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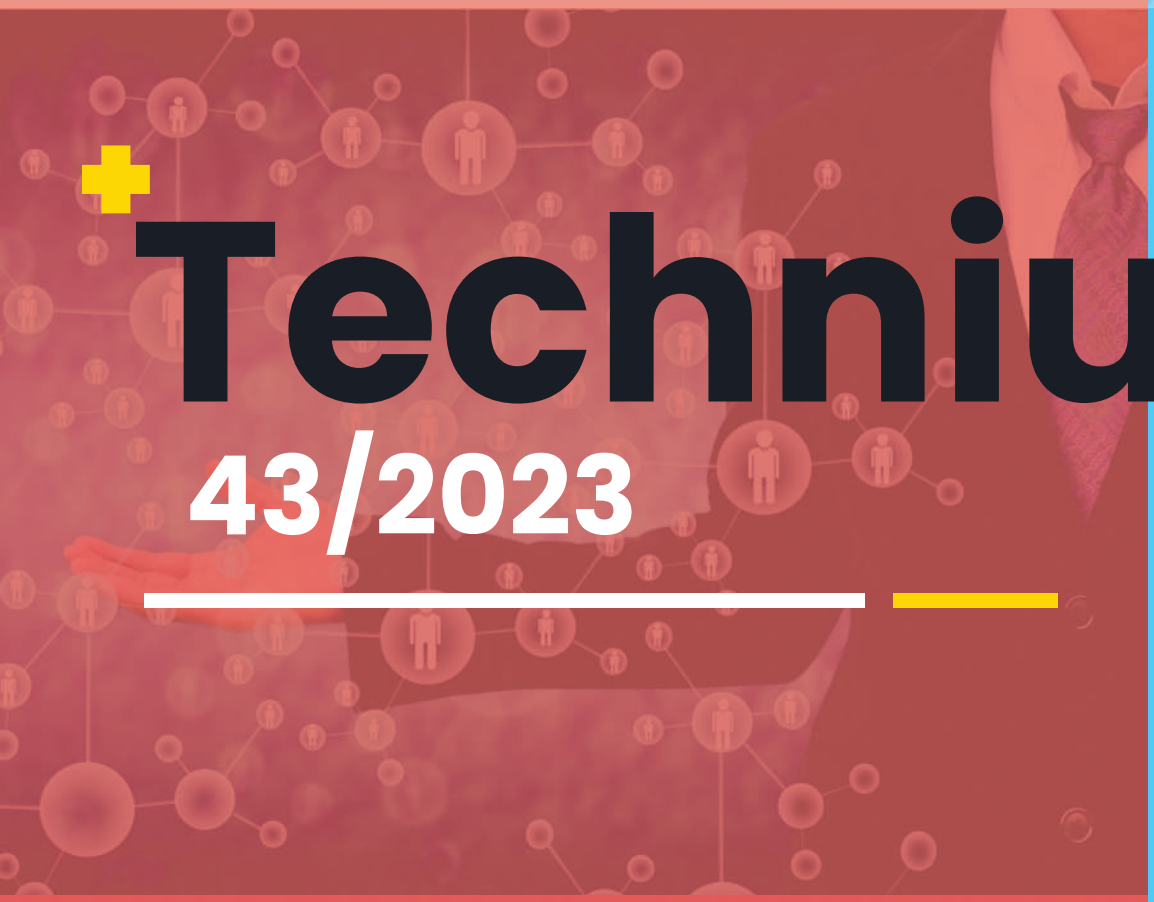

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Mediating Effects of Reactance in the Relationship Between Adult Attachment and Working Alliance in CBT: A Structural Equation Modelling Approach

