ORIGINAL RESEARCH

Bagcilar Med Bull 2025;10(3):293-303
DOI: 10.4274/BMB.galenos.2025.09709

Examining the Relationship Between Cognitive Insight and Treatment Adherence in Psychiatric Patients

Psikiyatri Hastalarında Bilişsel İçgörü ile Tedavi Uyumu Arasındaki İlişkinin İncelenmesi

Ece Alagöz[1], Meltem Apaydın[2]

[1]Maltepe University Faculty of Nursing, Department of Nursing, İstanbul, Turkey
[2]İstanbul Arel University Faculty of Nursing, İstanbul, Turkey

Abstract

Objective: The study aimed to investigate the relationship between cognitive insight and treatment adherence among psychiatric patients.

Method: This descriptive, cross-sectional, and correlational study was conducted between February and April 2023 with 140 psychiatric patients in a public hospital in İstanbul. Data were collected using a personal ınformation form, the Morisky medication adherence scale, and the Beck cognitive insight scale. Statistical analyses, including confirmatory factor analysis and structural equation modeling, were performed using SPSS 25.0 and AMOS 24.0.

Results: The expressing oneself subdimension of cognitive insight had a statistically significant positive effect on treatment adherence (β=0.259; p<0.001), indicating that patients with higher expressive ability showed greater adherence. Conversely, the self-confidence subdimension did not have a significant impact (β=0.050; p>0.05). The model explained 10.5% of the variance in treatment adherence.

Conclusion: The ability to express oneself, an important subdimension of cognitive insight, is a significant predictor of treatment adherence in psychiatric patients. Enhancing expressive abilities may improve therapeutic engagement and adherence. However, self-confidence alone does not appear to directly influence adherence in this clinical context. These findings highlight the importance of incorporating insight-focused interventions into psychiatric care.

Keywords: Cognitive insight, psychiatric inpatients, self-confidence, self-reflectiveness, treatment adherence

Öz

Amaç: Çalışmanın amacı, psikiyatri hastalarında bilişsel içgörü ile tedaviye uyum arasındaki ilişkiyi incelemektir.

Yöntem: Tanımlayıcı, kesitsel ve ilişki arayıcı tasarıma sahip bu çalışma, Şubat-Nisan 2023 tarihleri arasında İstanbul'daki bir kamu hastanesindeki 140 psikiyatri hastası ile gerçekleştirilmiştir. Veriler, kişisel bilgi formu, Morisky ilaç uyumu ölçeği ve Beck bilişsel içgörü ölçeği kullanılarak toplanmıştır. İstatistiksel analizlerde SPSS 25.0 ve AMOS 24.0 programları aracılığıyla doğrulayıcı faktör analizi ve yapısal eşitlik modellemesi uygulanmıştır.

Bulgular: Bilişsel içgörünün kendini ifade etme alt boyutu, tedavi uyumu üzerinde istatistiksel olarak anlamlı ve pozitif bir etkiye sahiptir (β=0,259; p<0,001). Bu durum, ifade yetisi yüksek olan hastaların daha yüksek düzeyde tedavi uyumu gösterdiğini ortaya koymaktadır. Buna karşılık, kendine güven alt boyutunun tedavi uyumu üzerinde anlamlı bir etkisi bulunmamıştır (β=0,050; p>0,05). Kurulan model, tedavi uyumundaki varyansın %10,5'ini açıklamaktadır.

Sonuç: Bilişsel içgörünün önemli bir alt boyutu olan kendini ifade etme yetisi, psikiyatri hastalarında tedavi uyumunun anlamlı bir yordayıcısıdır. Bu yetinin güçlendirilmesi, terapötik katılımı ve tedaviye uyumu artırabilir. Ancak, klinik bağlamda yalnızca kendine güvenin doğrudan bir etkisi gözlenmemiştir. Bu bulgular, psikiyatrik bakım süreçlerine içgörü odaklı müdahalelerin dahil edilmesinin önemini vurgulamaktadır.

Anahtar kelimeler: Bilişsel içgörü, kendine güven, öz yansıtma, psikiyatri hastaları, tedavi uyumu

Address for Correspondence: Lec, Ece Alagöz, MD, Maltepe University Faculty of Nursing, Department of Nursing, İstanbul, Turkey
E-mail: ecealagoz@maltepe.edu.tr **ORCID:** orcid.org/0000-0002-4913-0944
Received: 27.07.2025 **Accepted:** 02.09.2025 **Epub:** 05.09.2025 **Publication Date:** 12.09.2025

Cite this article as: Alagöz E, Apaydın M. Examining the relationship between cognitive ınsight and treatment adherence in psychiatric patients. Bagcilar Med Bull. 2025;10(3):293-303

