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Causal Modeling of Client Adherence Based on Coping Strategies with the Mediating Role of Therapeutic Alliance in Psychodynamic Interventions

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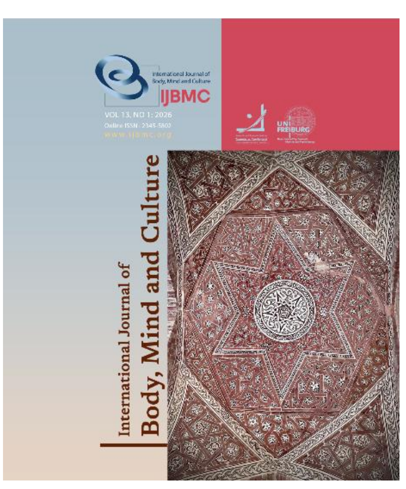

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ABSTRACT

Objective: This study aimed to evaluate the fit of a causal model of client adherence based on coping strategies, with the mediating role of therapeutic alliance, in psychodynamic psychotherapy interventions.

Methods and Materials: This descriptive-correlational study employed structural equation modeling. The statistical population included adult clients attending psychotherapy clinics in Tehran in 2024 who had participated continuously in individual psychodynamic therapy for at least one year. Using convenience sampling, 261 participants were recruited, and after excluding incomplete questionnaires, 213 cases were analyzed. Data were collected using the Lazarus and Folkman Coping Strategies Questionnaire, the Client Adherence Scale, and Horvath's Working Alliance Inventory. Data were analyzed using SPSS and AMOS.

Findings: The results showed that avoidant coping had a significant positive effect on the therapeutic alliance ($\beta = 0.521$, $p < 0.01$), whereas problem-focused coping had no significant effect ($\beta = -0.071$, $p > 0.05$). Emotion-focused coping also significantly predicted therapeutic alliance ($\beta = 0.343$, $p < 0.01$). In addition, avoidant coping ($\beta = 0.207$, $p < 0.01$), problem-focused coping ($\beta = 0.094$, $p < 0.05$), emotion-focused coping ($\beta = 0.129$, $p < 0.01$), and therapeutic alliance ($\beta = 0.710$, $p < 0.01$) had significant direct effects on client adherence. The model explained 56.3% of the variance in therapeutic alliance and 89.9% of the variance in client adherence. Therapeutic alliance significantly mediated the effects of avoidant and emotion-focused coping on client adherence.

Conclusion: The findings highlight the importance of strengthening therapeutic alliance and evaluating coping strategies to improve client adherence in psychodynamic psychotherapy.

Keywords: Client adherence, Therapeutic alliance, Coping strategies, Analytic psychotherapy.

Introduction

Psychotherapy is a process through which the patient and therapist create a unique relationship. In the earliest theoretical formulations, the quality of the therapeutic relationship was introduced in Rogers's well-known theory through three characteristics: unconditional positive regard, empathy, and genuineness, and it came to be accepted as a foundational principle by nearly all schools. Concepts such as therapeutic alliance, therapeutic rupture, and therapeutic impasses were later added to this domain. Client adherence is the most recent conceptualization in this area and encompasses different dimensions and levels. Initially, treatment adherence was defined primarily as regular attendance at sessions; however, attending sessions only reflects the client's minimal effort in psychotherapy and, by itself, cannot serve as an adequate criterion for adherence. Later, Holdsworth et al. (2014), through a comprehensive review, showed that treatment adherence is used in the research literature in at least four ways: adherence as attendance, adherence as participation or involvement, adherence as completion of therapeutic homework, and adherence as the therapeutic relationship, none of which alone fully represents the concept of adherence.

Three major dimensions have been defined for treatment adherence: behavioral, cognitive, and emotional. Behavioral indicators include session attendance, adherence to the intervention, and compliance with assigned tasks. These indicators are more objective, whereas cognitive indicators are more subjective and require clients' self-reported data for assessment. The cognitive dimension refers to the extent of the client's understanding and acceptance of the rationale behind the therapist's intervention, as well as the client's perception of the treatment's appropriateness for achieving personal goals, which is linked to the concept of expectancy for effectiveness. Other cognitive concepts include the experience of progress or improvement and self-efficacy. The third dimension of adherence is the emotional dimension, which includes the client's emotional experiences with the therapist, the treatment process, and the intervention itself. Studies that operationalize client engagement in terms of emotional experience are relatively limited, and emotional aspects are often conflated with behavioral or cognitive dimensions (Bijkerk et al., 2023).

