RMJ

Original Article

Factors Associated With Homework Adherence in Cognitive Behavioral Therapy

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Abstract

Background: Homework is a central component of cognitive behavioral therapy (CBT), promoting the application of therapeutic skills in daily life. However, adherence to homework varies and may be influenced by multiple factors, particularly among young people.

Objectives: To identify factors associated with homework adherence in CBT, and to examine these factors specifically in young people.

Methods: A cross-sectional descriptive study was conducted with 79 clients receiving CBT through the "Therapist Volunteers" project or the outpatient psychiatry clinic at Ramathibodi Hospital, along with 47 therapists. Data were collected from January 2024 to September 2024. Measures included the Working Alliance Inventory - Short Revised (WAI-SR), the Situational Motivation Scale (SIMS), SCORE-15, Homework Rating Scale II (HRS-II), Homework Compliance Scale (HCS), and Clinical Global Impression - Improvement Scale (CGI-I). Descriptive and inferential statistics, including multiple regression analysis, were used.

Results: The mean age of participants was 26.06 years; 82.3% were female. Therapeutic alliance, intrinsic motivation, and identified regulation were significantly associated with homework adherence ($P < .05$). Among young people, therapeutic alliance, identified regulation, and therapist experience were positively associated with homework adherence. Both self-reported homework adherence and therapist-rated completion were significantly correlated with clinical improvement ($P < .01$).

Conclusions: A strong therapeutic alliance, along with intrinsic motivation and identified regulation, play crucial roles in enhancing homework adherence and clinical outcomes in CBT. For young people, therapist experience and tailored support strategies may further strengthen treatment engagement.

Keywords: Homework adherence, Cognitive behavioral therapy, Therapeutic alliance, Intrinsic motivation, Identified regulation

Citation: Chaikawin P, Kiatrungrit K, Pityaratstian N, Hongsanguansri S. Factors associated with homework adherence in cognitive behavioral therapy. *Res Med J*. 20XX;XX(X): e275833. doi:10.33165/rmj.2026.e275833

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Received: 4 June 2025
Revised: 1 October 2025
Accepted: 6 October 2025
Published: 26 January 2026

Introduction

At present, a large number of people are seeking treatment for mental health problems, with available treatment options including pharmacological treatment, environmental modifications, and various forms of psychotherapy. One widely recognized and effective form of psychotherapy is cognitive behavioral therapy (CBT), which emphasizes the interrelationship among thoughts, emotions, behaviors, and physical sensations. The core principle of CBT is that these 4 elements are interrelated and influence one another.

Therefore, changing one aspect can result in changes in the others. CBT has been shown to be effective, particularly in treating depression and anxiety disorders.[1]

CBT is supported by extensive research evidence for its effectiveness. It can be applied to a wide range of psychological problems and promotes long-term self-reliance in clients. However, its effectiveness depends on the client's cooperation, consistency in completing homework assignments, and the therapist's ability to tailor interventions to each individual. CBT is a structured and systematic form of therapy that requires active participation and commitment from both parties. It typically involves 6 steps: 1) checking in; 2) reviewing homework or content from the previous session; 3) setting the agenda; 4) discussing the session content; 5) summarizing and providing feedback; and 6) assigning new homework. Clients usually attend one session per week, each lasting about 45 minutes to 1 hour, with treatment typically lasting 6-12 or 12-20 sessions depending on goals and treatment plans.[2, 3]

Each component of the CBT process plays an important role in effective treatment. Previous studies have shown that homework is an essential component associated with symptom improvement.[4-6] Homework refers to tasks or exercises mutually agreed upon by the therapist and client to be practiced in daily life outside of therapy sessions. The purpose is to help clients apply the knowledge and skills learned in therapy to real-life situations, improve problem-solving abilities, and promote adaptive behaviors and thought patterns.[7]

Homework may take various forms, such as thought records to identify and challenge negative automatic thoughts, relaxation training (eg, deep breathing or mindfulness), exposure to feared or avoided situations, or behavioral activation to increase daily activities. Many studies have found that homework adherence significantly contributes to treatment success. Clients who complete homework regularly tend to have better treatment outcomes. Therapists who build trust, demonstrate consistency, and maintain credibility can help clients transfer learned skills into daily life, thereby supporting sustained improvement and preventing relapse.[8-10] Therefore, therapists and clients should emphasize the collaborative design of homework assignments to increase the likelihood of completion and engagement.

Although homework is an important part of CBT, previous research has identified several factors that influence adherence. These can be categorized into 3 main categories. Therapist-related factors are among the most significant. The therapeutic relationship, built through trust and understanding, creates a foundation that allows clients to feel confident in following recommendations. In addition, the therapist's ability to explain assignments clearly and to design tasks appropriate to the client's needs or capacities can improve adherence. The therapist's own beliefs about the importance of homework may also shape the client's perception of its value.[11-14]

Client-related factors also play a key. Motivation depends on how clients perceive the value and difficulty of the task, as well as their alignment with personal goals. If clients view homework as valuable and feasible, they are more likely to complete it.[15, 16] Motivation can be conceptualized according to self-determination theory[17] and classified into 4 types: 1) intrinsic motivation, where clients engage in homework for inherent interest or enjoyment; 2) identified regulation, reflecting the perceived personal value of assignments; 3) external motivation, driven by rewards or external pressures; and 4) amotivation, indicating a lack of intention or perceived value. These motivational types influence self-regulation and engagement. Attitudes toward therapy (eg, whether homework is viewed as necessary or burdensome),[18, 19] time management, and comprehension of assignment also affect adherence.[20, 21]

Family-related factors are especially relevant for young people. At the end of each session, therapist often provides guidance to family members to support the client. Families with good problem-solving skills and supportive environment are more likely to encourage consistent homework adherence and reduce stress around assignments.[22, 23] Other facilitators include encouragement from friends and having a quiet environment for homework, while barriers include limited time, busy family schedules, or lack of readiness.

Understanding these factors can help tailor support strategies to the needs of individual clients. Nevertheless, many clients do not complete homework regularly. Among adults, nonadherence ranges from 20% to 50%, while among young people it can be as high as 50% and tends to increase over the course of treatment.[24, 25] The World Health Organization (WHO) defines young people as those aged 10-24 years[26] a developmental period marked by changes in emotion regulation, identity, self-control, and social roles. These transitions may make young people respond to therapy differently from adults, potentially leading to greater challenges in self-regulation and homework adherence.[23] Therefore, it is necessary to study this group separately to understand mechanisms specific to this developmental stage and inform age-appropriate approaches.