Introduction

Treatment adherence (TA) is a vital factor that directly impacts the progression of illness in psychiatric patients. It significantly influences treatment outcomes, quality of life, and the effectiveness of healthcare interventions provided to the patient. Non-adherence may result in higher hospitalization rates, increased symptom severity, and even a greater risk of suicide (1,2). According to the World Health Organization (3), failure to stick to treatment in severe mental disorders such as bipolar disorder and schizophrenia substantially raises mortality, morbidity, and hospital readmission rates. TA in psychiatric patients has important implications not only for individuals but also for healthcare systems and society at large. Recognizing the impact of non-adherence across these domains promotes the development of strategies to improve adherence and, consequently, outcomes at multiple levels. For individuals, sticking to psychiatric medications is essential for effectively managing mental health conditions. Studies show that non-adherence is common, with nearly half of psychiatric patients not taking their medications as prescribed (4,5). This non-adherence can worsen symptoms, aggravate psychiatric conditions, and heighten the risk of hospitalization and crises (1). Contributing factors include a lack of insight into one's illness, negative attitudes toward treatment, and poor communication with healthcare providers (6). From a healthcare system perspective, treatment non-adherence increases the burden on hospitals and mental health services. Poor adherence frequently leads to more visits to emergency departments and psychiatric wards, boosting healthcare utilization and incurring substantial costs (1,7). Moreover, ineffective management of psychiatric disorders due to non-adherence can cause repeated hospital stays and system instability, complicating mental health service delivery (8). On a societal level, the effects of TA in psychiatric patients are significant. Non-adherence not only affects individual health outcomes but also creates broader societal issues, such as higher unemployment, involvement of mentally ill individuals in the criminal justice system, and increased societal costs linked to untreated mental health conditions (7,8). Patients with psychiatric disorders who do not adhere to treatment might also engage in behaviors that endanger public safety and health. For example, untreated mental illness is linked to higher rates of aggression or self-harm, which can pose risks to both the individual and others (9). Cognitive insight plays an important role in motivating patients to follow their treatment plans. Research indicates that patients with greater insight into their mental health are more likely to recognize the need for medication, which directly relates to better recovery outcomes (10,11). Cognitive insight refers to a person's metacognitive capacity to critically evaluate and reappraise their own distorted beliefs and misinterpretations, and to remain receptive to corrective feedback (12). It encompasses two main components: self-reflectiveness, which reflects openness to re-evaluating one's beliefs, and self-certainty, which refers to overconfidence in one's interpretations. Higher levels of cognitive insight have been linked to increased recognition of illness, stronger motivation to engage in treatment, and improved adherence outcomes (11). Understanding their illness often strongly influences adherence behavior. Conversely, poor insight into psychiatric symptoms tends to decrease motivation for treatment, leading to non-adherence (13). For instance, roughly 50% of patients with schizophrenia show poor insight, which is associated with lower medication adherence and worse recovery and treatment results (13). Cognitive insight involves a person's ability to recognize and correct distorted thoughts and beliefs. It encompasses broader metacognitive skills, including awareness and evaluation of one's own thinking processes (14). For psychiatric patients especially those with schizophrenia or bipolar disorder cognitive insight is key to understanding the need for treatment. Without this insight, patients often deny their illness, resulting in lower adherence to medication and treatment plans (15,16). Although previous studies have looked at the relationship between insight and TA in psychiatric groups, the concept of cognitive insight, characterized by self-reflectiveness and self-certainty, has received limited attention in this area. Self-reflectiveness refers to the individual's capacity to question their own beliefs, consider alternative explanations, and remain open to feedback. For example, patients with higher self-reflectiveness may recognize that their symptoms such as unusual thoughts or perceptual experiences could be part of a mental health condition, leading them to seek clarification from healthcare providers and adhere more closely to treatment (17,18). In contrast, self-certainty reflects a high level of confidence in the accuracy of one's beliefs and interpretations, which may lead to resistance toward contradictory information and treatment recommendations (12). Although general clinical insight has been extensively studied in relation to TA, fewer studies have specifically addressed these two cognitive insight dimensions, particularly in bipolar disorder populations (19). Most research has focused on clinical insight or general symptom awareness, often relying on cross-sectional correlations without

exploring underlying mechanisms or the direction of the relationship. Although several studies have investigated the association between clinical insight and TA (19,20), most have conceptualized insight in broad terms, such as general symptom recognition or awareness of illness, and have predominantly relied on cross-sectional designs. This approach limits understanding of the temporal sequence and underlying mechanisms linking insight to adherence. Furthermore, relatively few studies have examined the specific cognitive insight dimensions self-reflectiveness and self-certainty as predictors of adherence, particularly in bipolar disorder populations (21). Addressing this gap is crucial for identifying targeted therapeutic strategies that can enhance adherence through improvements in these specific cognitive processes. Moreover, studies involving inpatient psychiatric populations, particularly those diagnosed with bipolar disorder, are rare, despite the importance of adherence in this group. Additionally, there is a notable lack of research using advanced statistical methods such as structural equation modeling (SEM) to investigate how aspects of cognitive insight might predict adherence behaviors through both direct and indirect routes. Although the study was open to all psychiatric patients meeting the criteria, all participants admitted during data collection happened to have bipolar disorder. This homogeneity reflects the patient profile of the hospital at that time rather than an initial focus on bipolar disorder inpatients.

The study aimed to investigate the relationship between cognitive insight and TA among psychiatric patients.

Materials and Methods

Study Design and Setting

This descriptive, cross-sectional, and correlational study was conducted from February 20 to April 27, 2023, at the psychiatry clinic of a public hospital, the University of Health Sciences Turkey, Başakşehir Çam and Sakura City Hospital, in İstanbul, Turkey.

Study Population and Sampling

The study population consisted of all psychiatric patients aged 18 years and older who received care in the aforementioned hospital during the study period (n=200). The final sample included 140 patients, selected through purposive sampling based on inclusion and exclusion criteria and voluntary participation.

The sample size was estimated using G*Power 3.1 software. A priori power analysis for a two-tailed correlation test was conducted using a medium effect size (r=0.30), an α level of 0.05, and a power of 0.80, resulting in a minimum required sample of 84 participants. This estimation was based on Cohen's (22) guidelines. The final sample of 140 participants exceeded this minimum, enhancing statistical validity.

Inclusion and Exclusion Criteria

Inclusion criteria for the study were being 18 years of age or older, providing voluntary participation, having a psychiatric disorder diagnosed according to diagnostic and statistical manual of mental disorders-5, receiving oral or parenteral antipsychotic treatment, and having at least six months since diagnosis. Exclusion criteria were having significant visual or auditory impairments, a history of traumatic brain injury or central nervous system infection, or a substance use disorder within the past two months.