Beyond these three dimensions, treatment adherence requires an ongoing and intrapsychic commitment to the very process of change. From this perspective, adherence may be considered either a state or a process. The processual nature of adherence is more important and involves the conscious allocation of attention and energy to something worth pursuing. In summary, the inseparability of the two processes of treatment adherence and the therapeutic relationship, both of which are directly related to treatment outcomes, has also received considerable empirical support in research. This is because psychotherapy is effective only when the client can remain engaged and participatory throughout the process, in the face of frustrations and various difficulties in both the external and internal worlds, and within the framework of the therapeutic relationship (Flückiger et al., 2018).

Analytic psychotherapy, or psychodynamic psychotherapy, is one of the best-known therapeutic methods and is grounded in the theoretical foundations of Sigmund Freud's psychoanalytic theory. The focus of this approach is on unconscious content that may play an effective role in the individual's current behaviors, thoughts, and emotions, especially in the ongoing relationship between client and therapist. The assumptions of analytic psychotherapy are often rooted in early experiences in childhood with primary caregivers and seek to uncover relationships and events that contribute to personality formation, mental illness, and maladjustment. Exploring and resolving emotions that have developed over time requires a long-term, deep, authentic, and healing relationship so that, within this space, the unconscious can present itself and repeat. Previous painful experiences can be re-experienced in a different and non-injurious way within a safe and trustworthy relationship. Ultimately, through resolution and release from conflicts, the person is given an opportunity for renewed growth. Therefore, client adherence in this type of therapeutic relationship is considered one of the necessary and important tasks, a process in which patient and therapist create a unique relationship, and this process is influenced by the individual characteristics of both parties (Shedler, 2010).

Coping strategies, as a stable style in confronting life stresses and pressures, can also affect client adherence. Positive and adaptive coping strategies, such as problem-solving, seeking social support, and emotion regulation, are significantly associated with improved client adherence quality. In contrast, negative or avoidant coping strategies, such as denial, avoidance, and submission, have an inverse or weaker effect on client adherence and may reduce commitment to and continuation of treatment (Aldao et al., 2010). A distinction can also be made between emotion-focused and problem-focused strategies. Emotion-focused strategies manage emotional distress without addressing the stressor itself, such as denial, venting anger, and seeking support. In contrast, problem-focused strategies aim to directly resolve the stressor, such as seeking information, active coping, and problem-solving (Lazarus, 1984).

Finally, the factor of therapeutic alliance, which is fundamentally a concept derived from psychoanalysis Freud (1913), refers to the collaborative relationship formed between therapist and client. It has now been established that the therapeutic alliance is a strong predictor of treatment outcomes (Baier et al., 2020) and of client adherence (Horvath et al., 2011). Therefore, therapeutic alliance can play a mediating role between therapeutic processes, such as empathy and therapist techniques, and treatment outcomes; for this reason, it can be regarded as a key mediating variable in causal models (Flückiger et al., 2018).

Therapeutic alliance is considered a necessary element for the growth and effectiveness of psychotherapy. This concept is explained by a three-component model comprising goal agreement, task agreement, and bond (Notsu et al., 2025). In general, therapeutic alliance is the collaborative relationship between client and therapist that plays an important role in promoting engagement and improving symptoms in psychotherapy. The therapeutic alliance is the result of complex interactions between patient and therapist, and distinguishing between the roles of therapist and patient is important for understanding the relationship between alliance and treatment outcome. Of course, therapeutic alliance has also been controversial, and in some cases, there has been bias in estimating its effect across different studies. Nevertheless, it has been examined and accepted as one of the most powerful predictors of treatment outcomes across all forms of psychotherapy (Flückiger et al., 2018). Given that the relationship between therapeutic alliance and coping strategies has also been supported by Flückiger et al. (2018), the present study aimed to determine the fit of a causal model of the relationship between coping strategies and client adherence, with the mediating role of therapeutic alliance, in analytic (psychodynamic) psychotherapy interventions.

