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Predicting Attitudes Toward Seeking Psychological Professional Help Based on the Health Belief Model with the Mediation of Stigma in Adolescents with Depressive Symptoms

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A B S T R A C T

The aim of this study was to assess a model of significant antecedents of attitudes toward professional help-seeking to gain a more comprehensive understanding of this construct. This model examines the role of variables within the Health Belief Model, including perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and self-efficacy, as well as stigma, in relation to attitudes toward seeking psychological professional help. The sample consisted of 200 students from Yasuj city, selected through random sampling. Research instruments included the Perceived Susceptibility Scale (HBMI), the Perceived Severity Scale (PHQ-9), the Perceived Benefits of Treatment Scale (TGM), the Perceived Barriers to Treatment Scale (PBQ), the General Self-Efficacy Scale (GSES), the Stigma Scale (STIGMA-9), the Attitudes Toward Seeking Professional Psychological Help Questionnaire (short form) (ATSPPH-SF), and the Beck Depression Inventory-II (BDI-II). The proposed model was analyzed using structural equation modeling and data were analyzed through path analysis with the bootstrapping method, employing SPSS v.24 and Smart PLS v.4 software. In this study, 56% of participants were male and 46% were female. Among the 200 statistical samples, 13 participants (6.5%) were aged 13, 51 participants (25.5%) were aged 14, 56 participants (28.0%) were aged 15, and 35 participants (17.5%) were aged 16. Only 16 participants (8.0%) were aged 17. The results indicated that all model indices were at an acceptable level, and the model showed a good fit with the data, as indicated by indices such as SMRS = 0.051 and NFI = 0.844. Moreover, the findings revealed that all correlation coefficients, except for perceived barriers, were significant. Therefore, the proposed model demonstrated that perceived susceptibility, perceived severity, perceived benefits, and self-efficacy had a positive and significant relationship with professional psychological help-seeking attitudes, mediated indirectly by stigma. The findings of this study suggest that addressing stigma can facilitate attitudes toward seeking professional psychological help. These results can draw the attention of health professionals and school teachers to the necessity of enhancing literacy and awareness about stigma, particularly among adolescent students.

Keywords: *Depression, Health Belief Model, Perceived Susceptibility, Perceived Severity, Perceived Benefits, Self-Efficacy, Stigma, Help-Seeking Attitudes*

1. Introduction

Statistics indicate that nearly half of individuals with symptoms of depression do not use mental health services (1). This issue persists even in developed countries. In an Australian sample, although 50% of these individuals had access to treatment, they did not receive the minimum adequate dose, and approximately only one-third of patients with depressive symptoms received the minimum adequate dose for treatment (2). This imposes socioeconomic costs and irreversible consequences on individuals, families, and society (3, 4). However, people often rely on themselves to manage symptoms and mental health problems, preferring to solve issues independently or seek support from non-professional, informal sources such as friends, acquaintances, and religious leaders (5). Help-seeking and the lack thereof, as well as the factors influencing it, have been of great interest to researchers in recent years, with a large volume of research focusing on these factors (6, 7).

Findings from such research indicate that the strongest predictor of seeking psychological treatment is an individual's attitude toward seeking formal and professional psychological help (8). This reflects the individual's evaluation of whether the behavior is favorable or unfavorable (9, 10). According to the theory of planned behavior, attitudes can indirectly influence help-seeking behavior through intentions (11-13) and serve as a precursor to the intention and, ultimately, the actual help-seeking behavior (14). Therefore, improving attitudes toward help-seeking is the first step in promoting greater help-seeking behaviors, which cannot be achieved without examining the related and influential factors.

An individual's attitude toward psychological help-seeking can be influenced by various factors, including mental health literacy (15), individual factors such as stigma associated with mental illness (16), the type of service provided by mental health services (17), the individual's psychiatric history and diagnoses, and the role of family (18). Preferences for self-managing symptoms and subsequent skepticism about the usefulness of help-seeking have also been identified (19).

Another set of variables that can influence an individual's attitude toward psychological help-seeking, and which are addressed in this study, are components of the Health Belief Model. These include perceived susceptibility to conditions, perceived severity, perceived benefits of treatment, perceived barriers to seeking treatment, self-efficacy, and cues to action. Perceived susceptibility in the context of mental health refers to the degree to which individuals believe they are sensitive or vulnerable to psychological problems, which is closely related to problem recognition, as those who do not recognize a problem are unlikely to perceive themselves as susceptible (20). Insufficient awareness of a problem is hypothesized to underlie the general non-use of mental health services (21). Evidence suggests that individuals who lack awareness of psychological health problems or do not recognize symptoms as treatable are unlikely to seek help (22, 23). Studies have shown that individuals with a high perception of susceptibility are more likely to take preventative actions (24, 25).

Another related factor is perceived severity, which refers to the extent to which people believe that a problem has serious consequences and disrupts daily functioning (20), as well as self-assessment of performance (26). Psychological distress does not necessarily co-occur with impaired functioning, but when distress and impaired functioning coincide, it may signal that professional attention is required, affecting attitudes toward seeking professional hel(27)p (Kious, 2002). A study showed that most students seeking counseling and psychotherapy experienced a decline in academic and social performance (28).

Perceived benefits of treatment, which include the belief that treatment will effectively reduce symptoms, are also influential. Positive attitudes and beliefs about seeking help from mental health professionals and disclosing information in their presence are linked to the expectation that treatment will be effective (29). However, this belief in treatment efficacy influences subsequent treatment engagement (3) and impacts the individual's attitude toward seeking help.