In addition, previous studies have primarily examined how homework affects treatment outcomes,[4] typically examining associated factors in isolation, with limited research on family influences, despite their potential significance for young people. Moreover, few studies have examined homework adherence in the Thai context. Therefore, this study aimed to identify factors associated with homework adherence in CBT and, as a secondary aim, to explore these factors specifically among young people. The researchers hypothesized that client-related, therapist-related, and family-related factors were associated with CBT homework adherence.

Methods

Population and Sample

This study employed a cross-sectional descriptive design involving individuals who received CBT through the "Therapist Volunteers" program and those receiving treatment at the outpatient psychiatry clinic of Ramathibodi Hospital between January 2024 and September 2024.

The inclusion criteria were: 1) clients undergoing CBT, regardless of gender; 2) aged between 13 and 35 years; and 3) who had attended at least 3 therapy sessions. For those whose treatment had already concluded, termination must have occurred no more than 6 months prior. There were no exclusion criteria.

The sample size was determined using G*Power software version 3.1.9.7, which is widely used for power analysis and is based on Cohen's formula. The statistical test selected was linear multiple regression: fixed model, R^2 deviation from zero. Parameters were set as follows: effect size of 0.15, significance level (α) of .05, power (1–β) of 0.80, and number of predictors of 3. Based on these inputs, the estimated minimum required sample size was 77 participants.

Purposive sampling was used to recruit participants from 2 sources: 1) the "Therapist Volunteers" project, which contributed 76 clients receiving regular therapy services; and 2) the outpatient psychiatry clinic at Ramathibodi Hospital, which enrolled an additional 3 clients through open participation in CBT. In total, 79 clients and 47 therapists participated in the study. Informed consent was obtained from participants aged 18 and older, while parental consent was obtained for those under 18 years of age.

Research Instruments

The instruments used in this study consisted of the following questionnaires:

1) The Client Demographic Questionnaire, developed by the researcher to collect participants' background information, was a self-administered form including questions on: 1) age (reported in years, later categorized into 2 developmental stages: young adult [13-24 years][27] and adults [25-35 years]); 2) gender (male, female); 3) marital status (single, married); 4) education level (secondary, bachelor's, postgraduate); 5) occupation (student, vendor, company employee, freelance); 6) living arrangement (alone, with partner/friends, with family); 7) mode of therapy (in-person, online, or both); and 8) decision to seek therapy (self-initiated, recommended by partner/friends, family/doctor, or more than one reason).

2) The Therapist Demographic Questionnaire, also developed by the researcher, was a self-administered form including therapist's age, gender, and years of experience providing CBT.

3) Working Alliance Inventory - Short Revised (WAI-SR):[28] a self-reported instrument completed by clients to assess the overall therapeutic alliance throughout the treatment period. Developed by Hatcher, permission to translate and use the instrument was obtained from the original author. It was translated into Thai by the researcher and back-translated into English by a language expert. Feedback was discussed with 3 experts in CBT, and the instrument was revised accordingly. Content validity was evaluated by 3 CBT experts. The 12-item scale measures 3 dimensions: 1) goals; 2) tasks; and 3) bond (4 items each). Each item is rated on a 5-point Likert scale from "not at all" (0) to "very much" (4). Total scores range from 0 to 60, with higher scores indicating stronger therapeutic alliance. Internal consistency reliability was excellent (Cronbach α = 0.91). The scale-level content validity index (S-CVI) for the entire scale was 0.97 (Supplementary S1).

4) The Situational Motivation Scale (SIMS):[29] a self-reported measure used to assess clients' motivation to complete therapy homework. Developed by Guay, permission to translate and use the instrument was obtained from the original author. The instrument was translated into Thai by the researcher and back-translated into English by a language expert. The Thai version was then reviewed and validated by 3 CBT experts. The scale includes 16 items across 4 dimensions: 1) intrinsic motivation (items 1, 5, 9, 13); 2) identified regulation (items 2, 6, 10, 14); 3) external regulation (items 3, 7, 11, 15); and 4) amotivation (items 4, 8, 12, 16). Responses are rated on a 7-point Likert scale from 1 (does not correspond at all) to 7 (corresponds exactly). Each subscale has a score range of 4-28, with higher scores indicating greater motivation in that domain. Internal consistency was acceptable (Cronbach α: intrinsic motivation = 0.77, identified regulation = 0.73, external regulation = 0.71, amotivation = 0.71). The S-CVI for the entire scale was 1.00 (Supplementary S2).

5) 15-item Systemic Clinical Outcome and Routine Evaluation - Thai version (SCORE-15):[30] a self-reported instrument used to assess family functioning. Originally developed by Stratton, and adapted from the SCORE-40, the Thai version was translated and validated by 2 experts. The 15-item scale assesses 3 domains: 1) strengths and adaptability; 2) difficulty in coping; and 3) problematic communication. Permission to use the Thai version was obtained from the original translators, and the instrument was used without modification. Items are rated on a 5-point Likert scale from 1 (describes me very well) to 5 (does not describe me at all). Total scores range from 15 to 75, with lower scores indicating better family functioning. The scale showed high reliability (Cronbach α = 0.94) and validity (range 0.90-1.85).

6) Homework Compliance Scale (HCS):[31] a single-item therapist-rated measure of clients' overall level of homework adherence. Developed by Primakoff, permission to

translate and use the instrument was obtained from the original author. The instrument was translated into Thai by the researcher and back-translated into English by a language expert. The Thai version was then reviewed and validated by 3 CBT experts. The item asks therapists to rate clients' homework behavior on a scale from 1 to 6: 1) did not do the homework; 2) attempted, but failed due to external factors; 3) completed alternative, but related task; 4) partially completed the assigned homework; 5) completed homework as assigned; and 6) completed more than was assigned. Higher scores reflect higher homework adherence. The S-CVI for the entire scale was 0.83 (Supplementary S3).

7) Homework Rating Scale II (HRS-II):[21] a self-report measure used to assess clients' overall level of adherence with CBT homework. Developed by Kazantzis, based on CBT principles and determinants of adherence, permission to translate and use the instrument was obtained from the original author. The instrument was translated into Thai by the researcher and back-translated into English by a language expert. The Thai version was then reviewed and validated by 3 CBT experts. The 12-item scale consists of 3 domains: 1) engagement (items 1-4) scores 0-16; 2) beliefs (items 5-9) scores 0-20; and 3) consequences (items 10-12) scores 0-12. Items are rated on a 5-point Likert scale from 0 (not at all) to 4 (completely). Negatively worded items (items 3 and 4) were reverse scored. Total scores range from 0-48, with higher scores indicating higher homework adherence. Internal consistency was good (Cronbach α = 0.82, intraclass correlation [ICC] = 0.83). The S-CVI for the entire scale was 0.94 (Supplementary S4).