Methods and Materials

Study Design

The research method was descriptive-correlational using structural equation modeling (Aldao et al.). The statistical population included all adult clients attending psychotherapy clinics in Tehran in 2024 who had participated continuously in individual psychodynamic therapy for at least one year. Convenience sampling was used, and after excluding incomplete questionnaires, data from 261 participants were included in the analysis. Given the use of convenience sampling, specific inclusion criteria were established for participation in the study, some related to clients and others to the type of treatment. To this end, it was ensured that the therapists were graduates of psychiatry, psychology, or other treatment-related fields; had received training or were undergoing training at a valid center for psychoanalytic education; identified their current approach as psychoanalytic; and had at least three years of psychotherapy experience. With respect to the clients, it was ensured that they were adults who had not been diagnosed with psychotic disorders and that they had participated continuously in individual psychoanalytic therapy for at least one year. It should be noted that clients could be receiving psychoanalytic treatment either online or in person; however, participation in psychoanalytic group sessions was not considered acceptable.

Coping Strategies Questionnaire: This questionnaire, developed by Lazarus (1984), consists of 66 items, scored on a 4-point scale from 1 to 4, and measures two coping strategies: problem-focused and emotion-focused coping. Lazarus reported internal consistency coefficients of 0.72 for emotion-focused coping and 0.79 for problem-focused coping. The patterns of problem-focused coping strategies include seeking social support

(6 items), accepting responsibility (4 items), planful problem solving (6 items), and positive reappraisal (7 items). The patterns of emotion-focused coping strategies include confrontive coping (6 items), distancing (6 items), escape-avoidance (8 items), and self-control (7 items). In Iran, the Persian version of this questionnaire has been standardized and validated by various researchers. For example, a study conducted by Mahmoudi et al. (2015) on Iranian adult samples indicated good internal consistency, with Cronbach's alpha ranging from 0.68 to 0.80, and desirable construct validity for the localized version of the questionnaire. Therefore, the Lazarus (1984) Coping Strategies Questionnaire, with appropriate translation and cultural adaptation, has applicable norms in Iranian society and can be used to measure coping strategies in psychological research and interventions.

Client Adherence Scale (CES): This scale was developed by Holdsworth et al. (2014), in which client adherence is defined as a multidimensional variable consisting of three factors: (1) attendance, (2) expected adherence, and (3) homework completion. These factors are consistent with the expected dimensions of adherence that have repeatedly been assessed across different treatment settings (Tetley et al., 2011). The expected adherence factor has the strongest effect on the total adherence score. In total, 15 items were used to measure client adherence: 5 items related to the attendance dimension, 7 items related to the expected adherence dimension, and 3 items related to the homework completion dimension. The items are scored on a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). The minimum score on this scale is 12, and the maximum is 84, with higher scores indicating better client adherence to the therapist and the treatment process. In Iran, the three-factor structure of the adherence variable was confirmed through factor analysis by Imanzadeh et al. (2021) in an Iranian population. In the present study (#), after removing one item from the attendance dimension and two items from the expected adherence dimension whose factor loadings were lower than 0.40, the fit indices for this instrument were found to be acceptable (RMSEA = 0.061, AGFI = 0.914, CFI = 0.976, GFI = 0.994, NFI = 0.957, TLI = 0.969). The 12-item Client Adherence Questionnaire was confirmed. In this study, the reliability of this instrument, assessed using Cronbach's alpha, composite reliability, and average variance extracted, was calculated as 0.93, 0.95, and 0.63, respectively, indicating that the instrument is reliable.

Therapeutic Alliance Questionnaire: This scale was developed by Horvath et al. (2011) and, simultaneously with the writing of the dissertation, was standardized by the researcher and the supervisory and advisory professors among Iranian clients and therapists. This questionnaire contains 36 items and measures three subscales, each including 12 items. The subscales are bond, tasks, and goals. Each question has seven response options and is scored on a Likert scale ranging from never (score 1) to always (score 7). The content validity of this questionnaire has been confirmed based on various studies. In the present study, the client and therapist forms of the questionnaire were translated independently into Persian by two individuals. After a coordination session, a unified Persian version was prepared. This version was then independently translated back into English by a third person. The English text was compared with the original version by a three-person panel comprising the principal investigator and the two supervisory and advisory professors, and appropriate changes were made to the translation. The final version was to be provided to five psychotherapists and five clients. Upon confirmation of face validity, based on a seven-point Likert scale for assessing the clarity and comprehensibility of the items, it would be used in this study. At the same time, the Cronbach's alpha coefficient for the questionnaire was reported as 0.79.