Perceived barriers to treatment are another variable addressed in this study. Research has shown that perceived barriers to seeking help from professional sources may be physical, financial, or psychological. A significant psychological barrier is stigma (30-32). Several studies have identified barriers related to affordability, preference for self-management, previous negative treatment experiences, shame, and mental health literacy (33-36).

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Self-efficacy is another variable explored in this study. Research has demonstrated that self-efficacy is related to attitudes toward psychological help-seeking (20). Beyond perceived benefits of treatment and the belief that treatment will alleviate distress, individuals must believe in their ability to make psychological and behavioral changes, which is termed self-efficacy (29, 37). Self-efficacy refers to an individual's belief in their ability to influence psychological health outcomes (38). People must have the belief and ability to seek help before doing so, and studies have shown that this subsequently affects attitudes toward psychological help-seeking (20). Self-efficacy has a positive correlation with professional psychological help-seeking attitudes, especially among those facing significant treatment barriers (11-13).

Some variables are not explicitly stated in the Health Belief Model, but numerous studies have demonstrated their impact on professional psychological help-seeking. They indirectly influence professional help-seeking attitudes (20, 39, 40). For instance, stigma, which is examined in this study, is often associated with reduced professional help-seeking (11-13, 41). Research has shown that mental health stigma consistently has a small to moderate negative impact on help-seeking (6). Mental health stigma refers to others' negative perceptions that a person with a mental illness or someone seeking mental health services is unacceptable and undesirable (42-45). People have a negative perception of those seeking mental health services (28), which acts as a significant barrier to early diagnosis and leads to delays in help-seeking (46). Internalization of society's imposed concepts and fear of negative consequences lead to decreased self-worth, discrimination, feelings of humiliation, and lowered self-esteem (47).

According to Gastengois and colleagues (2016), "stigma should be given more consideration when examining professional help-seeking among individuals with depressive symptoms." There is limited research on stigma as a mediator, but it has been linked to related endogenous and exogenous variables. Thus, this study aims to answer the question: Considering the mediating role of stigma, to what extent can the Health Belief Model variables—perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and self-efficacy—predict help-seeking attitudes among high school students in Yasuj?

2. Methods and Materials

2.1. Study Design and Participants

The study population in this research included all male and female middle and high school students aged 13 to 17 in Yasuj city during the 2024–2025 academic year. The sample size was determined based on the number of questionnaire items. According to James Stevens (1995) and Kline (1990), and using the formula $5q<n<15q$ where q is the number of observed variables or questionnaire items and n is the sample size, the required range was met. Furthermore, Kline (2011) suggests that sample sizes for studies using structural equation modeling should be around 200. Considering the number of variables studied, the approximate sample size was set at 200.

To select the sample, a list of middle and high schools in Yasuj city and surrounding villages was prepared. Ten schools were then randomly selected. The study sample included students aged 13 to 17. Participants had to exhibit moderate to severe depression, as indicated by the Beck Depression Inventory-II (BDI-II), to be eligible for the study. Based on the BDI-II scoring, scores from 20 to 28 indicate moderate depression, while scores from 29 to 63 indicate severe depression. Thus, male and female students scoring above 20 on the BDI-II, indicating moderate to severe depression, were included in the study.

To achieve this, approximately 1,250 male and female students within the specified age range completed the five questionnaires following the necessary guidelines. After scoring and reviewing the questionnaires, 200 students meeting the eligibility criteria and necessary conditions for study participation were selected and moved to the next phase of the study. To ensure trust and honest cooperation, before administering the questionnaires, participants were provided with explanations about the content, nature, and purpose of the questionnaires, emphasizing the confidentiality and anonymity of their information.

2.2. Measures

2.2.1. Perceived Susceptibility

Perceived susceptibility to symptoms was assessed using the Health Belief Model Scale for psychological disorders (Saleeby, 2000). To tailor the scale specifically for

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depressive disorders, modifications were made by the researcher. Participants indicated their level of agreement with each of the five statements on a 4-point Likert scale, ranging from 0 (strongly disagree) to 3 (strongly agree). The original scale by Saleeby (2000) measures an individual's perception of symptoms and conditions. It was revised and adapted to focus on depressive disorders. The scale consists of 5 items rated on a 4-point Likert scale. Previous studies by Langley et al. (2018) and Saleeby (2000) demonstrated evidence of content, construct, and predictive validity, as well as good internal consistency reliability (ranging from 0.76 to 0.96). Langley et al. (2021) found an internal consistency reliability with a Cronbach's alpha of 0.93 (26, 34). In Iran, Saboteh and Hossein (2013) used Cronbach's alpha to assess the questionnaire's reliability, reporting an overall reliability of 83.7%, indicating good reliability.

2.2.2. *Perceived Severity*

Developed by Kroenke et al. (2002) to measure symptom severity in individuals, this scale consists of 5 items indicating the severity of symptoms. It uses a 4-point Likert scale, with responses ranging from 0 (never) to 3 (almost every day). The minimum score is 9, and the maximum score is 36, with scores of 10 or above indicating major depression with 88% sensitivity (48). Previous studies with two different populations have shown good validity, criterion validity, and internal consistency reliability (ranging from 0.86 to 0.89; same source).