Research Hypotheses

H_1: The "expressing oneself" (EO) subdimension of cognitive insight has a positive and statistically significant effect on TA.

H_2: The "self-confidence" (SC) subdimension of cognitive insight has a positive and statistically significant effect on TA.

Data Collection Tools

Data were collected using the following instruments:

1. Personal information form: Created by the researcher based on literature, this form includes 8 items that assess demographic and clinical characteristics such as age, gender, diagnosis, family psychiatric history, and medication responsibility (21).

2. Morisky medication adherence scale (MMAS-4): A 4-item scale developed by Morisky et al. (23) to measure adherence using "yes/no" responses. Adherence is classified as good, moderate, or poor. The scale's Turkish version was utilized, with reported internal consistency (Cronbach's α=0.61). The Turkish adaptation and psychometric assessment for use in individuals with bipolar disorder was performed by Bahar et al. (24), showing satisfactory validity and reliability.

3. Beck Cognitive Insight Scale (BCIS): A 15-item self-report tool developed by Beck et al. (25) to assess cognitive insight through two subscales: Self-reflectiveness and self-certainty. A composite score is created by subtracting self-certainty from self-reflectiveness. The Turkish version and psychometric validation were carried out by Aslan et al. (26).

Data Collection Procedure

Participants were recruited by the researcher during routine ward visits. After obtaining informed consent, the questionnaires were administered face-to-face in a quiet and private setting. The researcher remained present to ensure that questions were understood and answered appropriately.

Statistical Analysis

Data obtained from 140 participants were analyzed using IBM SPSS Statistics version 25.0 and AMOS version 24.0. Descriptive statistics including mean, standard deviation, frequency, and percentage distributions were used to summarize the demographic and clinical characteristics of the sample. Prior to model testing, the normality of data distribution was assessed using Skewness and Kurtosis coefficients. All variables exhibited values within the acceptable range (-1.5 to +1.5), indicating normal distribution. Accordingly, the maximum likelihood (ML) method was selected for parameter estimation in SEM.

A two-tailed significance level of $p<0.05$ was considered statistically significant for all analyses.

Ethical Considerations

The study was approved by the Ethics Committee of İstanbul Arel University, İstanbul, Turkey (approval date: 10 February 2023; approval no: 2023/03). The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. All participants were informed about the purpose, procedures, and voluntary nature of the study, and signed informed consent was obtained. Anonymity and confidentiality were ensured throughout the research process. Data were securely stored and used exclusively for research purposes.

Results

The mean age of the participants was 31.47±7.12 years. Of the total sample, 66.4% (n=93) were female, and 66.4% (n=93) were single. High school graduation was the most common educational level (42.9%, n=60), and 71.4% (n=100) lived in a nuclear family structure. Regarding living arrangements, 51.4% (n=72) lived with parents and siblings. All participants (100%, n=140) were diagnosed with bipolar disorder, and 69.3% (n=97) reported regular medication use. The majority (71.4%, n=100) reported no family history of mental illness. According to the categorical distribution of the medication adherence scale, 47.6% (n=67) demonstrated high adherence, 23.6% (n=33) moderate adherence, and 28.6% (n=40) low adherence.

Confirmatory Factor Analysis (CFA)

Cognitive Insight Scale

The BCIS, consisting of 15 items and two subscales (self-reflectiveness and self-certainty), was subjected to CFA to evaluate construct validity. All item factor loadings were above 0.50, ranging between 0.54 and 0.80, indicating no item removal was required (Figure 1).

Medication Adherence Scale

The MMAS-4, composed of 4 items and a unidimensional structure, was also evaluated using CFA. All factor loadings exceeded 0.50, ranging from 0.52 to 0.86 (Figure 2).

Convergent Validity, Discriminant Validity, and Normality Analysis of the Scale Subdimensions

Composite reliability (CR) values are calculated based on the factor loadings obtained from CFA. A CR value of 0.70 or higher (CR ≥0.70) indicates that the condition for CR has been met. Convergent validity is indicated by the average variance extracted (AVE). For convergent validity to be confirmed, AVE should be at least 0.50 (AVE ≥0.50). However, if CR is above 0.70 for all dimensions, an AVE value of 0.40 or higher is also considered acceptable. To establish discriminant validity, the square root of the AVE for each construct (√AVE), presented in parentheses on the diagonal in Table 1, must be greater than the inter-construct correlation values in the same row and column.

Table 1 presents the reliability and validity values of the scales used in the study. All scales and their subdimensions demonstrated adequate internal consistency (Cronbach's alpha ≥0.70) and met the thresholds for CR and convergent validity. The discriminant validity results confirmed that each construct measured distinct concepts. These results indicate that the instruments were psychometrically sound and suitable for examining the relationship between cognitive insight and TA in the present study.

Normality values of the variables are presented in Table 2. Prior to testing the structural model, the normality of the subdimensions' distribution was assessed through Skewness and Kurtosis coefficients. The values for all variables were found to lie within the acceptable range of -1.5 to +1.5, suggesting that the data followed a normal distribution. Consequently, the ML estimation method was considered suitable for parameter estimation within the model.

Path Analysis of the Structural Equation Model Using Observed Values

In the proposed research model, the effects of the subdimensions of the cognitive insight scale—EO and SC—on the TA score were examined.