In the present study, various statistical methods were used to analyze the data obtained and address the research hypotheses. First, at the descriptive statistics stage, mean and standard deviation were used to describe the scores obtained from the questionnaires, the indices under study, and the respondents' demographic characteristics. Then, at the inferential statistics stage, to evaluate model fit, structural relationship analysis was used within structural equation modeling. In addition, Cronbach's alpha coefficient was used to determine the reliability of the research questionnaires.

Findings and Results

Before testing the research hypotheses, the frequency distribution of the study's demographic variables was first examined. The distribution of these variables, including gender, education, and age, is presented below. The participants in this study, numbering 213, were all clients who had been continuously engaged in psychoanalytic treatment for more than one year. These individuals ranged in age from 20 to 53 years, and a large proportion of them were women (77.5%). In terms of educational level, almost all participants had a university education, and a large proportion held a master's degree (38%). The largest age group among the participants (50.4%) was the 30 to 39-year-old group.

Descriptive statistics for the research variables, including number, mean, standard deviation, minimum, and maximum, together with the results of the Kolmogorov-Smirnov test, are presented in Table 1.

Table 1

Descriptive Statistics and Shapiro-Wilk Test Results for the Research Variables

Variable	N	Mean	Standard Deviation	Minimum	Maximum	Shapiro-Wilk	p
Client adherence	213	55.88	25.55	17	103	0.876	< 0.01
Therapeutic alliance	213	163.65	36.26	90	229	0.964	< 0.01
Avoidant coping strategy	213	35.62	8.52	20	57	0.951	< 0.01
Problem-focused coping strategy	213	31.24	6.99	17	58	0.960	< 0.01
Emotion-focused coping strategy	213	33.37	11.49	18	73	0.882	< 0.01

Based on the above table, the Shapiro-Wilk test results were examined to assess the normality of these variables. According to the results of this test, the p-values for all variables were less than 0.05; therefore, the normality assumption for all research variables was rejected.

Given that none of the research variables were normally distributed, partial least squares (PLS) structural equation modeling was used to test the causal relationships among them. Structural equation modeling tests the model in two stages, including the measurement model and the structural model. In PLS modeling, the measurement model is referred to as the outer model and the structural model as the inner model. The measurement model examines the validity and reliability of the measurement instruments and research constructs, whereas the structural model tests the hypotheses and relationships among latent variables. To assess construct validity, Fornell & Larcker (1981) proposed three criteria: (1) the validity of each item, (2) the composite reliability of each construct, and (3) the average variance extracted (AVE).

Concerning the validity of each item, a factor loading of 0.50 or greater in confirmatory factor analysis indicates a well-defined construct. Composite reliability is, in fact, the ratio of the sum of the factor loadings of the latent variables to the sum of the factor loadings plus error variance. Its values range from 0 to 1, and it serves as an alternative to Cronbach's alpha. The value of this index should not be less than 0.70. This index is also referred to as the Dillon-Goldstein ratio. The third criterion is the examination of average variance extracted. Fornell and Larcker recommended a value of 0.50 or higher for AVE, indicating that the construct explains about 50% or more of the variance in its indicators (Chen, 1988).

According to the statistical analysis, the standardized factor loadings for all research items were greater than 0.50 and significant at the 0.05 level. Therefore, all questionnaire items had sufficient validity.

Table 2

Composite Reliability, Cronbach's Alpha, and AVE for the Research Variables

Variables	Composite Reliability	Cronbach's Alpha	AVE
Client adherence	0.965	0.959	0.657
Therapeutic alliance	0.962	0.951	0.602
Avoidant coping strategy	0.882	0.853	0.575
Problem-focused coping strategy	0.842	0.852	0.611
Emotion-focused coping strategy	0.944	0.933	0.535

As shown in the table above, the composite reliability and Cronbach's alpha values for the research variables were greater than 0.70, and the AVE values were greater than 0.50. Therefore, the obtained results indicate convergent validity and internal consistency of the constructs. As a result, the validity of the measurement instruments and the research constructs was confirmed.