In addition to these standard subscales, an exploratory index termed psychological effort was analyzed as supplementary results. This index was introduced by the original instrument developer after this study's data collection. It reflects the balance between clients' engagement and their perceived task difficulty and obstacles. Specifically, engagement is calculated as the mean of all items except those related to difficulty and obstacles, while difficulty and obstacles is the mean of those 2 items (reverse scored). The formula divides engagement by difficulty and obstacles, with a constant of 1 added to both numerator and denominator to avoid division by zero and improve stability. Thus, greater perceived difficulty reduces the denominator, resulting in higher psychological effort scores. Previous psychometric studies have reported that higher psychological effort values are associated with lower symptom severity, supporting its predictive validity.

8) Clinical Global Impression - Improvement Scale (CGI-I):[32] a single-item scale rated by the therapist to assess overall clinical improvement after treatment. Therapists rated the client's progress relative to baseline on a 7-point scale ranging from 1 (very much improved) to 7 (very much worse), with lower scores indicating better clinical outcomes. The CGI-I is a public-domain instrument; therefore, permission for use was not required. For this study, the scale was translated into Thai by the researcher and back-translated into English by a language expert to ensure linguistic and conceptual equivalence. The translation process followed standard forward-backward procedures, and no changes were made to the original structure or meaning of the instrument.

Statistical Analysis

All data were analyzed using SPSS version 18.0 (PASW Statistics for Windows, Version 18.0. Chicago: SPSS Inc; 2009). Descriptive statistics (frequency, percentage, mean [SD]) were used to describe demographic characteristics of clients and therapists, therapy process variables, attitudes toward therapy, and family-related variables. Inferential statistics included the chi-square test for categorical variables, Mann-Whitney *U* test for comparing medians

between 2 independent nonnormally distributed groups, Kruskal-Wallis test for comparing medians across more than 2 groups, Spearman rank correlation for assessing correlations between continuous or ordinal variables, and multiple regression analysis for identifying predictors of homework adherence.

Results

Descriptive Data on Clients, Therapists, Therapy Process, Attitudes Toward Therapy, and Family Factors

Among the 79 total participants, the majority were adults (65.82%) with a mean (SD) age of 26.06 (5.45) years. Most were female (82.27%) and held a bachelor's degree (64.55%). The majority were single (94.93%) and students (32.91%). Most lived with their families (51.89%) (Table 1).

In the subgroup of 27 young adults, the majority were female (81.48%) with a mean (SD) age of 19.7 (3.03) years. Most were enrolled in bachelor's degree programs (74.07%) and all were single. Most worked as students (85.18%) and lived with their families (77.77%). Among the 47 participating therapists, most were female (72.34%) with mean (SD) of 2.43 (1.49) years of CBT experience, ranging from 1 to 8 years.

Regarding therapy process factors, 53 participants (67.08%) received therapy online. The mean (SD) therapeutic alliance score (WAI-SR) for young adults was 39.96 (6.2), which was significantly higher than that of adults which was 35.52 (8.36) (P = .011).

For attitudes toward therapy, most participants reported seeking therapy on their own (50.63%). The highest mean (SD) motivational score was in the identified regulation dimension was 24.45 (3.54). The mean (SD) score for family functioning (SCORE-15) was 41.51 (9.93).

The overall mean (SD) score for homework adherence (HRS-II) was 34.01 (5.82), and for the HRS-II subscales and psychological effort are presented (Supplementary S5). In the total sample, mean (SD) scores were 9.95 (2.41) for homework engagement, 15.72 (2.81) for homework beliefs, 8.18 (2.09) for homework consequences, and 1.15 (0.29) for psychological effort. Young people and adults showed similar patterns, with a significant difference only in homework beliefs (P = .005). The therapist-rated homework compliance score (HCS) had a mean (SD) of 4.1 (1.19). The mean (SD) score for clinical improvement (CGI-I) was 2.14 (0.81).

Table 1. Descriptive Characteristics of Clients, Therapists, Therapy Process, Attitudes Toward Therapy, and Family Factors Among Young People and Adults

Variable		Total (n = 79)	Young People (n = 27)		Adults (n = 52)		*P* Value
		No. (%)	No. (%)	Min-Max	No. (%)	Min-Max	
Client factors							
Age, mean (SD), y		26.06 (5.452)	19.70 (3.03)	13-24	29.37 (2.87)	25-34	
Gender	Male	14 (17.7)	5 (18.5)	NA	9 (17.3)	NA	.890
	Female	65 (82.3)	22 (81.5)	NA	43 (82.7)	NA	
Education level	Secondary	7 (8.9)	7 (25.94)	NA	0 (0)	NA	< .001
	Bachelor's degree	51 (64.6)	20 (74.1)	NA	31 (59.6)	NA	
	Graduate degree	21 (26.6)	0 (0)	NA	21 (40.4)	NA	

Table 1. Descriptive Characteristics of Clients, Therapists, Therapy Process, Attitudes Toward Therapy, and Family Factors Among Young People and Adults (Continued)