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Abstract. The aetiological effects of attachment dimensions on therapeutic relationships, a determining factor for client experiences and outcomes, have been extensively documented in the psychotherapeutic literature. However, in CBT, the possible pathways through which attachment affects the working alliance is a severely under-explored area of scientific inquiry. Hence, the present study sought to examine the possible mediating role of therapeutic reactance in the attachment dimensions-working alliance link. In a sample of 224 CBT clients (182 women and 42 men) with a mean age of 25.2 years (SD=3,87), the Experiences in Close Relationships-Revised (ECR-R), Working Alliance Inventory-Client (WAI-C) and Therapeutic Reactance Scale (TRS) were distributed, and Structural Equation Modelling (SEM) procedures revealed that therapeutic reactance fully mediates the attachment-working alliance link with an indirect effect of β=-.080, t=-3.402, $p<.05$ and it partially mediates the attachment avoidance-working alliance link with β=-.054, t=-2.539, $p<.05$ explaining 19.5% and 15% of the variance in the effect of each attachment dimension on working alliance, respectively. Findings suggest that therapeutic reactance effectively captures a large proportion of the influence of adult attachment on working alliance in CBT, deeming it a promising area for further investigation with major practical applications. Future studies utilizing longitudinal, qualitative, and clinical trial methodologies could focus on reactance prevention strategies to promote better therapeutic relationships and therefore, client outcomes.

Keywords. CBT, Attachment anxiety, attachment avoidance, therapeutic reactance, resistance, working alliance

Introduction

Attachment theory has emerged as a pivotal framework for elucidating the development of interpersonal relationships, encompassing the therapeutic alliance between clients and therapists (Mikulincer & Shaver, 2016; Mallinckrodt & Wei, 2005). Nevertheless, the integration of attachment theory in cognitive behavioural psychotherapy has been relatively slow to attain recognition. Traditionally, cognitive-behavioral therapy (CBT) has prevailed as one of the most extensively employed psychotherapeutic modalities, emphasizing cognitive and behavioral modifications to enhance mental health outcomes (Butler, Chapman, Forman, & Beck, 2006). Although conventional CBT initially dismissed the importance of attachment theory within its therapeutic paradigm (Holmes, 1997), the past decade has witnessed a

substantial shift towards incorporating it into CBT, underscoring the necessity to comprehend the role of attachment in psychotherapy outcomes, particularly as it has been linked to psychopathology such as anxiety, depression, and personality disorders (Levy, Ellison, & Scott, 2018; Mallinckrodt, Gantt, & Coble, 2018; Fraley, Roisman, & Haltigan, 2013; Ravitz, Maunder, & McBride, 2008).

Attachment theory postulates that initial attachment experiences mold individuals' expectations, beliefs, and behaviors in subsequent relationships throughout their lives, including the therapeutic relationship (Bartholomew & Horowitz, 1991; Mikulincer & Shaver, 2016). This is particularly crucial in CBT, where the therapeutic relationship has been identified as a vital factor in facilitating positive treatment outcomes (Norcross & Wampold, 2011). Understanding the dynamics of attachment within the therapeutic context may shed light on the challenges and barriers faced by clients with insecure attachment styles.

One such barrier that may be particularly relevant to the topic of attachment is the phenomenon of resistance or reactance in psychotherapy. Resistance or reactance refers to the clients' opposition or defensiveness towards therapeutic interventions, which can impede the establishment of a strong therapeutic alliance and hinder progress towards treatment goals (Gibbons, Critchley, Young, & Waters, 2019). By examining the mediational role of resistance or reactance in the link between attachment dimensions and the therapeutic relationship in CBT, this study may help understand the mechanics of barriers to effective therapy and inform the development of interventions for individuals with attachment difficulties. Insecure attachment has been associated with greater resistance or reactance to psychotherapy (Tryon & Winograd, 2011; Dinger, Strack, Sachsse, & Schauenburg, 2015). The present study aims to examine the mediational role of resistance or reactance to psychotherapy in the link between attachment dimensions (anxiety and avoidance) and the therapeutic relationship in CBT. The study hypothesizes that individuals with higher levels of attachment anxiety or avoidance will exhibit greater resistance or reactance to psychotherapy, which will, in turn, create barriers to building a strong therapeutic alliance and impede progress towards treatment goals (Gibbons, Critchley, Young, & Waters, 2019). The study will utilize a cross-sectional survey design, measuring participants' attachment dimensions, resistance or reactance to psychotherapy, and the quality of the therapeutic relationship.