In the path analysis model using observed variables, the model fit indices indicated that the model was statistically significant. The chi-square value (χ^2) was 215.55 with 146 degrees of freedom, resulting in a χ^2/df ratio of 1.476, which falls within the acceptable threshold (less than 3), suggesting a good model fit. Furthermore, additional fit indices reinforced the adequacy of the model: The goodness-of-fit index was calculated as 0.920, and the comparative fit index was 0.953—both exceeding the commonly accepted threshold of 0.90, indicating good fit. The standardized root mean square residual was 0.071, and the root mean square error of approximation was 0.059, both within acceptable limits, confirming that the structural model fits the data well (Figure 3).

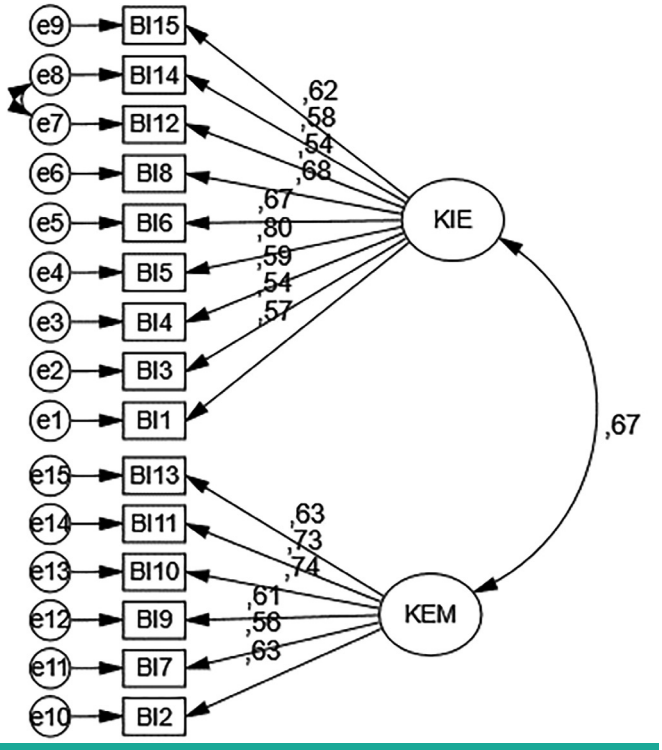

Figure 1. Confirmatory factor analysis structure of the cognitive insight scale

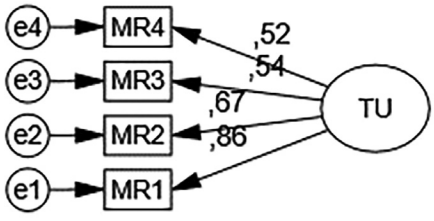

Figure 2. Confirmatory factor analysis structure of the treatment adherence scale

Regression results are presented in Table 3. The following findings were obtained from the model examining the effects of the cognitive insight scale subdimensions on TA:

The EO subdimension had a positive and statistically significant effect on TA (β=0.259; $p<0.05$). This indicates that an increase in EO scores leads to higher levels of TA.

The SC subdimension had a positive but non-significant effect on TA (β=0.050; $p>0.05$), suggesting no statistically meaningful relationship between SC and TA.

The model explained 10.5% of the variance in TA through the EO subdimension (R^2=0.105).

Discussion

This study investigated the effect of cognitive insight—specifically its subdimensions, EO and SC on TA in psychiatric patients diagnosed with bipolar disorder. The findings revealed that only the EO dimension significantly predicted adherence, whereas the SC dimension did not show a meaningful effect.

In psychiatric patients, the way individuals express themselves directly impacts their awareness of the illness, emotional regulation, and social interaction, thereby significantly influencing TA. Expression style helps individuals make sense of their inner experiences (emotions, thoughts, fears) and communicate them to others. As a subcomponent of cognitive insight, the ability to express oneself plays a crucial role in TA. This interaction is influenced by various factors such as communication skills, emotional expression, and the ability to understand and articulate mental health issues. Being able to effectively express emotions and thoughts is essential for establishing a therapeutic alliance between patients and healthcare providers. When patients can communicate their concerns and experiences clearly, healthcare providers gain a better understanding of their perspectives and can develop personalized treatment plans (27). Open communication also helps reduce stigma and encourages TA (28).

Patients who are better at expressing themselves are more likely to cooperate with treatment. Conversely, a lack