Variable		Total (n = 79)	Young People (n = 27)		Adults (n = 52)		*P* Value
		No. (%)	No. (%)	Min-Max	No. (%)	Min-Max	
Marital status	Single	75 (94.9)	27 (100)	NA	48 (92.3)	NA	.139
	Married	4 (5.1)	0 (0)	NA	4 (7.7)	NA	
Occupation	Student	26 (32.9)	23 (85.2)	NA	3 (5.8)	NA	< .001
	Company employee	24 (30.4)	3 (11.1)	NA	21 (40.4)	NA	
	Freelance	12 (15.2)	1 (3.7)	NA	11 (21.2)	NA	
	Others	17 (21.5)	0 (0)	NA	17 (32.7)	NA	
Living	Alone	23 (29.1)	4 (14.8)	NA	19 (36.5)	NA	.004
	Partner/ Friends	15 (19.0)	2 (7.4)	NA	13 (25)	NA	
	Family	41 (51.9)	21 (77.8)	NA	20 (38.5)	NA	
Therapist factors (n = 47)							
Gender	Male	13 (27.7)	2 (12.5)	NA	14 (87.5)	NA	.041
	Female	34 (72.3)	25 (39.7)	NA	38 (60.3)	NA	
Experience, mean (SD), y		2.43 (1.49)	NA	1-8	NA	NA	NA
Therapy process, attitudes toward therapy, and family factors							
Therapy format	In-person	22 (27.8)	5 (18.5)	NA	17 (32.7)	NA	.116
	Online	53 (67.1)	19 (70.4)	NA	34 (65.4)	NA	
	Both	4 (5.1)	3 (11.1)	NA	1 (1.9)	NA	
WAI-SR, mean (SD)		37.04 (7.94)	39.96 (6.2)	18-48	35.52 (8.36)	9-45	.011
Decision to seek therapy	Self	40 (50.6)	12 (44.4)	NA	28 (53.8)	NA	.154
	Partner/Friends	7 (8.9)	2 (7.4)	NA	5 (9.6)	NA	NA
	Family/Doctor	13 (16.5)	8 (29.6)	NA	5 (9.6)	NA	NA
	Multiple reason	19 (24.1)	5 (18.5)	NA	14 (26.9)	NA	NA
SIMS, mean (SD)	Intrinsic motivation	19.11 (4.61)	19.81 (4.51)	11-28	18.75 (4.66)	9-28	.367
	Identified regulation	24.45 (3.54)	24.41 (3.75)	17-28	24.62 (3.45)	13-28	.971
	External regulation	18.65 (4.78)	19.63 (5.9)	9-28	18.13 (4.06)	11-26	.150
	Amotivation	8.29 (4.22)	8 (4.16)	4-19	8.44 (4.29)	4-20	.571
SCORE-15, mean (SD)		41.51 (9.93)	43.41 (8.63)	27-61	40.52 (10.48)	23-69	.131
Homework adherence and clinical outcome							
HRS-II, mean (SD)		34.01 (5.82)	35.07 (5.95)	21-44	33.46 (5.74)	19-46	.201
HCS, mean (SD)		4.1 (1.19)	3.89 (1.31)	1-6	4.21 (1.12)	2-6	.417
CGI-I, mean (SD)		2.14 (.81)	2.15 (.77)	3-7	2.13 (.84)	4-7	.930

Abbreviations: CGI-I, Clinical Global Impression – Improvement Scale; HCS, Homework Compliance Scale; HRS-II, Homework Rating Scale II; NA, not applicable; SIMS, The Situational Motivation Scale; SCORE-15, 15-item Systemic Clinical Outcome and Routine Evaluation - Thai version; WAI-SR, Working Alliance Inventory - Short Revised.

Analysis of Relationship Between Clients, Therapists, Therapy Process, and Attitudinal Factors and Homework Adherence (HRS-II) and Homework Compliance (HCS)

In the full sample, positive correlations were found between HRS-II and the following variables: therapeutic alliance (WAI-SR) (r = 0.629), intrinsic motivation (r = 0.440), and identified regulation (r = 0.486). Amotivation was negatively correlated with HRS-II (r = -0.398), all at P < .01. Family functioning (SCORE-15) was negatively correlated with HCS (r = -0.238, P < .05). Additionally, both HRS-II (r = -0.305) and HCS (r = -0.347) were negatively correlated with CGI-I scores (P < .01), indicating that higher homework adherence and compliance were associated with greater clinical improvement (Tables 2 and 3). In the subgroup analyses (Supplementary S6), no significant associations were found between HRS-II subscales or psychological effort and most demographic or therapy-related variables. However, significant differences were observed for age group, therapist gender, and living situation. Younger participants reported higher homework beliefs scores compared with adults (P < .01), and participants treated by female therapists also reported higher homework beliefs scores than those treated by male therapists (P < .05). In terms of living arrangements, individuals living alone demonstrated greater psychological effort than those living with others (P < .05). These findings suggest that younger age, therapist gender, and independent living may be associated with specific aspects of homework adherence in CBT.

WAI-SR was positively correlated with all HRS-II subscales at P < .01: homework engagement (r = 0.329), homework beliefs (r = 0.607), and homework consequences (r = 0.492). Intrinsic motivation was positively associated with all HRS-II subscales at P < .01 (r = 0.392, 0.333, and 0.315, respectively), and identified regulation was positively correlated with all HRS-II subscales at P < .01 (r = 0.378, 0.472, and 0.359, respectively). Psychological effort showed a significant positive correlation with homework beliefs (r = 0.407, P < .01) but was not significantly associated with CGI-I. All HRS-II subscales were negatively correlated with CGI-I: homework engagement (r = -0.223, P < .05), homework beliefs (r = -0.316, P < .01), and homework consequences (r = -0.223, P < .05) (Supplementary S7).

In the young adult subgroup, female participants had significantly higher homework adherence scores than males (P = .022) (Table 2). Therapeutic alliance (r = 0.670), intrinsic motivation (r = 0.440), and identified regulation (r = 0.434) were positively associated with homework adherence (P < .01) (Table 4). Furthermore, HRS-II scores were negatively correlated with CGI-I scores (r = -0.594, P < .01), suggesting that greater homework adherence was associated with better clinical outcomes. Significant associations between HRS-II subscales and several key factors (P < .01) was found. Specifically, homework engagement was positively correlated with therapeutic alliance (r = 0.565), intrinsic motivation (r = 0.494), and identified regulation (r = 0.468). Homework belief was related to perceived benefit of therapy (r = 0.529), while homework consequence showed positive associations with therapeutic alliance (r = 0.586) and intrinsic motivation (r = 0.439). Psychological effort was associated with perceived benefit of therapy (r = 0.496) and identified regulation (r = 0.471). Furthermore, HRS-II subscales and psychological effort demonstrated significant associations with clinical outcomes (P < .01). Specifically, homework engagement was negatively correlated with CGI-I (r = -0.305), homework beliefs with CGI-I (r = -.345), homework consequences with CGI-I (r = -0.347), and psychological effort with CGI-I (r = -0.304), indicating that higher scores on these measures were associated with greater clinical improvement (Supplementary S8).

Multiple Regression Analysis of Factors Associated With Homework Adherence

In the full sample, therapeutic alliance (WAI-SR) was significantly associated with homework adherence (HRS-II) across all regression models. In Model 1, β = 0.448 (95% CI, 0.191-0.466; *P* < .001); in Model 2, which controlled for client age and education level, β = 0.452 (95% CI, 0.185-0.478; *P* < .001); and in Model 3, which additionally controlled for therapy format and therapist experience, β = 0.456 (95% CI, 0.185-0.484; *P* < .001). This suggests that therapeutic alliance remained a significant predictor of homework adherence across all models (Table 5). WAI-SR was significantly associated with homework beliefs and homework consequences, but not with homework engagement or psychological effort. For homework beliefs, significant associations were observed in Model 1 (β = 0.406; 95% CI, 0.072-0.216; *P* < .001), Model 2 (β = 0.317; 95% CI, 0.038-0.187; *P* = .004), and Model 3 (β = 0.321; 95% CI, 0.038-0.190; *P* = .004). For homework consequences, WAI-SR was significant in Model 1 (β = 0.476; 95% CI, 0.070-0.181; *P* < .001), Model 2 (β = 0.544; 95% CI, 0.085-0.201], *P* < .001), and Model 3 (β = 0.549; 95% CI, 0.086-0.204], *P* < .001) (Supplementary S9).