Additionally, this study's findings could contribute to the broader theoretical understanding of the mechanisms underlying the association between attachment styles and psychotherapy outcomes (Fernandez et al., 2021; Riggs, Becker, & Mooney, 2020). By identifying resistance or reactance as a mediator between attachment styles and the therapeutic relationship in CBT, this study may help inform the development of new and more effective interventions for individuals with insecure attachment styles.

In conclusion, this paper emphasizes the crucial role of attachment theory in cognitive-behavioral therapy (CBT) and its influence on the therapeutic relationship. Attachment theory provides a framework for understanding how early attachment experiences shape individuals' beliefs, expectations, and behaviors in subsequent relationships, including the therapeutic relationship. The incorporation of attachment theory into CBT has significantly broadened the theoretical understanding of the therapeutic relationship and highlighted the need to consider individual differences in attachment styles when treating clients.

By examining the mediational role of resistance or reactance in the link between attachment dimensions and the therapeutic relationship in CBT, this study may help identify barriers to effective therapy and inform the development of new interventions for individuals with insecure attachment styles. Additionally, the study's findings may contribute to the broader

theoretical understanding of the mechanisms underlying the association between attachment styles and psychotherapy outcomes. This may ultimately lead to more targeted and effective treatment approaches, particularly for clients with insecure attachment styles who may be more susceptible to resistance or reactance within the therapeutic context.

Methodology

Design

The present research reflects a study of quantitative, cross-sectional design, based on self-reports. It sought to examine the path and regression relationships through mediation analyses via the application of Structural Equation Modelling (SEM) procedures, assessing the effects of predictor variables (Adult Attachment Anxiety and Adult Attachment Avoidance) on the outcome variable of working alliance through the mediating role of therapeutic reactance. Moreover, a series of regression analyses will produce two separate structural equation models to explore the mediating effect of the subscales of therapeutic reactance on working alliance for attachment anxiety and avoidance, separately. The present study additionally functioned as a correlational and comparative study for the exploration of interrelationships and effects relevant to the demographic variables included in the study.

Participants

A non-probability, convenience sample of 224 volunteers participated in the study. The sample consisted of 182 women (81.3% of the total sample) and 42 men (18.7% of the total sample) with a mean age of 25.2 years (SD=3,87). The majority of the sample (178 participants; 79.5%) received CBT by a female professional while the remaining sample (46 participants; 20.5%) by a male professional. Moreover, treatment duration varied with 17.4% of the sample undergoing their first year of CBT, 51.8% between 1 and 2 years, 12.5% between 2 and 3 years and 18.3% between 3 and 4 years of CBT treatment. A majority of 79% of the sample used the internet to select their therapist, 13.4% were referred to the therapist by another client, 3.6% of the sample were referred by another therapist and 4% received a medical referral. Finally, the educational level of their therapists varied substantially with 14.7% of clients working with a therapist who only completed CBT training, 26.8% of clients were treated by a professional with undergraduate studies in a relevant discipline along with CBT training, 43.8% of clients received CBT from a trained CBT therapist with a postgraduate qualification and the remaining 14.7% had a therapist who held a doctorate accompanied by CBT training.

Inclusion criteria were based on age and treatment type. Young adults, under the threshold age of 30 were chosen due to the marked stability they experience in the therapeutic bond (Knerr et al., 2011) and older adults were not included due to larger discrepancies in therapeutic alliance that have been documented for this group (Laidlaw & Pachana, 2009). Moreover, during the commencement of the study (February to July in 2022), all participants needed to be current recipients of CBT psychotherapy as provided by a total of 21 trained CBT psychotherapists with their clinical practice located in the suburban area of Athens, Greece. More specifically, the CBT therapists were either employed or supervised by the Greek Institute of Clinical Psychology (17 therapists) or by the Scientific Centre for Counselling and Psychotherapy (4 therapists). Exclusion criteria revolved around diagnostic categories that would find it difficult to comprehend the nature and purpose of the study (e.g. psychotic or intellectual disorders), people with significant emotional instability which would not allow for a truthful or accurate working alliance measurement (e.g. severe personality disorders) and people who would be deemed by their therapist as optimal candidates to avoid succumbing to

the therapists proposal for participation contrary to own wishes. Finally, all clients needed to have attended a minimum of six therapeutic sessions since it is considered an adequate amount of time for a valid assessment of the working alliance (Ormhaug et al., 2014).