2.2.3. *Perceived Barriers to Treatment*

Developed by Langley et al. (2018) to measure factors that might hinder future professional psychological help-seeking, this scale was revised by the researcher to focus on depressive disorders. It contains 5 items, with participants indicating their level of agreement on a 4-point Likert scale from 0 (strongly disagree) to 3 (strongly agree). Langley et al. (2018) reported a Cronbach's alpha of 0.89, indicating good reliability (34). In Iran, Saboteh and Shahnazi (2013) used Cronbach's alpha to assess reliability, reporting an overall reliability of 83.7%, indicating good reliability.

2.2.4. *Perceived Benefits*

This scale was developed by Zane et al. (2005) to measure perceived benefits of treatment, attitudes, and beliefs about the importance of focusing on certain issues and problems in therapy. To make the items specific to depressive disorders, they were revised and modified by the researcher. It includes 5 items (e.g., "How important is it that treatment helps you reduce your depression symptoms?"), scored on a 4-point Likert scale from 0 (strongly disagree) to 3 (strongly agree). Factor analysis by Zane et al. indicated that all items reflect multiple treatment benefits, with higher scores indicating greater perceived benefits (29). In a study by Kim and Zane (2015), some terms were modified, and a Cronbach's alpha of 0.98 was reported, indicating good reliability (49).

2.2.5. *Self-Disclosure Expectations*

Developed by Vogel and Wester (2003), this subscale measures attitudes toward the benefits of self-disclosure to a counselor. It includes 4 items (e.g., "Would you feel better if you revealed your feelings of sadness?"), rated on a 5-point Likert scale from 1 (never) to 5 (very much). Vogel and Wester reported a reliability coefficient of 0.83, indicating good reliability (45). In Iran, Saboteh and Shahnazi (2013) assessed the reliability of this scale using Cronbach's alpha, which was 83.7%, demonstrating good reliability.

2.2.6. *General Self-Efficacy*

Developed by Schwarzer and Jerusalem (1995) to measure participants' self-efficacy, this scale consists of 10 items scored on a 4-point Likert scale from 1 (not true at all) to 4 (exactly true). Positive statements include items such as "I am confident that I can handle unexpected events." The scale shows good internal consistency, ranging from 0.76 to 0.90, and provides evidence of good construct validity (same source) (50).

2.2.7. *Stigma*

Developed by Greig et al. (2018) to evaluate an individual's perceptions and beliefs about the stigma associated with treatment for depression, this questionnaire uses a 4-point Likert scale, ranging from 0 (disagree) to 3

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(agree). The scale was modified by the researchers to focus specifically on depression. Previous studies by Craig et al. (2018) demonstrated good content, convergent, and discriminant validity, as well as an internal consistency of 0.88.

2.2.8. *Attitudes Toward Seeking Professional Psychological Help*

Developed by Fischer and Farina (1995) to measure individuals' attitudes toward seeking professional help during times of crisis or distress, this 10-item, single-component scale is a shortened version of the original 29-item, four-component scale developed by Fischer and Turner (1970). The short form is one of the most commonly used scales for assessing attitudes toward receiving psychological services (9, 10). The items are rated on a 4-point Likert scale from 0 (strongly disagree) to 3 (strongly agree). Five items (items 2, 4, 8, 9, and 10) are reverse-scored, and the scores are summed to calculate the total score. Higher scores indicate more positive attitudes toward seeking psychological services. Researchers have shown a high correlation between the original and short forms (r = 0.78) and a test-retest reliability coefficient of 0.80 over a one-month interval. Construct validity is supported by a positive correlation with previous use of psychological help. Vogel and Wester (2006) reported an internal consistency of 0.82. In Iran, Abbasi and Beiranvand (2019) found suitable face and content validity, with a Cronbach's alpha of 0.76 (51).

2.2.9. *Depression*

Originally developed by Beck et al. (1961) to measure the severity of depression in individuals aged 13 to 80, the Beck Depression Inventory (BDI-I) underwent major revisions in 1996 to cover a wider range and align more closely with the diagnostic criteria for depressive disorders in the Diagnostic and Statistical Manual of Mental Disorders. The BDI-II consists of 21 items used to measure feedback and symptoms commonly observed in depressed individuals. Items are scored on a 4-point Likert scale, covering areas such as sadness, pessimism, feelings of helplessness and failure, guilt, sleep disturbance, appetite loss, self-dislike, and more. Two items address affect, eleven address cognition, two address overt behaviors, five address somatic symptoms, and one addresses interpersonal symptomatology. This scale assesses varying degrees of depression, from mild to very severe, with a score range of 0 to 63 (52). In a study by Taheri et al. (2014), internal consistency was assessed using Cronbach's alpha and split-half reliability, yielding coefficients of 0.93 and 0.64, respectively. Convergent validity was reported at 0.80, indicating good validity and reliability (53).

2.3. *Data Analysis*

The data analysis for this study was conducted using structural equation modeling (SEM) with the partial least squares (PLS) approach. This method allows for the simultaneous evaluation of measurement models and structural relationships among latent variables. The analysis included assessing model fit through various indices such as convergent validity, discriminant validity, and reliability. Convergent validity was evaluated using average variance extracted (AVE) values and factor loadings, with a threshold of 0.5 and 0.7, respectively. Discriminant validity was assessed using the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio, ensuring that constructs were distinct. Reliability was verified through Cronbach's alpha and composite reliability (CR), with acceptable thresholds set at 0.7. Path coefficients, t-values, and p-values were calculated to test the hypotheses, using a 95% confidence interval. Additionally, predictive relevance was assessed using the Stone-Geisser Q^2 criterion, with values above 0 indicating predictive adequacy. All analyses were performed using SmartPLS software.