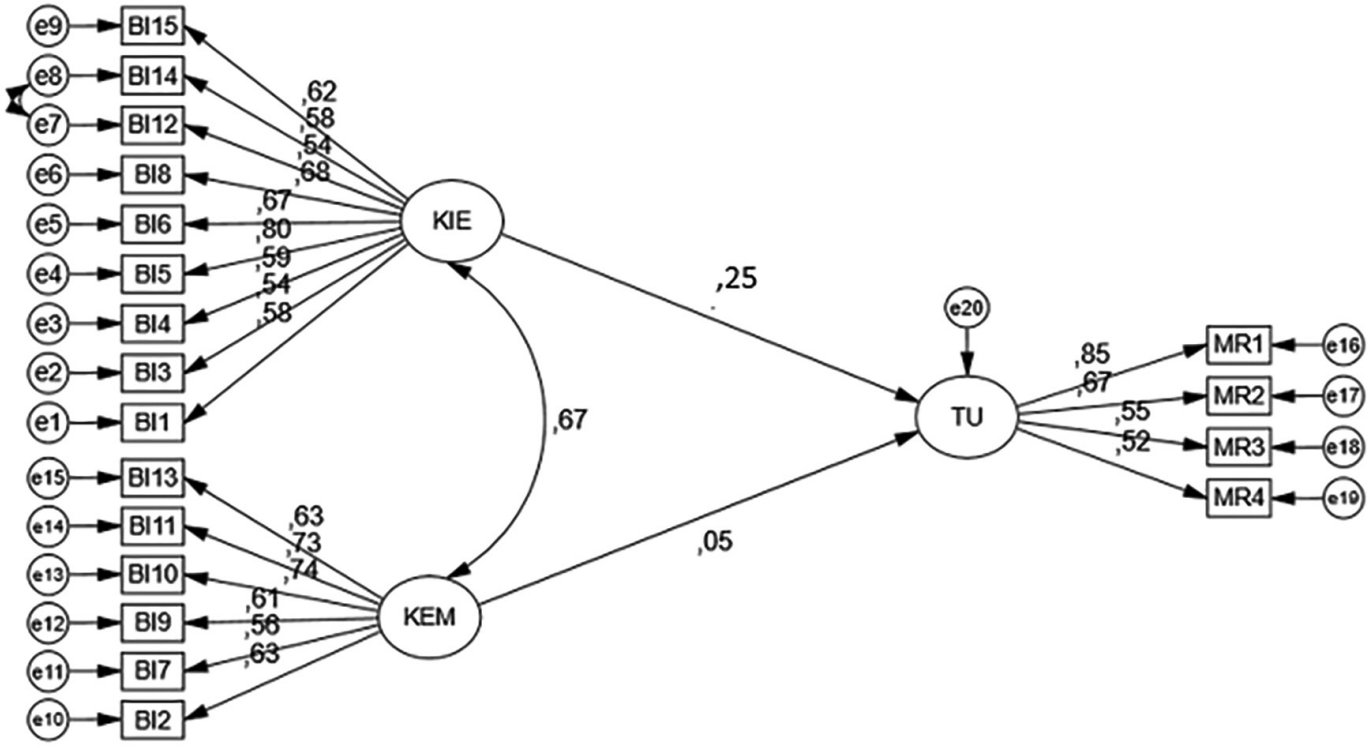

Figure 3. Structural regression model path analysis with observed variables

Table 1. Convergent and discriminant validity values calculated from standardized factor loadings

Dimension	M	SD	EO	SC	TA
EO	2.68	1.08	(0.719)		
SC	2.95	1.20	0.577**	(0.713)	
TA)	1.68	1.18	0.218**	0.015	(0.707)
CA			0.814	0.828	0.737
CR			0.833	0.819	0.713
AVE			0.518	0.509	0.500

**: p<0.01, M: Mean, SD: Standard deviation, EO: Expressing oneself, SC: Self-confidence, TA: Treatment adherence, CA: Cronbach's alpha, CR: Composite reliability, AVE: Average variance extracted

Table 2. Normality analysis of variables in the structural model

Variable	n	Skewness	Kurtosis
Expressing oneself	140	-0.241	-0.889
Self-confidence	140	0.056	-1.090
Treatment adherence	140	-0.874	0.563

Table 3. Significance test of regression coefficients in the model

Independent variable		Dependent variable	Coefficient (B)	Standardized coefficient (β)	Z	p	Hypothesis
EO	→	TA	0.201	0.259	3.868	0.00001***	Accepted
SC	→	TA	0.015	0.05	0.168	0.345	Rejected

***: p<0.001, EO: Expressing oneself, SC: Self-confidence, R^2=0.105

of insight, including difficulties in expressing emotions and thoughts about their condition and treatment, can negatively affect adherence (28). The inability to recognize and articulate personal experiences related to mental health challenges may hinder engagement in treatment. Interventions aimed at increasing insight and enhancing patients' expressive abilities can promote adherence (20). Coping strategies also impact patients' expression styles and adherence. Patients with ineffective coping mechanisms may avoid confronting mental health issues, struggle to express themselves, and thus weaken adherence (6).

Patients who can communicate their needs are more likely to participate in care decisions and follow treatment plans (29). Strong social support systems also support better expression and adherence. Studies show that patients with limited social support and low expressive skills face more difficulties sticking with treatment, highlighting the importance of social support in maintaining participation (30,31). A patient's level of insight the ability to recognize their condition and treatment needs—may also reflect their expressive style. Patients with high self-awareness often clearly express their treatment goals and concerns, promoting adherence (32). Conversely, those with low insight may find it hard to see the value and necessity of treatment, complicating adherence (11,33). As a subcomponent of cognitive insight, expressive ability greatly influences adherence in psychiatric patients. Effective communication fosters a stronger therapeutic relationship with healthcare providers and enhances adherence. Emotional expression, coping strategies, and social support are also believed to affect TA outcomes.

The relationship between self-confidence and lack of insight in psychiatric patients is a complex interaction that significantly impacts adherence and overall mental health outcomes. Self-confidence, defined as an unwavering belief in one's own understanding, beliefs, and perspectives, is generally negatively associated with insight, which refers to recognizing and accepting one's mental illness. When measured with tools like the BCIS, self-confidence typically correlates with lower cognitive insight. BCIS assesses cognitive insight through two main components: Self-reflectiveness (the ability to evaluate oneself) and self-certainty (overconfidence in one's beliefs). Self-confidence involves excessive trust in one's beliefs and resistance to questioning them. Research shows that especially high levels of self-confidence reduce individuals' awareness of their mental state and lower their level of insight (19,34,35). Self-confidence relates to a rigid stance on one's thoughts and perceptions and often leads to resistance against external feedback and corrections. Cooke and colleagues discovered that higher self-confidence scores in patients with schizophrenia correlated with lower cognitive insight, indicating a tendency to ignore evidence that challenges their beliefs (17).