Materials

Initially, a checklist was designed for the assessment of demographic variables including age, gender, therapist gender, therapist education and duration of CBT treatment (see Appendix 1). Secondly for the assessment of adult attachment variables, Fraley, Waller and Brennan's (2000) Experiences in Close Relationships- Revised (ECR-R) was used as translated and adapted by Tsagkarakis, Kafetsios & Stalikas (2007). To measure the outcome variable of the working alliance, the Working Alliance Inventory-Clients (WAI-C) designed by Hovarth & Greenberg (1987) was used in its Greek version as translated and adapted by Papadimitriou (2004). Finally, to assess levels of therapeutic reactance, the translated version of the Therapeutic Reactance Scale (TRS) (Dowd, Milne & Wise, 1991) as it was adapted for the Greek population by Yotsidi (2011) was used.

ECR-R (Experiences in Close Relationships- Revised)

The present scale is considered by the scientific community the golden standard of attachment measurement and it has been employed in more than 5,000 studies worldwide assessing adult attachment. It measures adult attachment using the bifactor model of attachment, adult attachment anxiety and adult attachment avoidance. Attachment anxiety represents intense fear of interpersonal rejection, abandonment, and intense clinginess towards close others (Example item: «My desire to be very close, sometimes scares others away»). Attachment avoidance describes the tendency to avoid intimacy, dependence, and emotional proximity with others and a general proneness towards excessive self-reliance (Example item: «I am nervous when others get to close to me»). Correlations between Anxiety and Avoidance factors are generally weak (<.20) suggesting orthogonality of dimensions (Wei et al., 2007). ECR-R has 36 items which are rated on a 7-point Likert scale varying from strongly disagree to strongly agree. It has been psychometrically tested by numerous studies suggesting factor stability, validity, reliability and test-retest stability across time and it is also preferred in clinical samples due to its sound psychometric properties in clinical populations.

TRS (Therapeutic Reactance Scale)

Therapeutic Reactance Scale (TRS) is considered the most popular measure of therapeutic reactance in clinical research. TRS measures therapeutic reactance using four correlated subscales; Conflict Seeking (example item: «I find contradicting others stimulating»), Need for Freedom (example item: «I become angry when my freedom of choice is restricted»), Rejection of Influence (example item: «I consider advice from others to be an intrusion») and Authority Resentment (example item; «Regulations trigger a sense of resistance in me») (Inman et al., 2019). It has 28 items, with their averaged score reflecting total therapeutic reactance, and they are scored on a 4-point Likert scale ranging from completely disagree to completely agree. It is a measure of satisfactory construct validity (Dowd & Wallbrown, 1993; Dowd et al. 1994) and good internal consistency (Dowd et al., 1991).

WAI-C (Working Alliance- Clients)

WAI-C has been used in over 5,000 studies examining psychotherapeutic relationship and it uses three subscales to measure Working Alliance based on Bordin's (1983)

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pantheoretical model of working alliance; Goal (example item: «My therapist and I are working towards mutually agreed goals»), Task (example item: «I believe that the way we are working on my problem is correct») and Bond (example item: «I feel that my therapist appreciates me»). The scale is comprised of 36 items, scored on a 5-point Likert scale ranging from strongly disagree to strongly agree with the averaged sum of the scores reflecting total working alliance. It is a valid and reliable measure of high interrater reliability and predictive validity in terms of therapeutic outcomes (Busseri & Tyler, 2003).

