic profile of the respondents. The data shows most are men (n = 210 or 63.25%) compared to women (n = 122 or 36.75%). Age indicators suggest most respondents (n = 136 or 40.96%) are 26-35, while a minimum number of respondents (n = 6 or 1.81%) are above 56. Turning to educational background, most respondents (n = 157 or 47.29%) were bachelor's degree holders, while only 0.91% (n = 3) were doctorate holders. Moreover, most respondents (n = 97 or 29.22%) have 4-4 years of experience, whereas only 12.65% (n = 42) have less than one year of experience. Furthermore, 36.75% (n = 122) use ChatGPT weekly, while 11.14% (n = 37) are used rarely. Regarding technology proficiency, 51.81% (n = 172) were proficient, while only 9.63% (n = 32) had low technology skills or proficiency (see details in Table 2).

4.1 Respondents' Profile

Table 2 Respondents' profile [332].

Indicator	Category	Frequency and %
Gender	Male	210(63.25%)
	Female	122(36.75%)
Age [years]	18-25	36(10.84)
	26-35	136(40.96)
	36-45	106(31.93)
	46-55	48(14.46)
	56 and above	06(1.81)

Education background	High school diploma	62(18.67)
	Associate degree	58(17.47)
	Bachelor's degree	157(47.29)
	Master's degree	52(15.66)
	Doctorate degree	03(0.91)
Entrepreneurial experience (years)	<1	42(12.65)
	1-3	63(18.97)
	4-6	97(29.22)
	7-10	72(21.69)
	>10	58(17.47)
Frequency of ChatGPT usage	Daily	65(19.58)
	Weekly	122(36.75)
	Monthly	52(15.66)
	Occasionally	56(16.87)
	Rarely	37(11.14)
Technology proficiency	Very proficient	40(12.05)
	Proficient	172(51.81)
	Moderate	88(26.51)
	Low	32(9.63)

Source: researcher's survey.

4.2 Measurement Model

The researcher used two steps to measure the model. In the first step, the researcher measured the model's reliability based on items and construct levels. Pursuing [60]'s recommendations, the researcher ensured three main aspects: namely, Composite Reliability (CR), factor loadings, and Average Extracted Variance (AVE). According to [60], the AVE values must be above 0.50, and the CR and factor loadings must be above 0.70. In this respect, the AVE values for all constructs are above the suggested values (>0.50); CR's values are also above 0.70. Likewise, while most items are loaded above the recommended values (>0.70), a few items, such as UPN4, UPN6, UPN9, TRT2, TRT5, TRT9, and MDR4, do not meet the requirements. There are a few reasons why these items have not been loaded. Firstly, these items were poorly worded or ambiguous, making the responses inconsistent and unreliable. Also, they may not be closely related to the measured construct, and therefore, their relevance and loading values may be reduced. Other participants gave different meanings or associations to these items. Their responses could also have to do with inconsistency. For instance, the factor loading s could be influenced by random errors in sample statistics, round or more minor variations in the observations, and properties such as high inter-item correlation in the items. Furthermore, very tricky or simple items may limit the variability in responses. Differences in culture or context may lead to the item having different meanings, thereby reducing the item's association with the latent factor. Therefore, the researcher excluded these items to increase the measure's reliability and validity. Moreover, the researcher observed the internal consistency among the items (Cronbach alpha); this is also within fair scores (>0.70) [60] (see Table 3). In the second step, the researcher use Discriminant Validity (DV) to measure the extent of the constructs' differences from the pragmatic standards. The researcher applied the [61] test to certify

the DV [62] (see Table 4). DV shows the level to which a construct is genuinely distinct from other constructs within the model. Also, DV certifies that a construct measures what it is expected to measure, not something else. This checks that constructs, which are supposed to be unconnected, are, in fact, distinct. In this study, the correlation coefficient among the key constructs ranges between 0.222 and 0.491. This range is lower than the AVE's square root, ranging from 0.591 to 0.735.