Table 3 presents the Pearson correlation coefficients and the convergent validity index. The values on the main diagonal of this matrix represent the square root of the average variance extracted (AVE). For discriminant validity to be confirmed, the square root of the AVE must be greater than the absolute value of all correlation coefficients between the relevant variable and the other variables (Chen, 1988).

Table 3

Pearson Correlation Coefficients and Convergent Validity Index

Variable	1	2	3	4	5
1. Therapeutic alliance	0.776				
2. Avoidant coping strategy	0.711	0.758			
3. Problem-focused coping strategy	0.158	0.629	0.782		
4. Client adherence	0.626	0.583	0.653	0.810	
5. Emotion-focused coping strategy	0.680	0.526	0.575	0.743	0.731

All correlation coefficients are significant at the 1% significance level.

*** The main diagonal shows the square root of the average variance extracted (AVE).*

Based on the table above, the values on the main diagonal are the largest in each column. Therefore, the discriminant validity of the constructs was also confirmed. After examining the validity and reliability of the measurement instruments and research constructs (i.e., the outer model), it was necessary to test the relationships among the latent variables (i.e., the inner model). For this purpose, the tested research model based on path coefficients is presented in Figure 1.

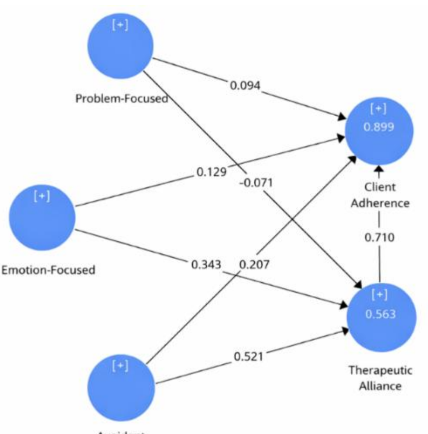

Figure 1

The tested research model is based on path coefficients.

The results of testing the study's direct causal relationships, based on structural equation modeling using the partial least squares method, are shown in Table 4. The results in this table show that all direct

relationships, except Relationship 2, were confirmed at the 0.05 significance level because their t-statistics were greater than 1.96. It should be noted that Direct Relationships 1, 3, 4, 6, and 7 were also confirmed at the 0.01 significance level (t > 2.58).

Table 4

Path Coefficients, t Statistics, and Results of the Study's Causal Relationships

Relationship No.	Direct Relationships	Effect Coefficient (β)	Standard Deviation	t Statistic	Coefficient of Determination	Result
1	Avoidant coping → Therapeutic alliance	0.521	0.087	5.967**	0.563	Confirmed
2	Problem-focused coping → Therapeutic alliance	-0.071	0.088	0.804		Rejected
3	Emotion-focused coping → Therapeutic alliance	0.343	0.058	5.886**		Confirmed
4	Avoidant coping → Client adherence	0.207	0.058	2.847**	0.899	Confirmed
5	Problem-focused coping → Client adherence	0.094	0.043	2.184*		Confirmed
6	Emotion-focused coping → Client adherence	0.129	0.040	3.233**		Confirmed
7	Therapeutic alliance → Client adherence	0.710	0.033	21.967**		Confirmed

|t| > 1.96 indicates significance at the 0.05 level.
*** |t| > 2.58 indicates significance at the 0.01 level.*

The model's validity was assessed using the coefficient of determination (R^2). This coefficient measures the variance of an endogenous variable explained by the exogenous variables. The coefficient of determination for the dependent variable "client adherence" was 0.899. This means that 89.9% of the variance in "client adherence" was explained by changes in the variables "avoidant coping strategy," "emotion-focused coping strategy," "problem-focused coping strategy," and "therapeutic alliance." The coefficient of determination for the mediating variable "therapeutic alliance" was 0.563. This means that 56.3% of the variance in "therapeutic alliance" was explained by changes in the variables "avoidant coping strategy," "emotion-focused coping strategy," and "problem-focused coping strategy."