This resistance can hinder therapeutic engagement, as patients might reject treatment suggestions or not recognize the need for adherence. High self-confidence can also suppress the expressive component of cognitive insight, which enables individuals to critically evaluate their thoughts and behaviors. Studies in clinical contexts like first- episode psychosis show that individuals with high self-confidence demonstrate significantly lower expressive ability (18,36,37). This cognitive dynamic can make it harder for individuals to recognize and accept psychotic symptoms, leading to symptom worsening and clinical deterioration (24,38). Research indicates that self-confidence not only weakens cognitive insight but also reinforces maladaptive thought patterns that contribute to emotional dysregulation and are linked to worsening psychiatric symptoms (25). In summary, the relationship between self-confidence and lack of insight in psychiatric patients especially those within the psychotic disorder spectrum is a crucial interaction that complicates treatment. High levels of SC may limit expressive capacity and the ability to recognize mental states, reinforcing cognitive biases that worsen psychiatric symptoms. Addressing these cognitive processes through therapeutic interventions that improve insight and cognitive flexibility is vital for better clinical outcomes and care quality.

In this study, the finding that the "self-confidence" subdimension had no statistically significant effect on TA is noteworthy. This result suggests that individuals' excessive confidence in their thoughts and beliefs may not directly hinder TA. While the literature often links high self-confidence to poor insight and lower adherence (18,39), such a relationship was not observed here. This could be because the sample exclusively included individuals diagnosed with bipolar disorder, most of whom were receiving inpatient treatment. Additionally, the specific context of this study may further explain why the self-confidence subdimension did not significantly affect TA (12,24). These findings highlight the importance of incorporating communication- focused interventions and psychoeducation programs into psychiatric care. For example, structured psychoeducation sessions that help

patients articulate their symptoms, treatment concerns, and emotional experiences may strengthen the therapeutic relationship and improve adherence.

Communication focused therapies, like social skills training and cognitive- behavioral strategies, can further improve patients' expressive abilities by providing a safe environment for practicing emotional expression and perspective- taking (12,39). Given Turkey's cultural context, where family involvement in care is common, including family members in psychoeducation sessions could also reinforce communication skills and promote adherence by fostering a shared understanding of illness management. Overall, tailoring interventions to improve self-expression may not only boost TA but also positively influence broader psychosocial functioning. In inpatient psychiatric settings, where treatment plans are structured and closely monitored, high self-confidence might have less impact, as adherence relies more on external regulation than on individual motivation. Studies show that poor insight is linked to lower adherence and weaker therapeutic alliances in schizophrenia spectrum disorders, contexts similar to inpatient environments.

Additionally, cultural factors may influence insight dimensions; in collectivist societies like Turkey, adherence to medical authority and group- oriented values can reduce the negative effects of high self-confidence on treatment compliance. Therefore, the intensive clinical support available in inpatient care and cultural norms around authority and obedience may lessen the impact of self-confidence as a factor in TA. In these environments, patients tend to follow medication and treatment protocols more consistently due to the structured setting and ongoing professional oversight. Moreover, the influence of self-confidence may also depend on the stage of illness acceptance or the severity of psychotic symptoms. In this context, high self-confidence does not necessarily indicate treatment resistance; some patients may remain adherent to their treatment without critically questioning their choices.

In the present study, the Cronbach's alpha for the MMAS-4 was 0.61, which falls below the generally accepted threshold of 0.70 for internal consistency. This relatively low reliability may partly result from the brevity of the scale, as shorter instruments often produce lower alpha coefficients. Additionally, the MMAS-4 emphasizes a limited range of adherence behaviors, which might not fully represent the multidimensional nature of TA in psychiatric populations. While the MMAS-4 has been widely used in clinical research and its brevity provides practical advantages, the lower reliability suggests that any observed associations between TA and cognitive insight should be interpreted with caution.

An additional strength of this study is its use of SEM, which provides advantages over traditional correlational analyses. Unlike simple correlation methods that look at relationships between two variables at a time, SEM models multiple relationships simultaneously and accounts for measurement error. This approach offers a more accurate estimation of how different subdimensions of cognitive insight contribute to TA and allows for testing theoretical models in a single, comprehensive framework. Using SEM in this context introduces a new perspective to psychiatric research and reveals insights that might be missed with less advanced analytical techniques.

Strengths of the Study

This study addresses essential gaps in the literature by examining the impact of cognitive insight on TA in a sample of psychiatric patients using SEM. The integration of metacognitive constructs within a structural framework allows for a more nuanced understanding of how reflective thinking and belief certainty influence adherence behaviors. By analyzing a sample that predominantly consisted of individuals diagnosed with bipolar disorder, the study offers novel insights into the determinants of TA in this population and contributes to the development of targeted, insight-informed interventions.

Study Limitations

This study has several limitations. First, the cross-sectional design precludes any causal inferences regarding the relationship between cognitive insight and TA. Second, the sample was drawn from a single public hospital in Istanbul, which may limit the generalizability of the findings to other psychiatric populations or clinical settings. Third, the study focused on the relationship between cognitive insight subdimensions and TA within a SEM framework, and did not perform subgroup analyses based on variables such as gender, educational level, employment status, treatment duration, or presence of comorbidities. Although these factors may influence TA, they were beyond the scope of the current research questions and dataset. Future studies should incorporate these variables into their analyses to provide a more comprehensive understanding of the factors affecting adherence. Finally, self-report measures were used to assess TA and cognitive insight, which may be subject to response biases. Another limitation of this study is the relatively low internal consistency of the

MMAS-4 (Cronbach's alpha =0.61). The brevity of the scale and its narrow behavioral focus may limit the accuracy and stability of the adherence measurement. Consequently, the findings related to TA should be interpreted with caution, and future research may benefit from using longer or more comprehensive adherence instruments to improve reliability. The face-to-face administration of the questionnaires by the researcher in a psychiatric inpatient setting may have introduced response bias, as participants might have tended to provide socially desirable responses. This should be taken into account when interpreting the self-reported measures of cognitive insight and TA. Additionally, the structural equation model explained only 10.5% of the variance in TA. This indicates that a large proportion of the variability in adherence is likely explained by other psychosocial, clinical, and contextual factors not included in the model. Future research should incorporate additional variables such as illness severity, treatment history, social support, and comorbidities to improve the model's explanatory power and provide a more comprehensive understanding of the determinants of TA.