Table 3 Measurement model.

Construct	Code	Loadings	CR	AVE	Alpha (α)
User perception of ChatGPT [UPN]	UPN1	0.856	0.934	0.668	0.853
	UPN2	0.843			
	UPN3	0.826			
	UPN5	0.811			
	UPN7	0.806			
	UPN8	0.796			
	UPN10	0.782			
Trust in ChatGPT [TRT]	TRT1	0.870	0.932	0.695	0.839
	TRT3	0.869			
	TRT4	0.843			
	TRT6	0.821			
	TRT8	0.805			
	TRT9	0.792			
Decision making perceptions [DMP]	DMP1	0.892	0.848	0.736	0.741
	DMP2	0.823			
Mental disorders recognition [MDR]	MDR1	0.836	0.898	0.638	0.866
	MDR2	0.827			
	MDR3	0.806			
	MDR5	0.784			
	MDR6	0.736			

Source: Calculated by the researcher.

Notes: Deleted items = UPN4; UPN6; UPN9; TRT2; TRT5; TRT9; MDR4; CR = Composite reliability; AVE = Average variance extracted; α = Cronbach's alpha.

Table 4 Discriminant validity.

Constructs	MDR	DMP	UPN	TRT
MDR	***0.735***			
DMP	0.222	***0.591***		
UPN	0.491	0.391	***0.652***	
TRT	0.316	0.289	0.238	***0.619***

Source: Author's calculations.

4.3 Structural Model

Model fitness: Model fitness is necessary to observe the model fitness with the data [63, 64]. In relation to the model's indicators, the CMIN = χ^2/chi-square values used to measure the statistical power of the test are insignificant. This demonstrates the model's early fitness with the current data (Chi-square = 4.542 or <5.0). Likewise, all other model fit elements, such as NFI (0.944), CFI (0.909), TLI (0.921), GFI (0.876), AGFI (0.922), RMSEA (0.055) and SRMR (0.067), are within acceptable scores [65] (see Table 5).

Table 5 Model fitness.

Model fit indices	Existed values [required values]
Chi-square/df	4.542 [<5.0]
NFI	0.944 [>0.90]
CFI	0.909 [>0.90]
TLI	0.921 [>0.90]
GFI	0.876 [>0.85]
AGFI	0.922 [>0.90]
RMSEA	0.055 [<0.08]
SRMR	0.067 [<0.08]

Source: Calculated by the researcher.

Note: "CMIN = χ^2 = Chi-square; *df* = degrees of freedom; GFI = goodness-of-fit index; NFI = normed fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual".

Hypotheses assessment: In terms of evaluating this study's hypotheses, the results, presented in Table 6 and Figure 2, show that UPN has a positive effect on MDR and DMP (H1 = Estimate = 0.441; CR = 3.949; $p < 0.01$; H2 = Estimate = 0.231; CR = 3.662; $p < 0.01$). Therefore, hypotheses H1 and H2 are accepted. Likewise, the analysis has established that TRT DMP and MDR have positive and significant effects of (H3 = Estimate = 0.154; CR = 5.075; $p < 0.01$; H4 = Estimate = 0.314; CR = 4.779; $p < 0.01$). Therefore, hypotheses H3 and H4 are accepted. Finally, DMP does not negatively affect MDR (H5 = Estimate = -0.026; CR = 0.383; $p > 0.01$). Therefore, hypothesis H5 is not supported.

Table 6 Hypotheses estimations.

H.No	Effects	Estimate	SE	CR	P-value	Assessment
H1	UPN → MDR	0.441	0.112	3.949	0.000	*Supported*
H2	UPN → DMP	0.231	0.063	3.662	0.000	*Supported*
H3	TRT → DMP	0.154	0.030	5.075	0.000	*Supported*
H4	TRT → MDR	0.314	0.066	4.779	0.000	*Supported*
H5	DMP → MDR	-0.026	0.067	0.383	0.702	*Not supported*

Source: Author's calculations.