To test the significance of the indirect causal relationships of the variables "avoidant coping strategy," "emotion-focused coping strategy," and "problem-focused coping strategy" with "client adherence" through the mediating variable "therapeutic alliance," the Sobel test was used. The results of this test are presented in Table 5. In this table, a Z statistic greater than 2.58 indicates that the effect is significant at the 0.01 level, and a Z statistic greater than 1.96 indicates that the effect is significant at the 0.05 level. In addition, the VAF index indicates what proportion of the total effect is attributable to indirect effects.

Table 5

Results of the Indirect Effects of Coping Strategies on Client Adherence Through Therapeutic Alliance

Relationship No.	Indirect Relationships	Z Statistic	VAF	Result
1	Avoidant coping → Therapeutic alliance → Client adherence	5.763**	0.641	Confirmed
2	Problem-focused coping → Therapeutic alliance → Client adherence	-0.805	0.349	Rejected
3	Emotion-focused coping → Therapeutic alliance → Client adherence	5.697**	0.654	Confirmed

Based on the results in Table 6, the indirect causal relationships of the variables "avoidant coping strategy" and "emotion-focused coping strategy" with "client adherence" through the mediating variable "therapeutic alliance" were significant at the 0.01 level (Z > 2.58). However, the indirect causal relationship between the variable "problem-focused coping strategy" and "client adherence" via the mediating variable "therapeutic alliance" was not statistically significant (Z < 1.96).

According to the VAF index in Table 6, 64.1% of the total effect of "avoidant coping strategy" on "client adherence" was explained through the mediating variable "therapeutic alliance." Likewise, 65.4% of the

total effect of “emotion-focused coping strategy” on “client adherence” was explained through the mediating variable “therapeutic alliance.” Therefore, among the coping strategies, the emotion-focused coping strategy had the greatest effect on client adherence through therapeutic alliance.

In structural equation modeling using the partial least squares approach, an index called goodness of fit (GOF) was proposed by Tenenhaus et al. (2025). This index takes into account both the measurement and structural models and serves as a criterion for assessing the model's overall performance. Wetzels et al. (2009) introduced 0.10, 0.25, and 0.36 as weak, moderate, and strong GOF values, respectively (Mohsenin & Esfidani, 2014). The GOF value for the model in this study was 0.543. Therefore, the model demonstrated strong adequacy.

Discussion and Conclusion

The present study aimed to determine the fit of a causal model of the relationship between coping strategies and client adherence, with the mediating role of therapeutic alliance, in analytic (psychodynamic) psychotherapy interventions. The study indicated that coping strategies have an indirect effect on client adherence through therapeutic alliance.

This finding highlights the importance of coping strategies in the treatment process and the mediating role of therapeutic alliance in strengthening client adherence. Coping strategies, especially adaptive ones, not only have a direct effect on the client’s active participation in treatment sessions but also strengthen this effect by improving the quality of the therapeutic relationship, that is, the therapeutic alliance, which is itself a key factor in increasing adherence (Parlar-Yazıcı et al., 2025). According to numerous studies, the therapeutic alliance is one of the most important predictors of treatment outcomes, including participation, treatment continuity, and client adherence (Henderson et al., 2026; Sulaman et al., 2024). In a systematic review of studies examining the relationship between therapeutic alliance and treatment outcomes, it was shown that even when the effect size of mediation is small, a positive and significant relationship remains between therapeutic alliance and treatment outcomes (Aafjes-van Doorn et al., 2024).

On the other hand, findings from studies related to models of client engagement have also shown that when a client manages treatment difficulties adaptively through effective coping strategies, even under challenging therapeutic conditions, the likelihood of forming a stronger therapeutic alliance increases, and as a result, adherence also rises (Flückiger et al., 2018). Such findings indicate that adaptive coping strategies can improve the quality of communication and interaction between client and therapist, thereby laying the foundation for a stronger therapeutic alliance. This alliance, as a mediator, intensifies the effect of coping strategies on client adherence. To provide a theoretical explanation for this finding, it is first necessary to define therapeutic alliance properly. Based on Bordin’s (2009) classic model, therapeutic alliance includes three core elements: (1) emotional bond, (2) agreement on treatment goals, and (3) agreement on therapeutic tasks and methods. Together, these three components shape the quality of the therapeutic relationship and are among the strongest predictors of treatment outcomes.