3. Findings and Results

The respondents were divided into two gender groups: male and female. Out of the total sample of 200 participants, 111 (55.5%) were male and 89 (44.5%) were female. Among the 200 participants, 13 individuals (21.0%) were aged 13, 51 individuals (25.5%) were aged 14, 56 individuals (28.0%) were aged 15, and 35 individuals (17.5%) were aged 16. Only 16 individuals (8.0%) were observed in the 17-year-old age group.

Model analysis using structural equation modeling with the partial least squares (PLS) approach consists of two main stages: model fit assessment and hypothesis testing. The model fit assessment includes three parts: measurement model fit, structural model fit, and overall model fit.

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Convergent validity is examined at two levels: indicator and construct. At the indicator level, factor loadings are considered, with a criterion value of 0.4 for suitability. In the analysis of the research model using standardized coefficients, all factor loadings exceeded 0.4, confirming convergent validity at the indicator level. Table 1 shows the outer loadings for the research conceptual model.

Table 1

Outer Loadings of Research Constructs

Research Variables	Number of Items	Questions in Model	Factor Loadings
Perceived Susceptibility	5	q1	0.847
		q2	0.800
		q3	0.859
		q4	0.743
		q5	0.825
Perceived Severity	5	q6	0.842
		q7	0.818
		q8	0.768
		q9	0.761
		q10	0.832
Perceived Benefits	5	q11	0.842
		q12	0.859
		q13	0.851
		q14	0.833
		q15	0.849
Perceived Barriers	4	q16	0.786
		q17	0.801
		q18	0.840
		q19	0.824
Self-Efficacy	5	q20	0.758
		q21	0.814
		q22	0.751
		q23	0.763
		q24	0.753
Stigma	5	q25	0.808
		q26	0.838
		q27	0.833
		q28	0.849
		q29	0.847

Table 1 displays the outer loadings corresponding to each construct. The acceptance criterion for an item is an outer loading above 0.4, with further consideration given to items between 0.4 and 0.7. Based on the outputs above, all outer loadings for the items corresponding to each construct are above 0.7, indicating an excellent model fit in terms of outer loadings.

The second criterion for evaluation is internal consistency reliability. The traditional measure for internal consistency is Cronbach's alpha, which estimates reliability based on the intercorrelation of observed indicator variables. Cronbach's alpha assumes equal reliability among all indicators (i.e., all indicators load equally on the construct). However, PLS-SEM prioritizes indicators according to their individual reliability. Moreover, Cronbach's alpha is sensitive to the number of items per index and tends to underestimate internal consistency reliability. A value above 0.7 is considered adequate.

Table 2

Cronbach's Alpha Values for Research Constructs

Research Variables	Cronbach's Alpha
Stigma	0.891

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Perceived Susceptibility	0.880
Self-Efficacy	0.826
Perceived Severity	0.864
Perceived Benefits	0.902
Perceived Barriers	0.829
Attitude Toward Professional Psychological Help-Seeking	0.955

Based on the results in Table 2, Cronbach's alpha values are greater than the criterion of 0.7, confirming the acceptability of this index.

Due to the limitations of Cronbach's alpha, it is permissible to use another measure for internal consistency reliability, referred to as composite reliability (CR). This measure takes into account the varying outer loadings of the indicator variables. The appropriate value for this measure is 0.7.

Table 3

Composite Reliability Values for Research Constructs

Research Variables	Composite Reliability
Stigma	0.920
Perceived Susceptibility	0.908
Self-Efficacy	0.878
Perceived Severity	0.902
Perceived Benefits	0.927
Perceived Barriers	0.886
Attitude Toward Professional Psychological Help-Seeking	0.963

Based on the findings in Table 3, composite reliability values for all variables are greater than 0.7, confirming the acceptability of this index.

To assess convergent validity at the construct level, the average variance extracted (AVE) index is used. The minimum acceptable value for this index is 0.5, according to Fornell-Larcker (1981), and 0.4, according to Magner et al. (1996).

Table 4

Average Variance Extracted (AVE) Values for Research Constructs

Research Variables	AVE
Stigma	0.697
Perceived Susceptibility	0.665
Self-Efficacy	0.590
Perceived Severity	0.648
Perceived Benefits	0.717
Perceived Barriers	0.661
Attitude Toward Professional Psychological Help-Seeking	0.787

Based on the results in Table 4, the AVE values for all model variables are greater than the criterion of 0.5, confirming the acceptability of this index.

The conceptual model of this research, along with the outer loadings and path coefficients, is shown below.