Note: UPN = User perception of ChatGPT; TRT = Trust in ChatGPT; DMP = Decision making

perceptions; MDR = Mental disorders recognition; SE = standard error; CR = critical ratio; $p < 0.05$.

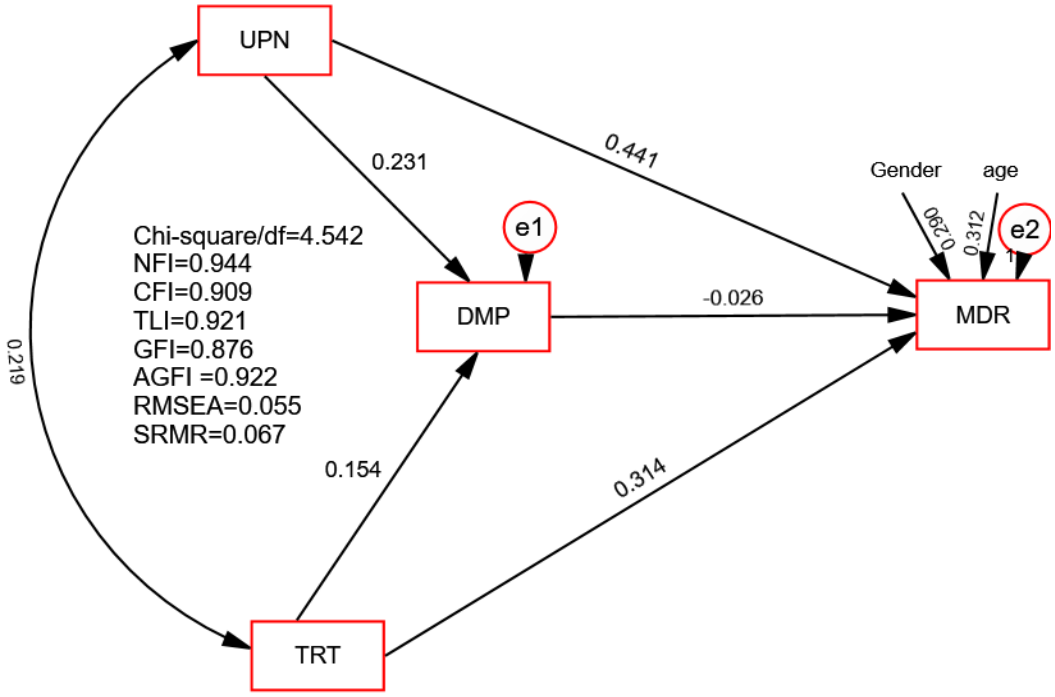

Figure 2 Path model. Note: UPN = User perception of ChatGPT; TRT = Trust in ChatGPT; DMP = Decision-making perceptions; MDR = Mental disorders recognition; SE = standard error; CR = critical ratio; $p < 0.05$.

5. Discussion

In this quantitative study, the researcher aimed to investigate ChatGPT's contribution to recognizing mental health disorders among Egyptian entrepreneurs and associated decision-making entrepreneurs. Having tested its hypotheses, this study's findings show that user perceptions of ChatGPT have a positive effect on the recognition of mental health disorders and the decision-making process. These findings are consistent with previous studies by scholars such as [6, 7, 10-12, 16, 20-22, 26]. This study's findings demonstrate that Egyptian entrepreneurs find ChatGPT a beneficial tool that makes it easy to review diverse mental health disorders. They firmly believe that ChatGPT has a massive impact on their daily routines. Entrepreneurs always recommend the advantage of learning ChatGPT to others since they trust that ChatGPT conveys trustworthy and accurate information. They find it a reliable source of information and feel comfortable using it for several tasks and objectives. They do not make the most of their decisions regarding their health and business through ChatGPT. Based on their experience, they rate ChatGPT highly. They do not believe that ChatGPT has positively improved their productivity and efficiency in completing several tasks.