Conclusion

This study demonstrates that cognitive insight particularly the EO dimension is a critical factor influencing TA in psychiatric patients. The findings indicate that patients with a greater ability to express themselves tend to adhere more closely to treatment plans, likely due to their enhanced capacity to communicate personal experiences and engage more effectively in therapeutic interactions. In contrast, the SC dimension did not show a statistically significant impact on TA, suggesting that excessive confidence in one's beliefs may not directly hinder adherence behavior in this particular sample.

These results underscore the importance of integrating interventions that enhance communication and self-reflective abilities into psychiatric care. Improving patients' capacity to articulate their emotions and thoughts may strengthen therapeutic alliances with healthcare professionals, thereby facilitating the delivery of individualized care and promoting higher levels of adherence.

From a clinical standpoint, mental health professionals can translate these findings into practice by incorporating structured psychoeducation sessions, role-playing exercises to improve emotional articulation, and communication-focused therapies into routine care. Interventions should also be adapted to the patient's cultural and clinical context, with special consideration given to those with limited expressive abilities.

Future research should employ longitudinal and experimental designs to explore the role of cognitive insight subdimensions across diverse psychiatric populations. Testing targeted intervention programs that explicitly focus on enhancing expression and insight while assessing their impact on adherence could provide actionable evidence for improving treatment outcomes.

Ethics

Ethics Committee Approval: The study was approved by the Ethics Committee of İstanbul Arel University, İstanbul, Turkey (approval date: 10 February 2023; approval no: 2023/03). The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.

Informed Consent: All participants were informed about the purpose, procedures, and voluntary nature of the study, and signed informed consent was obtained.

Footnotes

Authorship Contributions

Concept: E.A., Design: E.A., Data Collection or Processing: M.A., Analysis or Interpretation: E.A., M.A., Literature Search: E.A., M.A., Writing: E.A., M.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

References

1. Borba LO, Capistrano FC, Ferreira ACZ, Kalinke LP, Mantovani MF, Maftum MA. Adaptation and validation of the measuring of treatment adherence for mental health. Rev Bras Enferm. 2018;71(Suppl 5):2243-2250. English, Portuguese.
2. Mukattash TL, Alzoubi KH, Abu El-Rub E, Jarab AS, Al-Azzam SI, Khdour M, et al. Prevalence of non-adherence among psychiatric patients in Jordan, a cross sectional study. Int J Pharm Pract. 2016;24(3):217-221.
3. World Health Organization. World mental health report: transforming mental health for all [Internet]. Geneva: World Health Organization; 2022 [cited 2025 Sep 3]. Available from: https://www.who.int/publications/i/item/9789240049338?utm_source=chatgpt.com
4. Jayasree A, Shanmuganathan P, Ramamurthy P, Alwar Mc. Types of medication non-adherence & approaches to enhance medication adherence in mental health disorders: a narrative review. Indian J Psychol Med. 2024;46(6):503-510.

5. Alene M, Wiese MD, Angamo MT, Bajorek BV, Yesuf EA, Wabe NT. Adherence to medication for the treatment of psychosis: rates and risk factors in an Ethiopian population. BMC Clin Pharmacol. 2012;12:10.

6. De Las Cuevas C, de Leon J, Peñate W, Betancort M. Factors influencing adherence to psychopharmacological medications in psychiatric patients: a structural equation modeling approach. Patient Prefer Adherence. 2017;11:681-690.

7. Van Dorn RA, Desmarais SL, Petrila J, Haynes D, Singh JP. Effects of outpatient treatment on risk of arrest of adults with serious mental illness and associated costs. Psychiatr Serv. 2013;64(9):856-862.

8. Timlin U, Hakko H, Heino R, Kyngäs H. A systematic narrative review of the literature: adherence to pharmacological and nonpharmacological treatments among adolescents with mental disorders. J Clin Nurs. 2014;23(23-24):3321-3334.

9. Klinpiboon P, Chanthapasa K. The medication use issues and challenges of mental illness exacerbation in patients with schizophrenia: a qualitative study in Thailand. Patient Prefer Adherence. 2023;17:2927-2937.

10. Lee E, Jang MH. The influence of body image, insight, and mental health confidence on medication adherence in young adult women with mental disorders. Int J Environ Res Public Health. 2021;18(8):3866.

11. Novick D, Montgomery W, Treuer T, Aguado J, Kraemer S, Haro JM. Relationship of insight with medication adherence and the impact on outcomes in patients with schizophrenia and bipolar disorder: results from a 1-year European outpatient observational study. BMC Psychiatry. 2015;15:189.

12. Özdel K, Kart A, Türkçapar MH. Cognitive behavioral therapy in treatment of bipolar disorder. Noro Psikiyatr Ars. 2021;58(Suppl 1):S66-S76.

13. Dalseth N, Reed RS, Hennessy M, Eisenberg MM, Blank MB. Does diagnosis make a difference? Estimating the impact of an HIV medication adherence intervention for persons with serious mental illness. AIDS Behav. 2018;22(1):265-275.