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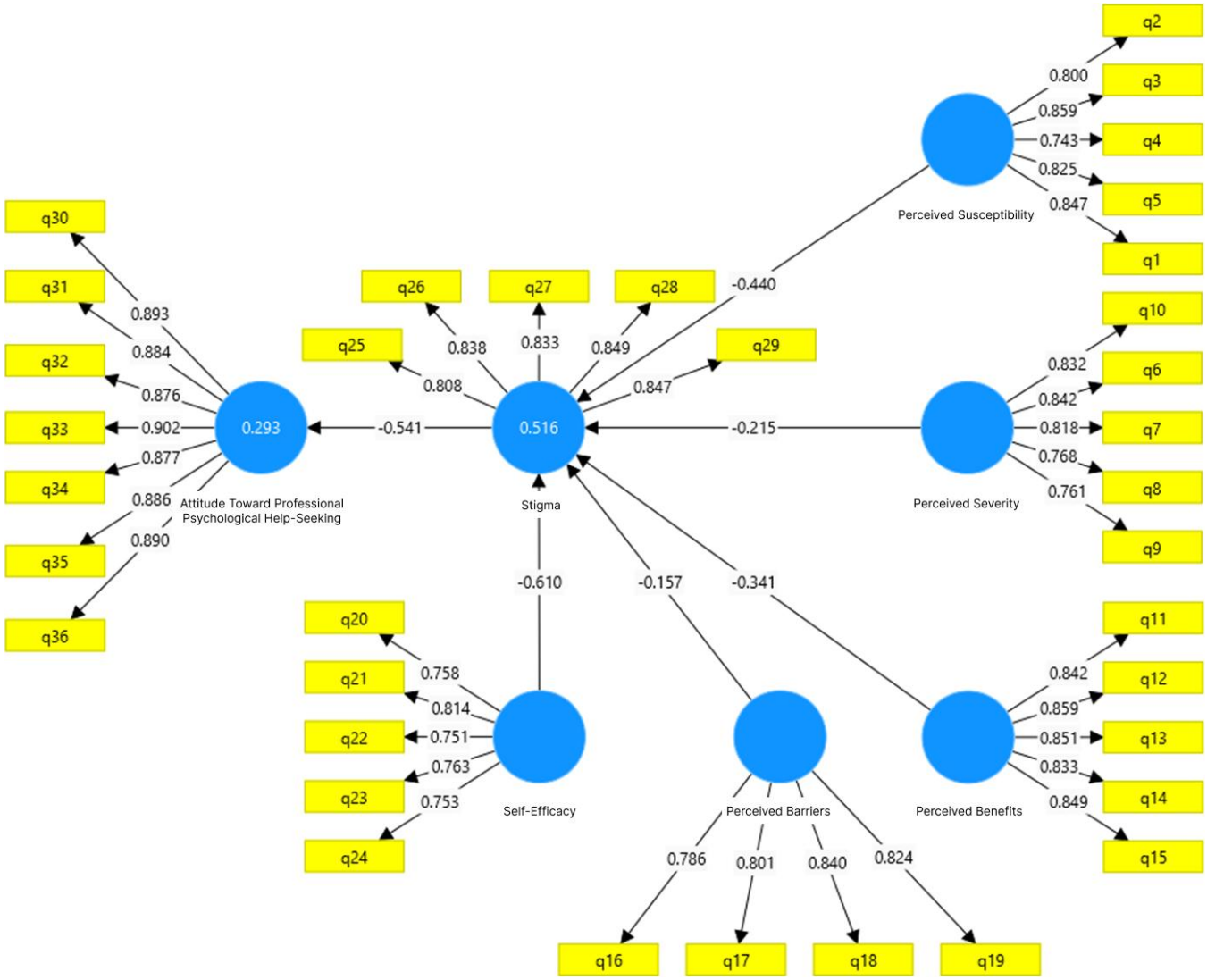
Figure 1

Conceptual Model of the Research with Path Coefficients and Outer Loadings



Next, after reviewing the indices of the measurement models, we assess the fit of the structural model of the research's conceptual model.

Two methods can be used to evaluate discriminant validity: the HTMT index and the Fornell-Larcker criterion. Discriminant validity measures the extent to which a construct is truly distinct from other constructs based on empirical criteria. Thus, establishing discriminant validity indicates that the construct is unique and is not represented by other constructs in the model. Two measures are suggested for assessing discriminant validity. One method is to evaluate the cross-loadings of indicators. Specifically, the outer loading of an indicator corresponding to a construct should be higher than all its loadings on other constructs (cross-loadings). The presence of cross-loadings exceeding the outer loading of an indicator indicates an issue with discriminant validity. This criterion is relatively lenient for assessing discriminant validity.

The Fornell-Larcker criterion is a more conservative approach to assessing discriminant validity. This criterion compares the square root of the average variance extracted (AVE) with the correlations among latent variables. Specifically, the square root of each construct's AVE should be greater than the highest correlation between that construct and any other construct in the model (or, equivalently, the AVE should be greater than the squared correlation between that construct and others). The rationale is that a construct should share more variance with its indicators than with other constructs.

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Table 5

Fornell-Larcker Criterion

Variable	1	2	3	4	5	6	7
Stigma (1)	0.835						
Perceived Susceptibility (2)	0.122	0.816					
Self-Efficacy (3)	-0.571	-0.333	0.768				
Perceived Severity (4)	-0.403	-0.563	0.408	0.805			
Perceived Benefits (5)	-0.231	-0.389	-0.116	0.296	0.847		
Perceived Barriers (6)	-0.359	-0.667	0.377	0.55	0.433	0.813	
Attitude Toward Professional Psychological Help-Seeking (7)	-0.541	-0.301	0.57	0.738	-0.036	0.328	0.887

The square root of the average variance extracted (AVE) is shown on the diagonal, with the correlations between constructs listed below. For example, the reflective construct "Public Service Motivation" has a value of 0.835 for the square root of its AVE, which must be compared to all correlations in the "Public Service Motivation" column. To apply the criterion, correlations for both the rows and columns must be examined. Generally, the square root of the AVE for the reflective constructs listed in the table above is greater than the correlation between these constructs and other latent variables in the path model. Overall, the Fornell-Larcker criterion provides evidence of discriminant validity for the constructs.