Moreover, as reinforced by the existing literature [7-9, 11, 25, 26, 43-46, 50], this study's findings confirm that trust in ChatGPT positively affects the recognition of mental health disorders and the decision-making process. On the one hand, this study's findings show that Egyptian entrepreneurs immensely trust ChatGPT's information. They have faith that ChatGPT delivers a reliable and

accurate source of information. They are confident in the information supplied by ChatGPT and that it is the most relevant to them. Moreover, they are pleased with the delivery of trustworthy information through ChatGPT. It is the most helpful and supportive way to detect and diagnose different issues relating to business or healthcare. Compared to other sources of information, ChatGPT provides more authentic and valid knowledge that is usually based on research. This assumption of ChatGPT provides more satisfaction for Egyptian entrepreneurs who rely on ChatGPT to detect their mental health issues.

On the other hand, as reinforced by the existing literature [20, 30-33, 35, 51], this study's findings do not confirm that the decision-making process positively influences the recognition of mental health disorders. More clearly, these negative results occurred in different contexts, such as healthcare professionals in Norway [30], the United Kingdom (UK) [33], and the United States of America (USA) [51]. These negative findings demonstrate that ChatGPT does not provide Egyptian entrepreneurs sufficient support to make timely decisions. Furthermore, they are unwilling to make decisions based on the suggestions provided by ChatGPT. They consider ChatGPT unhelpful in mental health-related settings such as the identification of mental health diseases. Short of the essential need for expert therapists, ChatGPT may not offer customized responses to those individuals seeking therapy. Counselors and physicians may not diagnose their patients' disorders more precisely by recognizing a person's casual patterns and creating specialized therapies over time. By using ChatGPT to its total capacity, they may not reconnect with their previous judgments and discover sympathetic paths to recovery. From their standpoint, ChatGPT does not have the potential to be a powerful tool to refine mental health and well-being issues. When they use it, they may not increase their meaningful communications.

This study has a few limitations. The researcher used only quantitative methods in this study and convenience sampling both online and offline to collect the cross-sectional data only from Egyptian entrepreneurs. Also, the researcher used only a few constructs, such as user perception of ChatGPT, trust in ChatGPT, decision-making process, and recognition of mental health disorders. In addition, this study uses only direct relationships rather than indirect (mediating) and moderating effects. Finally, the researcher did not use a concerned theory to support this study's findings or reinforce its conceptualization.

In the future, the researcher recommends that longitudinal studies be conducted based on this study's model to examine ChatGPT's contribution. The researcher recommends that future studies cover a more comprehensive range of participants, such as academicians, managers, and health professionals. In addition, the researcher recommends that these studies include other constructs, such as commitment, satisfaction, personality traits, and performance, along with direct, mediator moderator aspects to examine ChatGPT usage. Finally, the researcher recommends that larger sample sizes be used to improve the validity of these studies' findings.

6. Conclusion

In summary, this study's overall findings show that Egyptian entrepreneurs' perceptions of ChatGPT positively affect the recognition of mental health disorders and the decision-making process. On the one hand, trust in ChatGPT provides meaningful assistance in recognizing mental health disorders and the associated decision-making process. On the other hand, the decision-making process does not play any significant role in detecting mental disorders.