Intrinsic motivation and identified regulation were significantly associated with homework adherence only in Model 1. For intrinsic motivation, β = 0.200; 95% CI, 0.009-0.497; *P* = .041); for identified regulation, β = 0.209 (95% CI, 0.013-0.674; *P* = .039). These associations were not significant in Models 2 and 3, after controlling for additional factors. Family functioning (SCORE-15) was not significantly associated with HRS-II scores in any model. No significant predictors were found for therapist-rated homework adherence (HCS) across models. Intrinsic motivation was significantly associated with homework engagement, but not with other HRS-II subscales or psychological effort. For homework engagement, significant associations were found in Model 1 (β = 0.287; 95% CI, 0.027-0.272; *P* = .017), Model 2 (β = .286; 95% CI, 0.026-0.273; *P* = .018), and Model 3 (β = 0.273; 95% CI, 0.016-0.269; *P* = .028). Identified regulation was significantly associated with homework beliefs only. The associations were significant in Model 1 (β = 0.242; 95% CI, 0.019-0.366; *P* = .030), Model 2 (β = 0.290; 95% CI, 0.055-0.406; *P* = .011), and Model 3 (β = 0.292; 95% CI, 0.052-0.413; *P* = .012) (Supplementary S9).

In the young people subgroup, therapeutic alliance (WAI-SR) was significantly positively associated with homework adherence (β = 0.582; 95% CI, 0.135-0.982; *P* = .013), indicating that a stronger therapeutic relationship was associated with higher homework adherence. However, no significant association was found between therapeutic alliance and homework adherence. Identified regulation was significantly associated with homework adherence (β = 0.588; 95% CI, 0.013-0.397; *P* = .038), suggesting that young people with higher identified regulation were more likely to consistently complete their assignments. Additionally, therapist experience was significantly associated with homework adherence (β = 0.507; 95% CI, 0.017-0.804; *P* = .042). No other variables were significantly associated with either HRS-II or HCS in the young people subgroup.

WAI-SR was significantly associated with homework beliefs and homework consequences among young adults. For homework beliefs, the association was significant in Model 1 (β = 0.368; 95% CI, 0.006-0.285; *P* = .041) and Model 3 (β = 0.624; 95% CI, 0.101-0.393; *P* = .002). For homework consequences, the association was significant in Model 1 (β = 0.427; 95% CI, 0.009-0.312; *P* = .038) and Model 2 (β = 0.404; 95% CI, 0.005-0.299; *P* = .044) (Supplementary S10).

Table 2. Relationship Between Client, Therapist, Therapy Process, and Attitudinal Factors With Homework Adherence (HRS-II) and Homework Compliance (HCS)

Variable		Total Sample (N = 79)							Young People Subgroup (n = 27)					
		No.	HRS-II Mean (SD)	U[a]/KW[b] Value	*P* Value	HCS Mean (SD)	U[a]/KW[b] Value	*P* Value	HRS-II Mean (SD)	U[a]/KW[b] Value	*P* Value	HCS Mean (SD)	U[a]/KW[b] Value	*P* Value
Gender	Male	14	33.64 (7.26)	417.5	.630	4.00 (1.35)	442.0	.862	29.00 (4.95)	18.5	.022*	3.40 (1.81)	45.5	.536
	Female	65	34.09 (5.53)	NA	NA	4.12 (1.16)	NA	NA	36.45 (5.33)	NA	NA	4.00 (1.19)	NA	NA
Age group	Young people	27	35.07 (5.95)	578.5	.201	3.89 (1.31)	626.5	.417	NA	NA	NA	NA	NA	NA
	Adult	52	33.46 (5.74)	NA	NA	4.21 (1.12)	NA	NA	NA	NA	NA	NA	NA	NA
Education level	Secondary	7	31.43 (6.85)	1.358	.507	3.57 (1.61)	3.062	.216	31.43 (6.85)	38.0	.075	2.43 (0.78)	61.5	.623
	Bachelor's	51	34.27 (5.40)	NA	NA	4.02 (1.15)	NA	NA	36.35 (5.20)	NA	NA	2.10 (0.78)	NA	NA
	Graduate	21	34.24 (6.54)	NA	NA	4.48 (1.07)	NA	NA	NA	NA	NA	NA	NA	NA
Marital status	Single	75	34.07 (5.95)	121.5	.523	4.11 (1.19)	149.0	.981	35.07 (5.95)	NA	NA	2.19 (0.78)	NA	NA
	Married	4	33.00 (2.44)	NA	NA	4.00 (1.41)	NA	NA	NA	NA	NA	NA	NA	NA
Occupation	Student	26	34.65 (5.76)	0.809	.847	3.88 (1.33)	2.903	.407	34.78 (6.10)	0.236	.627	2.17 (0.83)	0.065	.802
	Employee	24	33.38 (5.17)	NA	NA	4.13 (0.99)	NA	NA	36.67 (6.65)	NA	NA	2.00 (0.00)	NA	NA
	Freelance	12	33.75 (6.49)	NA	NA	3.92 (1.16)	NA	NA	37.00 (0.00)	NA	NA	3.00 (0.00)	NA	NA
	Others	17	34.12 (6.68)	NA	NA	4.53 (1.23)	NA	NA	NA	NA	NA	NA	NA	NA
Living	Alone	23	35.43 (5.58)	2.124	.346	4.04 (1.22)	0.254	.881	36.75 (4.92)	2.70	.259	1.50 (0.57)	2.87	.237
	Partner/friends	15	32.80 (4.47)	NA	NA	4.00 (1.25)	NA	NA	29.00 (4.24)	NA	NA	2.00 (1.41)	NA	NA
	With family	41	33.66 (6.34)	NA	NA	4.17 (1.18)	NA	NA	35.33 (6.10)	NA	NA	2.33 (0.73)	NA	NA
Therapist gender	Male	16	32.38 (6.67)	400.0	.204	3.88 (1.45)	0.834	.361	27.50 (9.19)	10.5	.176	1.50 (0.70)	10.5	.161
	Female	63	34.43 (5.57)	NA	NA	4.16 (1.12)	NA	NA	35.68 (5.45)	NA	NA	2.24 (0.77)	NA	NA
Therapy format	In-person	22	33.86 (6.74)	0.686	.710	4.36 (1.04)	2.128	.345	35.40 (5.27)	3.35	.187	2.00 (1.00)	1.39	.497
	Online	53	34.23 (5.48)	NA	NA	4.02 (1.24)	NA	NA	35.89 (6.11)	NA	NA	2.32 (0.74)	NA	NA
	Both	4	32.00 (6.05)	NA	NA	3.75 (1.25)	NA	NA	29.33 (3.51)	NA	NA	1.67 (0.57)	NA	NA
Decision to seek therapy	Self	40	32.85 (6.01)	7.275	.064	4.08 (1.18)	0.169	.982	34.17 (5.25)	1.62	.655	2.25 (0.86)	1.01	.798
	Partner/friends	7	31.57 (3.91)	NA	NA	4.14 (1.06)	NA	NA	35.00 (2.82)	NA	NA	2.50 (0.70)	NA	NA
	Family/doctor	13	36.46 (7.38)	NA	NA	4.15 (1.46)	NA	NA	35.00 (8.24)	NA	NA	2.13 (0.83)	NA	NA
	Multiple reason	19	35.68 (3.84)	NA	NA	4.11 (1.15)	NA	NA	37.40 (4.93)	NA	NA	2.00 (0.70)	NA	NA