14. Van Camp LSC, Sabbe BGC, Oldenburg JFE. Cognitive insight: a systematic review. Clin Psychol Rev. 2017;55:12-24.

15. Hussein F, Shafik H, Eweida RS. Metacognitive abilities within personal narratives of inpatients with schizophrenia: associations with clinical insight and drug compliance. J Educ Pract. 2019;10(1):108-117.

16. Higashi K, Medic G, Littlewood KJ, Diez T, Granström O, De Hert M. Medication adherence in schizophrenia: factors influencing adherence and consequences of nonadherence, a systematic literature review. Ther Adv Psychopharmacol. 2013;3(4):200-218.

17. López-Carrilero R, Lo Monaco M, Frígola-Capell E, Ferrer-Quintero M, Díaz-Cutraro L, Verdaguer-Rodríguez M, et al; Spanish Metacognition Group; Ochoa S. Cognitive insight in first-episode psychosis: exploring the complex relationship between executive functions and social cognition. Span J Psychiatry Ment Health. 2024;17(3):160-167.

18. Ciufolini S, Morgan C, Morgan K, Fearon P, Boydell J, Hutchinson G, et al. Self esteem and self agency in first episode psychosis: ethnic variation and relationship with clinical presentation. Psychiatry Res. 2015;227(2-3):213-218.

19. Kao YC, Liu YP. The clinical applicability of the self-appraisal of illness questionnaire (SAIQ) to chronic schizophrenic patients in Taiwan. Psychiatr Q. 2010;81(3):215-25.

20. El Abdellati K, De Picker L, Morrens M. Antipsychotic treatment failure: a systematic review on risk factors and interventions for treatment adherence in psychosis. Front Neurosci. 2020;14:531763.

21. Bora E, Özerdem A. Meta-analysis of longitudinal studies of cognition in bipolar disorder: comparison with healthy controls and schizophrenia. Psychol Med. 2017;47(16):2753-2766.

22. Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale (NJ): Lawrence Erlbaum Associates; 1988.

23. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. Med Care. 1986;24(1):67-74.

24. Bahar G, Savaş HA, Ünal A, Savaş E, Kaya H, Bahar A. Validity and reliability study of the morisky medication adherence scale for bipolar disorder. Anatol J Psychiatry. 2014;15(2):141-149.

25. Beck AT, Baruch E, Balter JM, Steer RA, Warman DM. A new instrument for measuring insight: the beck cognitive insight scale. Schizophr Res. 2004;68(2-3):319-329.

26. Aslan S, Yavuz MF, Kaya N. Beck cognitive insight scale: a study of validity and reliability. Arch Neuropsychiatry. 2014;51(1):6-11.

27. Sharkiya SH. Quality communication can improve patient-centred health outcomes among older patients: a rapid review. BMC Health Serv Res. 2023;23(1):886.

28. Fereidooni S, Razeghian Jahromi L, Fateh N. Effectiveness of group cognitive behavioral therapy in insight and treatment adherence in schizophrenic patients: a randomized controlled trial. Jundishapur J Chronic Dis Care. 2023;12(3):e135541.

29. Hong H, Oh HJ. The effects of patient-centered communication: exploring the mediating role of trust in healthcare providers. Health Commun. 2020;35(4):502-511.

30. Koç M, Günaydın N. The relationship between treatment adherence, social support and recovery status of patients receiving psychiatric treatment. Online Turk J Health Sci. 2023;8(3):288-295.

31. Aylaz R, Kılınç G. The relationship between treatment adherence and social support in psychiatric patients in the east of Turkey. Arch Psychiatr Nurs. 2017;31(2):157-163.

32. Kokurcan A, Karadağ H, Ercan Doğu S, Erdi F, Örsel S. Clinical correlates of treatment adherence and insight in patients with schizophrenia. Arch Clin Exp Med. 2020;5(3):95-99.

33. Staring AB, Van der Gaag M, Koopmans GT, Selten JP, Van Beveren JM, Hengeveld MW, et al. Treatment adherence therapy in people with psychotic disorders: randomised controlled trial. Br J Psychiatry. 2010;197(6):448-455.

34. Sagayadevan V, Jeyagurunathan A, Lau YW, Shafie S, Chang S, Ong HL, et al. Cognitive insight and quality of life among psychiatric outpatients. BMC Psychiatry. 2019;19(1):201.

35. Cooke MA, Peters ER, Fannon D, Aasen I, Kuipers E, Kumari V. Cognitive insight in psychosis: the relationship between self-certainty and self-reflection dimensions and neuropsychological measures. Psychiatry Res. 2010;178(2):284-289.

36. Kimhy D, Vakhrusheva J, Jobson-Ahmed L, Tarrier N, Malaspina D, Gross JJ. Emotion awareness and regulation in individuals with schizophrenia: implications for social functioning. Psychiatry Res. 2012;200(2-3):193-201.

37. Lysaker PH, Vohs J, Hasson-Ohayon I, Kukla M, Wierwille J, Dimaggio G. Depression and insight in schizophrenia: comparisons of levels of deficits in social cognition and metacognition and internalized stigma across three profiles. Schizophr Res. 2013;148(1-3):18-23.

38. Liu J, Chan TCT, Chong SA, Subramaniam M, Mahendran R. Impact of emotion dysregulation and cognitive insight on psychotic and depressive symptoms during the early course of schizophrenia spectrum disorders. Early Interv Psychiatry. 2020;14(6):691-697.

39. Tiryaki A, Karahan M. The relationship between insight and symptoms in Turkish schizophrenia outpatients. Turk J Psychiatry. 2018;29(1):19-27.