The study provides implications for policy and practice, as this study's findings assist policymakers in providing a feasible and effective ChatGPT service that helps individuals address their apprehensions related to psychological or mental health problems. Consequently, trust and user perceptions positively improve the ability to make decisions and contribute to detecting mental health disorders. Therefore, since patients and others can benefit from recognizing their disease symptoms, planners should be encouraged to use ChatGPT to achieve effective productivity and efficiency. ChatGPT also provides valid and reliable decision-making avenues for businesses and other sectors. Therefore, planners and information technology departments may focus on the availability and access of every entrepreneur to improve their businesses and production within their respective countries' economies. As recommended and highlighted in similar previous studies, AI design should emphasize aspects such as being transparent in their capacities and restrictions, management of bias, and privacy concerns. While using AI in the first consultation and prevention efforts is beneficial, it harms the decision-making process in identifying mental health disorders; this confirms that AI should supplement the expert decision-making process. Therefore, the development of AI support strategies should be aimed at constructing the integrative- and interactive model whereby AI improves the work of healthcare providers and directs the user to the self-diagnosis tool and educational information together with feedback and ethical oversights. Moreover, this study's findings will help Egyptian entrepreneurs adopt ChatGPT in their decision-making process. In addition, ChatGPT can provide reliable mental health resources to Egyptian entrepreneurs and support their mental health, and such opportunities can be used to increase general awareness of mental health issues. Policymakers should integrate ChatGPT into the framework of entrepreneurial support. Across the healthcare sector, ChatGPT can assist with different means of patient communications and make different tasks more accessible and efficient. For instance, on the one hand, Egyptian entrepreneurs can use ChatGPT to mimic customer interactions, to create marketing content, and research the market or industry. On the other hand, healthcare practitioners can use ChatGPT to manage patients' inquiries and provide preliminary mental health guidance.

This study's theoretical implications provide an effective and constructive model that integrates user perception of ChatGPT, trust in ChatGPT, decision-making processes, and recognition of mental health disorders. Furthermore, this study's empirical evidence encourages other researchers to adopt this technique to examine ChatGPT's contribution in different contexts and with different respondents. By demonstrating that ChatGPT is a massive contributor to the digital world, this study's findings contribute to the existing literature on information technology, health, management, and psychology. This study's findings add to the existing literature by illustrating the importance of incorporating AI, such as ChatGPT, for mental health and associated decision-making and purposes. To the best of my knowledge, this study's findings offer new AI insights into the strategic importance of using ChatGPT in recognizing Egyptian entrepreneurs' mental health disorders and decision-making. Similarly, this study's findings point out that AI may be used to fill the existing gaps in poorly resourced environments. Therefore, this study's findings offer new theoretical insights into AI's global place to mental health issues and business management.

Appendix

User perception of ChatGPT [19]

- I find ChatGPT to be a useful tool.
- I find ChatGPT to be easy to use.
- I believe that ChatGPT has a positive impact on my life.
- I would recommend ChatGPT to others.
- I trust the information provided by ChatGPT.
- I find ChatGPT to be reliable.
- I feel comfortable using ChatGPT for various tasks.
- ChatGPT contributes to my decision-making process.
- I have good experience with ChatGPT.
- ChatGPT improved my productivity and efficiency in completing tasks.

Trust in ChatGPT [25]

- I trust the information provided by ChatGPT.
- I believe that ChatGPT provides accurate information.
- I think that ChatGPT is a reliable source of information.
- I have confidence in the information provided by ChatGPT.
- I trust ChatGPT to provide information that is relevant to me.
- I believe that ChatGPT provides trustworthy information.
- I have faith in the information provided by ChatGPT.
- I often find the information provided by ChatGPT to be helpful.
- I rely on ChatGPT for information compared to other sources.
- I am satisfied with the information provided by ChatGPT.

Perception of Decision Making [20]

- ChatGPT helps me make informed and timely decisions.
- I am willing to make decisions based on the recommendations provided by ChatGPT.

Diagnosis of Mental Health Disorders [35]

- ChatGPT may be used in several mental health-related contexts, such as diagnosing mental diseases or supporting treatment sessions.
- Without the need for expert therapists, ChatGPT may provide individualized replies catered to people seeking therapy.
- Also, physicians and counsellors might diagnose their patients' illnesses more accurately by recognizing a person's conversational patterns and constructing specialized therapies over time.
- By using ChatGPT to its total capacity, we may reimagine how we connect with our interior thoughts and discover sympathetic paths to recovery.
- ChatGPT has the potential to be a powerful tool for improving mental health and well-being.
- When utilized properly, it may improve communication.

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Author Contributions

Abdelwahed NAA developed all the sections.

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Competing Interests

The author declares no competing interests exist.

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