Abbreviation: HCS, Homework Compliance Scale; HRS-II, Homework Rating Scale II; NA, not applicable.

[a] Mann-Whitney *U* test (U).

[b] Kruskal-Wallis test (KW).

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Table 3. Spearman Rank Correlation Among Client Factors, Therapy Process, Attitudes Toward Therapy, Family Functioning, and HRS-II, HCS, CGI-I of Total Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1) Client age	1											
2) Therapist age	0.052	1										
3) Therapist experience	-0.185	-0.040	1									
4) WAI-SR	-0.326**	0.042	-0.098	1								
5) Intrinsic motivation	-0.123	-0.272*	0.124	0.320**	1							
6) Identified regulation	-0.031	-0.137	-0.093	0.436**	0.476**	1						
7) External regulation	-0.176	0.089	0.087	0.118	0.151	0.218	1					
8) Amotivation	0.079	-0.030	0.178	-0.444**	-0.268*	-0.452**	-0.081	1				
9) SCORE-15	-0.162	-0.124	0.066	-0.126	-0.048	-0.021	0.098	0.234*	1			
10) HRS-II	-0.194	0.104	-0.043	0.629**	0.440**	0.486**	0.205	-0.398**	-0.107	1		
11) HCS	0.104	0.180	0.178	0.051	0.114	0.090	0.136	-0.190	-0.238*	0.266*	1	
12) CGI-I	-0.104	-0.246*	0.192	-0.189	-0.049	-0.145	-0.222*	0.216	0.222*	-0.305**	-0.347**	1

Abbreviations: CGI-I, Clinical Global Impression - Improvement Scale; HCS, Homework Compliance Scale; HRS-II, Homework Rating Scale II; SCORE-15, 15-item Systemic Clinical Outcome and Routine Evaluation - Thai version; WAI-SR, Working Alliance Inventory - Short Revised.

* $P < .05$.

** $P < .01$.

Res Med J. 20XX;XX(X):e275833.

Table 4. Spearman Rank Correlation Among Client Factors, Therapy Process, Attitudes Toward Therapy, Family Functioning, and HRS-II, HCS, CGI-I of Young People

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1) Client age	1											
2) Therapist age	0.394*	1										
3) Therapist experience	-0.37	-0.127	1									
4) WAI-SR	0.402*	0.17	-0.169	1								
5) Intrinsic motivation	0.111	-0.313	-0.06	0.433*	1							
6) Identified regulation	0.198	-0.115	-0.216	0.413*	0.461*	1						
7) External regulation	-0.136	.387*	0.109	-0.13	-0.092	-0.043	1					
8) Amotivation	-0.480*	0.032	0.218	-0.268	-0.145	-0.457*	0.056	1				
9) SCORE-15	0.071	-0.1	-0.178	-0.042	-0.098	0.016	-0.028	0.202	1			
10) HRS-II	0.356	0.137	-0.251	0.670**	0.434*	0.440*	0.235	-0.243	-0.068	1		
11) HCS	0.106	0.147	0.266	0.058	0.227	0.171	0.187	-0.257	-0.125	0.282	1	
12) CGI-I	-0.648**	-0.475*	0.524**	-0.433*	-0.186	-0.251	-0.271	0.404*	-0.013	-0.594**	-0.23	1

Abbreviations: CGI-I, Clinical Global Impression - Improvement Scale; HCS, Homework Compliance Scale; HRS-II, Homework Rating Scale II; SCORE-15, 15-item Systemic Clinical Outcome and Routine Evaluation - Thai version; WAI-SR, Working Alliance Inventory - Short Revised.

* $P < .05$.

** $P < .01$.

Res Med J. 20XX;XX(X):e275833.

Table 5. Multiple Regression Analysis of Factors Associated With Homework Adherence (HRS-II) and Homework Adherence (HCS)