In addition to discriminant validity based on the Fornell-Larcker matrix, this research also assessed discriminant validity for the measurement models using the HTMT method. For discriminant validity analysis, indicator loadings for each construct should be higher compared to loadings on other constructs. Results from the analysis of the measurement model show that the HTMT index values for all constructs are lower than 0.85.

Table 6

HTMT Discriminant Validity Results

Variable	Stigma	Perceived Susceptibility	Self-Efficacy	Perceived Severity	Perceived Benefits	Perceived Barriers
Perceived Susceptibility	0.120					
Self-Efficacy	0.659	0.390				
Perceived Severity	0.451	0.646	0.483			
Perceived Benefits	0.254	0.435	0.158	0.329		
Perceived Barriers	0.416	0.781	0.459	0.647	0.505	
Attitude Toward Professional Psychological Help-Seeking	0.585	0.327	0.643	0.810	0.050	0.368

Based on the Fornell-Larcker matrix and the HTMT index, the correlations of the indicators with their corresponding variables were confirmed, supporting discriminant validity.

Table 7

Significance Coefficients for Each Research Question

Research Variables	Number of Items	Questions in Model	Significance Coefficients
Perceived Susceptibility	5	q1	4.414
		q2	4.757
		q3	5.631
		q4	3.841
		q5	4.598
Perceived Severity	5	q6	39.517
		q7	34.396
		q8	21.797

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		q9	19.540
		q10	33.456
Perceived Benefits	5	q11	28.790
		q12	36.859
		q13	34.173
		q14	21.701
		q15	24.873
Perceived Barriers	4	q16	22.397
		q17	24.576
		q18	36.052
		q19	26.572
Self-Efficacy	5	q20	21.782
		q21	37.851
		q22	21.608
		q23	26.083
		q24	26.384
Stigma	5	q25	34.118
		q26	39.648
		q27	39.477
		q28	46.415
		q29	42.677
Attitude Toward Professional Psychological Help-Seeking	7	q30	74.599
		q31	63.332
		q32	60.557
		q33	72.305
		q34	62.194
		q35	62.544
		q36	75.692

The most commonly used measure for evaluating the structural model is the coefficient of determination (R^2). R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables are considered substantial, moderate, or weak, respectively.

Table 8

R^2 for Endogenous Constructs

Dependent/Endogenous Variables	R^2	Adjusted R^2
Stigma	0.516	0.504
Attitude Toward Professional Psychological Help-Seeking	0.293	0.289

Based on the findings, the R^2 values for all endogenous constructs are above 0.25, indicating an acceptable structural model. The constructs of stigma and attitude toward professional psychological help-seeking have R^2 values of 0.516 and 0.293, respectively, reflecting the strong predictive power of the exogenous variables.

In addition to evaluating the magnitude of R^2 as a measure of predictive accuracy, researchers should consider the Stone-Geisser Q^2 value (Geisser, 1974; Stone, 1974). This metric assesses the predictive relevance of the model. Q^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large predictive relevance, respectively. The results in the table below confirm the model's predictive relevance for the endogenous constructs and support the structural model fit.

Table 9

Q^2 Results for Endogenous Constructs

Dependent Variables	SSO	SSE	Q^2 (=1-SSE/SSO)
Stigma	1000	663.599	0.336
Attitude Toward Professional Psychological Help-Seeking	1400	1079.421	0.229

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A Q^2 value greater than zero indicates that the model has predictive relevance for the endogenous construct. Values at or below zero indicate a lack of predictive relevance. The Q^2 values for the constructs in this study fall within the acceptable range of 0.15 to 0.35, indicating excellent model fit in terms of Q^2.

After assessing the fit of the measurement and structural models, we evaluate the overall fit of the research model. Henseler and Sarstedt (2012) have recently challenged the usefulness of the goodness-of-fit (GOF) index conceptually and empirically. Their study shows that GOF does not effectively separate valid from invalid models in PLS-SEM and is not applicable for formative measurement models. Additionally, GOF fails to penalize parameter overestimation and is thus not recommended by researchers. In general, when using SmartPLS version 3, two model fit indices are considered: SRMR, which should be less than 0.08. In this study, SRMR is 0.051.

Table 10

Model Fit Indices

Model Fit Indices	Acceptable Range	Calculated Value	Conclusion
SMRS	< 0.08	0.051	Model fit confirmed
NFI	> 0.90	0.844	Model fit confirmed

Based on the findings, the SMRS and NFI indices are within acceptable ranges, indicating a very good model fit. Following the analysis of the measurement and structural model fit and, finally, the overall model fit, we can proceed to test the research hypotheses.

Table 11

Results of Rejecting or Accepting the Main Research Questions

Question Number	Title of Sub-Hypotheses	Path Coefficient	S.E	t	p	Result
1	Perceived Susceptibility -> Stigma	-0.440	0.116	3.799	0.000**	Accepted
2	Perceived Severity -> Stigma	-0.215	0.074	2.893	0.000**	Accepted
3	Perceived Benefits -> Stigma	-0.341	0.064	5.315	0.000**	Accepted
4	Perceived Barriers -> Stigma	-0.157	0.100	1.578	0.115	Rejected
5	Self-Efficacy -> Stigma	-0.610	0.064	9.480	0.001**	Accepted
6	Stigma -> Attitude Toward Professional Psychological Help-Seeking	-0.541	0.051	10.606	0.001**	Accepted
7	Health Belief Model Components -> Stigma -> Attitude Toward Professional Psychological Help-Seeking	-0.236	0.089	2.614	0.001**	Accepted

The path coefficient of perceived susceptibility on stigma is -0.440, with a t-value of 3.799, exceeding the critical value of 1.96. Therefore, based on the 95% confidence interval, the first research question is accepted.