Coping strategies, especially those that are adaptive and problem-focused, such as problem solving, cognitive reappraisal, and emotion regulation, help clients cope more effectively with stressful situations, difficult emotional content, and treatment-related pressures. These strategies can enhance the client’s capacity for emotion regulation and self-regulation, which in turn play a role in the formation of therapeutic alliance (Zilcha-Mano, 2020). In other words, clients with greater coping capacity in the face of emotional challenges are better able to establish a collaborative and trustworthy relationship with the therapist, thereby strengthening the therapeutic alliance.

From the perspective of the hierarchical theory of therapeutic interaction, the best therapeutic relationships are formed when the client is not only in need of support but also actively participates in the course of treatment and accepts therapeutic tasks. Such active participation usually results from a combination of effective coping strategies and a shared understanding of treatment goals. In this context, the therapeutic alliance serves as a mediating factor between the client’s capacity for effective coping and the level of participation, as a strong therapeutic relationship encourages the client to attend sessions regularly,

disclose emotions, and complete between-session tasks (Ceclan & Nechita, 2021).

Behavioral and interpersonal models of psychotherapy, especially in insight-oriented approaches such as analytic-psychodynamic psychotherapy, place strong emphasis on the quality of the therapeutic relationship. The therapeutic alliance is recognized as one of the key mechanisms of change in therapy. It explains how individual factors, such as coping strategies, can influence treatment outcomes through the complex interactions between client and therapist. Research has also shown that the quality of the therapeutic relationship can mediate more complex causal pathways between the client's internal variables and treatment outcomes, as it often determines the structure and meaning of therapeutic interaction (Aafjes-van Doorn et al., 2024).

Furthermore, recent findings and theoretical explanations have shown that even if the relationship between therapeutic alliance and treatment outcome has a small to moderate effect size, this relationship remains important and can be introduced as a mediating pathway that connects with other process variables, such as coping strategies, and facilitates key outcomes of the therapeutic process. In fact, the therapeutic alliance can act as a bridge between the client's emotional and cognitive capacities and practical cooperation with the therapeutic framework, ultimately leading to greater adherence. Confirmation of the mediating effect of therapeutic alliance on the relationship between coping strategies and client adherence has important implications for therapists and intervention planners. First, this finding shows that strengthening clients' coping strategies is not only important in a direct sense but also necessary to create a context in which these strategies can be effective within a valid and collaborative therapeutic relationship. In other words, therapists must simultaneously attend to the development of coping strategies and the strengthening of therapeutic alliance so that the combined effects of these two factors can be realized in enhancing adherence and treatment quality. Second, this result indicates that predicting client adherence without accounting for the role of the therapeutic alliance is incomplete, and psychotherapy intervention programs should explicitly focus on improving the therapeutic relationship to fully utilize the client's coping capacities in the treatment process (Carlucci et al., 2022). Therapists who focus simultaneously on coping skills and strengthening therapeutic alliance are likely to increase client adherence and, consequently, prevent premature termination of treatment. Finally, accepting the mediating role of the therapeutic alliance in this mediation process represents a theoretical advance in our understanding of how, and through what mechanisms, coping strategies lead to improved client adherence. This finding implicitly supports multifactorial models of therapeutic effectiveness, in which there is more than one direct pathway to treatment outcomes, and these pathways may be represented as more complex interactions between the client's internal variables and the therapeutic relationship process.

The statistical population of this study consisted of clients from psychotherapy clinics in Tehran. This geographical limitation, that is, including only Tehran, may require caution in generalizing the results to other cities, cultures, or clients who attend other private or public treatment centers. In addition, the non-random selection of clients may have introduced selection bias. Therefore, conducting similar studies in other cities and in public and private treatment centers is recommended in order to increase the generalizability of the findings and to compare clients with different clinical diagnoses. The study found that coping strategies influence client adherence both directly and through the therapeutic alliance. Therefore, it is recommended that therapists actively teach and strengthen adaptive coping strategies in their clients. This training may include problem-solving skills, emotion-regulation techniques such as mindfulness and acceptance, and strategies to reduce maladaptive behaviors such as avoidance and rumination. Clients who are more capable of coping adaptively with stress and difficult emotions not only demonstrate more active participation in treatment sessions but also experience a higher-quality therapeutic relationship and, consequently, show more stable adherence.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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