Model*		Total Sample (n = 79)						Young People Subgroup (n = 27)					
		HRS-II			HCS			HRS-II			HCS		
		β (95% CI)	*t*	*P* Value	β (95% CI)	*t*	*P* Value	β (95% CI)	*t*	*P* Value	β (95% CI)	*t*	*P* Value
1	WAI-SR	0.448 (0.191 to 0.466)	4.77	< .001	-0.07 (-0.048 to 0.027)	-0.562	.576	0.377 (-0.002 to 0.724)	2.065	.051	-0.221 (-0.145 to 0.052)	-0.986	.335
	Intrinsic motivation	0.2 (0.009 to 0.497)	2.069	.042	0.026 (-0.060 to 0.073)	0.204	.839	0.154 (-0.283 to 0.688)	0.865	.396	0.031 (-0.123 to 0.140)	0.141	.889
	Identified regulation	0.209 (0.013 to 0.674)	2.073	.042	0.171 (-0.032 to 0.148)	1.276	.206	0.291 (-0.154 to 1.078)	1.556	.134	0.421 (-0.020 to 0.314)	1.828	.081
	SCORE-15	-0.082 (-0.147 to 0.051)	-0.964	.338	-0.196 (-0.051 to 0.003)	-1.743	.086	-0.144 (-0.328 to 0.129)	-0.904	.376	-0.129 (-0.081 to 0.042)	-0.655	.519
2	WAI-SR	0.452 (0.185 to 0.478)	4.501	< .001	-0.025 (-0.044 to 0.036)	-0.188	.851	0.361 (-0.016 to 0.709)	1.995	.060	-0.246 (-0.155 to 0.051)	-1.05	.306
	Intrinsic motivation	0.191 (-0.006 to 0.488)	1.948	.055	0.03 (-0.059 to 0.075)	0.231	.818	0.164 (-0.273 to 0.704)	0.921	.368	0.008 (-0.137 to 0.142)	0.036	.972
	Identified regulation	0.185 (-0.041 to 0.649)	1.757	.083	0.12 (-0.053 to 0.134)	0.861	.392	0.224 (-0.280 to 0.991)	1.168	.257	0.426 (-0.033 to 0.330)	1.711	.103
	SCORE-15	-0.071 (-0.143 to 0.059)	-0.821	.414	-0.169 (-0.048 to 0.007)	-1.472	.146	-0.151 (-0.332 to 0.123)	-0.956	.351	-0.148 (-0.087 to 0.042)	-0.72	.480
	Client age	-0.101 (-0.381 to 0.166)	-0.785	.435	0.017 (-0.071 to 0.078)	0.098	.922	0.139 (-0.882 to 1.427)	0.492	.628	0.264 (-0.215 to 0.443)	0.721	.479
	Education level	0.154 (-0.994 to 4.131)	1.220	.226	0.147 (-0.390 to 1.006)	0.88	.382	0.145 (-5.993 to 9.853)	0.508	.617	-0.157 (-2.718 to 1.799)	-0.424	.676
3	WAI-SR	0.456 (0.185 to 0.484)	4.473	< .001	-0.004 (-0.040 to 0.039)	-0.027	.979	0.582 (0.135 to 0.982)	2.768	.013	-0.255 (-0.171 to 0.063)	-0.965	.347
	Intrinsic motivation	0.185 (-0.02 to 0.488)	1.839	.070	-0.015 (-0.071 to 0.064)	-0.112	.911	0.097 (-0.358 to 0.615)	0.554	.586	-0.045 (-0.148 to 0.121)	-0.203	.841
	Identified regulation	0.184 (-0.051 to 0.657)	1.707	.092	0.162 (-0.040 to 0.149)	1.154	.252	0.084 (-0.563 - 0.828)	0.401	.693	0.588 (0.013 to 0.397)	2.24	.038
	SCORE-15	-0.072 (-0.145 to 0.06)	-0.821	.415	-0.183 (-0.049 to 0.005)	-1.61	.112	-0.055 (-0.272 to 0.196)	-0.342	.736	-0.102 (-0.080 to 0.049)	-0.502	.622
	Client age	-0.111 (-0.406 to 0.169)	-0.819	.416	0.074 (-0.060 to 0.093)	0.424	.673	0.179 (-0.877 to 1.577)	0.6	.556	0.599 (-0.081 to 0.598)	1.601	.127
	Education level	0.15 (-1.128 to 4.178)	1.147	.255	0.079 (-0.541 to 0.869)	0.464	.644	0.099 (-6.927 to 9.567)	0.336	.741	-0.448 (-3.596 to 0.966)	-1.211	.241
	Therapy format	-0.049 (-2.517 to 1.434)	-0.546	.586	-0.114 (-0.781 to 0.269)	-0.973	.334	-0.384 (-8.880 to 0.549)	-1.856	.080	-0.124 (-1.599 to 1.009)	-0.475	.640
	Therapist experience	-0.003 (-0.715 to 0.693)	-0.031	.975	0.206 (-0.023 to 0.351)	1.748	.085	0.062 (-1.193 to 1.653)	0.339	.738	0.507 (0.017 to 0.804)	2.192	.042

Abbreviations: HCS, Homework Compliance Scale; HRS-II, Homework Rating Scale II; SCORE-15, 15-item Systemic Clinical Outcome and Routine Evaluation - Thai version; WAI-SR, Working Alliance Inventory - Short Revised.

* Model 1 includes only the main variables, Model 2 adds client-related variables, and Model 3 adds therapist-related variables.

Discussion

This study aimed to investigate the factors associated with homework adherence in CBT. The results indicated that therapeutic alliance, intrinsic motivation, and identified regulation were positively associated with clients' homework adherence. Specifically, among young people, therapeutic alliance, identified regulation, and therapist experience were found to be positively associated with homework adherence. Moreover, both client-reported homework adherence and therapist-rated homework adherence showed significant associations with better clinical outcomes, as measured by the CGI-I. These findings are consistent with prior research highlighting the potential role of homework in CBT and its potential role in enhancing treatment outcomes.[4, 6, 7]

This study found that the therapeutic alliance was associated with homework adherence. Bordin[33] explained that the therapeutic alliance consists of 3 main components: bond (trust and attachment), goal (mutual agreement on treatment goals), and task (agreement on therapeutic methods). Clearly defined goals and agreements may contribute to strengthening the bond and facilitating cooperation in completing homework. Several studies support this notion. For instance, Safran et al[34] reported that a strong relationship with the therapist was linked to greater acceptance of guidance and participation in therapy-related activities, including homework assignments. Therefore, building a safe and trusting relationship between therapist and client is essential in the early phase of therapy and should occur alongside an effective treatment plan that promotes participation and teamwork while fostering understanding and confidence in clients.[35]

Additionally, the therapist's response to initial nonadherence to homework can influence future homework adherence. Expressing concern, discussing barriers to homework adherence, and collaboratively identifying adjustments may facilitate greater homework adherence in subsequent sessions. Kazantzis et al[21] emphasized that a strong therapeutic alliance has been associated with higher rates of homework completion. Establishing this alliance requires the therapist's skill and experience in creating a sense of safety and trust, and in designing an effective treatment process.[11, 12, 36] This collaborative foundation may enhance engagement of clients with homework tasks and contributes to greater homework adherence, which has been associated with improved clinical outcomes[5, 23] and lower dropout rates.[37]

Fostering motivation for clients to engage in homework may differ between young people and adults.[23] Young people are often motivated by rewards or praise, whereas adults tend to be motivated by perceived value, benefits, and alignment with personal goals. Therefore, therapists must be knowledgeable and able to design personalized interventions that maximize client cooperation, taking into account both professional experience and individual differences.

The analysis also revealed that identified regulation was associated with therapist-rated homework compliance (HCS), but not with self-reported homework adherence (HRS-II). This may reflect characteristics of emerging adulthood, a stage involving the development of self-awareness and self-appraisal. According to Erikson's theory,[38] individuals at this stage face the developmental task of identity versus role confusion, often questioning themselves and their social roles. This may lead to discrepancies in self-evaluation, whereas therapists, who observe behavior directly and over time, may provide more accurate assessments.