The path coefficient of perceived severity on stigma is -0.215, with a t-value of 2.893, exceeding 1.96. Thus, based on the 95% confidence interval, the second research question is accepted.

The path coefficient of perceived benefits on stigma is -0.341, with a t-value of 5.315, exceeding 1.96. Hence, based on the 95% confidence interval, the third research question is accepted.

The path coefficient of perceived barriers on stigma is -0.157, with a t-value of 1.578, which is below 1.96. Therefore, based on the 95% confidence interval, the fourth research question is rejected.

The path coefficient of self-efficacy on stigma is -0.610, with a t-value of 9.480, exceeding 1.96. Thus, based on the 95% confidence interval, the fifth research question is accepted.

The path coefficient of stigma on the attitude toward professional psychological help-seeking is -0.541, with a t-value of 10.606, exceeding 1.96. Consequently, based on the 95% confidence interval, the sixth research question is accepted.

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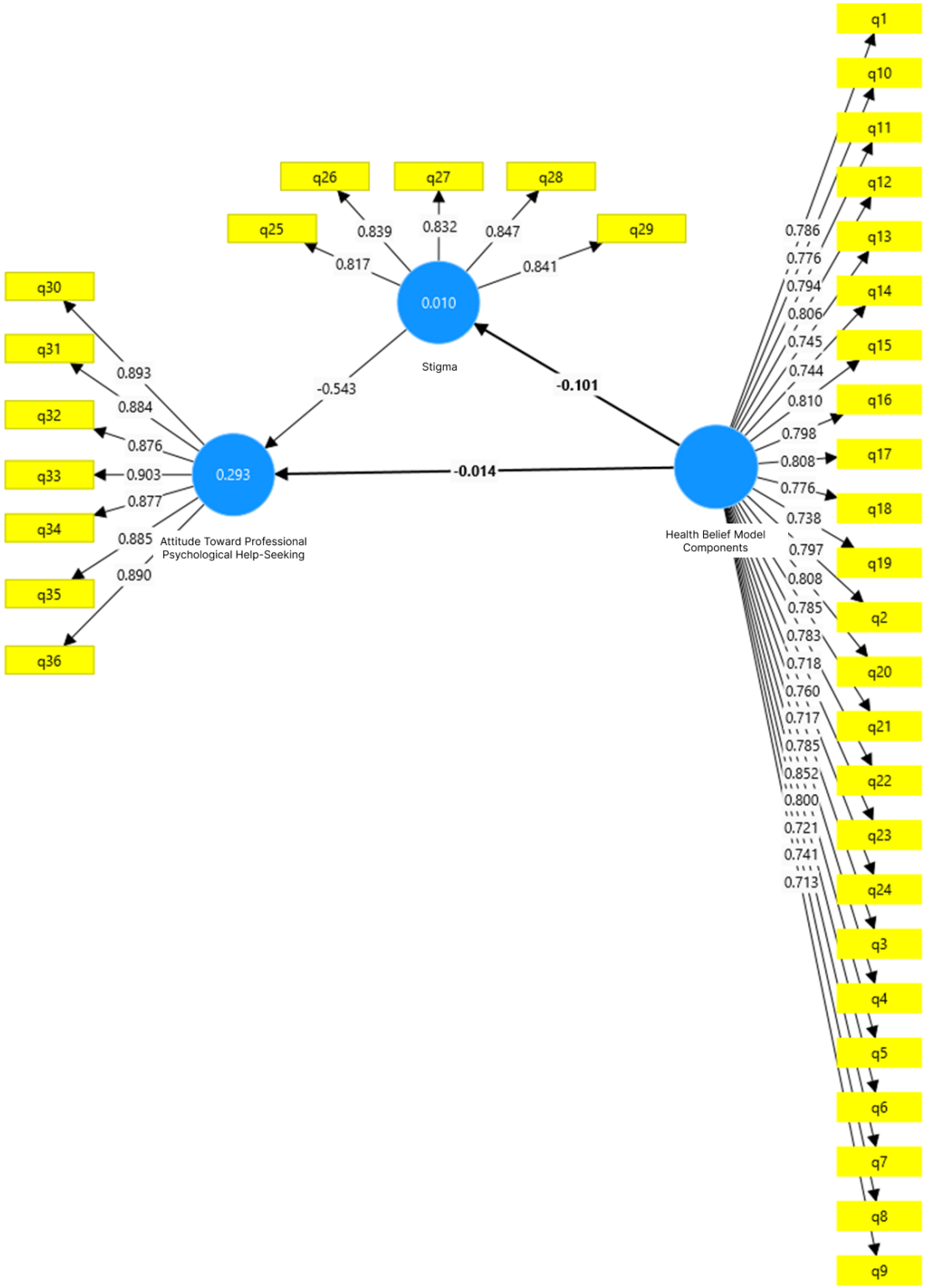
Finally, the results show that the indirect path coefficient is -0.236, with a significant t-value of 2.614, which is higher than the critical value of 1.96. Therefore, we can confirm the mediating role of stigma in this relationship, and the main research question is considered acceptable at a 95% confidence level.

Figure 2

Final Model of the Study with Standardized Coefficients



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4. Discussion and Conclusion

Based on the results of this study, perceived susceptibility has both direct and indirect relationships with attitudes toward professional psychological help-seeking, mediated by stigma. Thus, increasing awareness and sensitivity toward psychological issues can reduce the stigma associated with help-seeking. Specifically, a lack of knowledge about psychological disorders and a failure to promote psychological well-being can exacerbate existing stereotypes and stigma present in cultural contexts. Stigma originates from insufficient awareness and necessary literacy, and it includes concepts and stages where bias is evident. Behavioral bias refers to defending a belief emotionally without logical reason, and when intensified, it aligns with existing stereotypes and prejudices, becoming internalized (54). This finding aligns with prior studies (55-60).

In addressing how stigma mediates the relationship between perceived sensitivity and greater access to professional help-seeking attitudes, it is crucial to highlight the impact of perceived sensitivity on reducing stigma. Previous studies have shown that stigma has a significant emotional and affective component. Stigma can evoke fear, anxiety, and anger, and individuals influenced by stigma may experience guilt, embarrassment, shame, and self-blame (61-64). These experiences can be distressing and impactful. Increasing knowledge about psychological issues and perceived sensitivity can help reduce stigma associated with psychological disorders, enabling individuals to lessen the emotional burden of stigma.

The findings also indicate that perceived severity has a direct relationship with attitudes toward professional psychological help-seeking and an indirect relationship through stigma mediation. Perceived severity reflects an individual's functional impairment, which is a diagnostic criterion for many psychiatric disorders and often indicates the severity of the problem (65). A study showed that such impairments could lead to shame, discrimination, and stigma in patients experiencing depressive or manic episodes (66). As symptom severity and impairment increase, self-stigmatization may occur. Patients often feel ashamed of their depressive symptoms (30-32, 46, 67-69). The impact of perceived severity on attitudes toward professional help-seeking aligns with prior studies (40, 66, 67, 70). Krumrei et al. (2010) found that most students seeking counseling and psychotherapy experienced academic and social performance declines (71). Thus, the degree of distress can be a determinant for seeking treatment; in other words, the decision to seek help may depend on the extent of psychological harm experienced.

Perceived benefits were found to have both direct and indirect relationships with attitudes toward professional help-seeking, mediated by stigma. The belief in the effectiveness of treatment influences subsequent interactions in therapy and impacts individuals' attitudes toward seeking help (72). According to the Disclosure Decision Model (73), individuals assess the benefits and drawbacks of disclosing their problems and consider whether disclosure is necessary for improvement. A significant barrier in this process is stigma, defined as a combination of perceived risk and social distance. Individuals with mental health conditions suffer from the stigma burden daily, and societal or cultural pressures can be overwhelming. Overcoming the effects of stigma may be as challenging as addressing the disorder itself (30-32, 46, 68, 69). Rosenberg et al. (1960) showed that increasing knowledge about psychological issues reduces stigma because a lack of knowledge can exacerbate cultural stereotypes and stigma (54). Thus, by increasing awareness of the benefits of effective treatment, stigma can be reduced. Treatment benefits include improving emotional and psychological well-being, learning new coping skills, enhancing communication and relationships, reducing symptoms of psychological disorders, and fostering self-awareness. Discussing the psychological burden of stigma and offering strategies to address it can make individuals feel more comfortable seeking professional help, reducing the shame or belief that help-seeking signifies weakness.

Perceived benefits were shown to have a significant impact on stigma in this study, though limited previous research exists. However, the study suggests that understanding the extensive benefits of treatment can mitigate the impact of stigma and encourage help-seeking behavior.

Self-efficacy directly affects attitudes toward professional psychological help-seeking and indirectly influences it through stigma mediation. Self-efficacy

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impacts individuals' help-seeking attitudes, especially in situations with significant barriers (11-13). A significant relationship between self-efficacy and attitudes toward professional help-seeking has been confirmed (11). Self-efficacy fosters a positive self-view, allowing individuals to rely on their strengths in challenging situations, reducing stigma's negative impact (74). Despite the significant barrier of stigma, self-efficacy enables individuals to remain proactive. Stigma often refers to the discriminatory or unjust treatment of others and may be described as external or designated stigma (75). Stigma is strongly tied to the concept of power and control (76). While societal power dynamics may impose stigma, individuals with self-efficacy can influence their environments and create change (74). Although society can exert control at a macro level, it cannot control a person's perception of their surroundings. The concept of power depends on one's identity and how one perceives their situation. Even if society labels an individual with stigma, the individual maintains control over their personal experience and environment. Self-efficacy empowers stigmatized individuals to maintain a positive self-view and perform effectively, even in restrictive environments.

A study argued that stigmatized individuals might act in ways consistent with societal stereotypes about them. However, more recent studies refute these findings, showing that stigmatized individuals can resist negative evaluations. Self-efficacy may mitigate the negative effects of stigma (74). It has been suggested that individuals burdened by stigma may not be affected by negative societal perceptions if self-efficacy supports their resilience.

This study has limitations that affect the generalizability of its results. Due to criteria such as specific age groups, the findings may not be applicable to other age ranges or educational levels. Additionally, since the study was conducted among students in Yasuj, caution is needed when generalizing the results to other groups or regions. Given the cultural sensitivity of this research, future studies should be conducted across diverse cultures and regions, and across various age groups and psychological disorders.

Based on the analysis, perceived susceptibility, perceived severity, perceived benefits, and self-efficacy directly predict stigma, which in turn directly predicts attitudes toward professional psychological help-seeking. Furthermore, these variables also indirectly predict attitudes through the mediating effect of stigma.

Authors' Contributions

Not applicable.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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