Furthermore, the finding that therapist experience was associated with homework adherence among young adults suggests that more experienced therapists may better

tailor techniques to this developmental context. Examples include using motivational interviewing, offering autonomy-supportive feedback, and highlighting the importance and value of assignments. According to Deci and Ryan's self-determination theory,[17, 39] identified regulation is a type of motivation in which recognizing the significance and value of an activity fosters self-regulation in completing assigned tasks. Yew et al[40] explained that when clients believe in and value what they are asked to do, they are more likely to engage consistently. This aligned with findings from McEvoy et al[18] and Malik et al[20] who also described client motivation as a key factor influencing homework adherence in therapy.

The findings of this study indicated that family functioning was not associated with either homework adherence or the level of homework adherence, both in the overall sample and in the young adult subgroup. This contrasts with the findings of Essoe et al[23] who investigated homework adherence in behavioral therapy for patients with Tourette's disorder (TD) and found that family functioning and family stress were associated with homework adherence. Specifically, families with higher stress levels demonstrated lower homework adherence than those with lower stress. However, in the present study, the sample consisted of individuals aged 13 to 35 years, with a mean age of 19.7 leaning toward late adolescence and early adulthood during which the influence of family may be less prominent compared to internal factors such as motivation. This interpretation aligns with Arnett's theory,[41] which describes emerging adulthood as a transitional stage marked by increasing independence and detachment from the family of origin. Additionally, homework in the context of psychological therapy is a highly personal, and family influence may be limited, especially for individuals with high autonomy or independent living.

Moreover, these findings should also be considered within the Thai cultural context. Thailand is traditionally a collectivist society where family involvement in healthcare is emphasized.[42] The lack of association between family functioning and homework adherence in this study may reflect developmental changes in adolescence and emerging adulthood, during which young people seek greater independence even within collectivist cultures. The rapid adoption of online therapy formats in Thailand, as seen in this sample, may also influence how young clients perceive and engage with homework compared with adults.[43] These cultural factors highlight the importance of tailoring CBT interventions in Thailand to balance family engagement with support for individual autonomy.

In the supplemental analyses, psychological effort, though conceptually relevant as a measure of mental exertion, showed no clear relationship with treatment outcomes, suggesting that its role may be more complex than captured here. It is also possible that the absence of significant associations with psychological effort may partly reflect the way this coefficient was calculated, which produced values within a relatively narrow range and thereby limited sensitivity due to restriction of range. While the HRS-II total score was strongly associated with therapeutic alliance, intrinsic motivation, and identified regulation, subscale analyses revealed more nuanced patterns. Therapeutic alliance related to homework beliefs and consequences, but not engagement, intrinsic motivation was linked to homework engagement, and identified regulation was associated with homework beliefs. These findings were consistent with prior evidence on the importance of motivation and alliance in CBT homework[4] and suggested that different motivational processes may shape distinct dimensions of homework behavior, while the overall adherence score remains the most clinically meaningful indicator.

A key strength of this study lies in its assessment of homework adherence from both the client's and therapist's perspectives, providing a broader understanding of client behavior.

This study also considered a wide range of relevant factors including individual traits, therapy process variables, attitudes toward therapy, and family context which contributed to a more balanced analysis of homework-related influences. However, several limitations should be acknowledged. The cross-sectional design limited the ability to draw causal inferences. The sample largely consisted of young people and adults and was drawn from only 2 clinical sites located in Bangkok, which may, to some extent, limit the generalizability of findings to other populations. In addition, although the translated instruments were reviewed by CBT and language experts, the absence of a pilot study or construct validity testing is a limitation, as most participants were students without formal psychiatric diagnoses. This may have affected participants' understanding, willingness to respond, or accuracy of responses. Additionally, data on other potentially relevant factors such as psychiatric diagnoses, types of homework assigned, concurrent treatments were not collected. Studies may also benefit from including more diverse populations, focusing on specific age groups, and incorporating additional variables relevant to homework behavior.

Future Research Directions

Future studies should employ longitudinal or prospective designs to better clarify the causal relationships between therapeutic alliance, motivation, and homework adherence. Such designs could help determine whether stronger alliance and higher identified regulation lead to better adherence, or whether adherence itself strengthens the therapeutic relationship. In addition, research should examine the role of therapist variables in greater depth, including specific skills, supervision quality, and training background, to understand how these factors influence adherence, especially in younger populations. Expanding the scope to include diverse clinical populations, such as individuals with specific psychiatric diagnoses or different cultural contexts, would enhance the generalizability of findings. Moreover, exploring family involvement and peer support as potential facilitators of homework adherence among adolescents may yield valuable insights, particularly in collectivist cultures. Finally, integrating technology-based strategies, such as mobile health applications and digital reminders, may provide innovative methods to improve homework adherence and should be systematically investigated in future work.

Implications

The findings of this study provide practical guidance for psychiatrists, psychotherapists, and clinical psychologists in designing therapist training programs. Key skills include building a strong therapeutic alliance by establishing trust and a safe environment, and collaboratively designing homework with clients to address real-life problems. Explaining the purpose and benefits of homework enhances identified regulation, supporting self-regulation and consistent engagement. Structuring treatment plans to promote collaboration and goal-setting, along with providing feedback and reinforcement, further strengthens motivation. Developing these competencies can improve client adherence and ultimately lead to better treatment outcomes in CBT.

Conclusions

This study found that the strong therapeutic alliance, along with intrinsic motivation and identified regulation, were positively associated with homework adherence in CBT. Among young adults, therapist experience also associated with homework adherence.

Moreover, both client-reported and therapist-rated homework adherence were linked to clinical improvement. These findings underscore the importance of building a strong therapeutic alliance, fostering emotional connection, and creating a safe space within the therapeutic relationship.

Additional Information

Acknowledgments: The researchers would like to express sincere gratitude to the staff of the "Therapist Volunteers" Project at Chulalongkorn University, the staff of the Outpatient Psychiatry Department at Ramathibodi Hospital, and all research participants for their valuable support and cooperation, which made this study possible.

Ethics Approval: This study was reviewed and approved by the Ethics Committee of the Faculty of Medicine Ramathibodi Hospital, Mahidol University (MURA2023/923 on 13 December 2023). All participants provided informed consent prior to participation. For participants under the age of 18, written informed consent was obtained from a parent or legal guardian, along with assent from the participant. The study was conducted in accordance with the Declaration of Helsinki and ethical standards for research involving human participants.

Clinical Trial Consideration: This study does not report on a clinical trial.

Financial Support: No financial support was provided for this study.

Conflict of Interest: The authors declare no conflict of interest.

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Supplementary Material: Download Supplementary S1-S10 from the following link: https://he02.tci-thaijo.org/index.php/ramajournal/article/view/275833/188730

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