Ethics

For ethical purposes, participants were thoroughly briefed about the purposes of the study, and they were explained that their participation would be anonymous, confidential and no other party would view their completed scales other than the researcher. The battery of questionnaires included a consent form, the briefing form, the questionnaires, and a debriefing form that thanked them for their participation in the study (see Appendix 1). Participants were given the right to withdraw from the research in case they felt uncomfortable with the content of the scales. In the debriefing form, contact details of the researcher were included for queries and a keyword of the participant's choice was added in case the participant decided a late withdrawal or needed to be excluded from the statistical analysis procedures of the study. Optionally, participants could include an e-mail address in case they wished to be informed as to the outcomes of the study.

Procedure

CBT therapists employed or supervised by the therapeutic sites were contacted individually by the researcher with the therapeutic sites acting as liaisons. The therapists were thoroughly briefed as to the aims of the study and were explicitly instructed to adhere to the research protocol concerning inclusion and exclusion criteria for participation. A sealed ballot was placed at each waiting area of the therapeutic sites, wherein participants could securely store the battery of scales after completion. Therapists invited their clients to participate in the study in the location of the therapeutic site, after a careful consideration of the appropriate age and psychological state of each client. Clients were informed that their participation would be voluntary, with the therapist having no way to be informed as to the answers participants provided. Clients who accepted the invitation to participate, they were presented with the scales in pen and paper format and were informed that the estimated time of questionnaire completion was 15 minutes. Their rights, mentioned in the ethics section, were clearly stated in the briefing and debriefing forms. Clients could either complete the scales in the waiting area after their session or complete them at home and then submit them in the ballot upon their re-arrival prior to their next session.

Data Handling and Analysis

Total scores as well as questionnaire subscale scores were calculated following the psychometric guidelines of the scale's authors. Reverse scores were recoded accordingly, and key variables were computed by adding the values in relevant items and then dividing them by the number of values added. Initially, a series of Independent-Samples t-tests were performed to determine whether working alliance or therapeutic reactance scores differed significantly based on client or therapist gender. Secondly, an additional series of one-way ANOVAs was used to determine whether working alliance and therapeutic reactance scores differed across levels of Duration of CBT Treatment (4 levels; 0-1 years, 1-2 years, 2-3 years, 3-4 years),

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Education of CBT Therapist (4 levels; CBT training, Undergraduate degree with CBT training, Postgraduate degree with CBT training, Doctoral degree with CBT training) and Type of Referral (4 levels; Internet, Referral by a Client, Referral by a Therapist or Medical Referral). Further, descriptive statistics as well as the interrelationships between the key variables of the study (including their subscales) were performed using multiple Pearson's R correlations, including Age as an interval variable to address the relationship among age and the study's key variables. In addition, structural equation modelling (SEM) techniques were employed to determine the mediation effect of therapeutic reactance in the relationship between Attachment Variables (Attachment Anxiety and Attachment Avoidance) and Working Alliance, while controlling for the positive relationship between the predictors. Following the guidelines of Gunzler et al. (2013), direct, indirect, and total regression coefficients were calculated to determine the possible significant existence of mediation, as well as their type (none, partial, full or inconsistent). Finally, percentage proportional changes were computed to illuminate the regression coefficient changes caused by the mediation of therapeutic reactance. For comparative, correlational and reliability analyses (Pearson's r, Cronbach's alphas, t-tests and ANOVAs), SPSS v.21 was used. To design the structural equation model which involved tests of mediation, IBM SPSS Amos V.26 was used and to assess mediation coefficients JASP v.0.8 and JAMOVI v.09.6 were employed.

Results

Descriptives and Assessment of Intercorrelations

Means, standard deviations and Cronbach's alphas for each variable and its subscales measured, are presented in table 1. along with an assessment of intercorrelations among the studies variables. Cronbach's alphas ranged from satisfactory to good (α=.71 to .83) for all scales and subscales and all exceeded the .70 threshold. Therefore, adequate internal consistency existed across the scales and subscales employed in the present study. As it may be seen in table 1. Pearson's r correlations found no significant relationship between age and the key variables as well as their subscales with relationships ranging from -.07 to .11. Attachment anxiety and attachment avoidance shared a weak significant correlation of r=.17. Attachment anxiety shared a weak negative correlation with working alliance of r=-.19 and its relationship to working alliance subscales ranged from -.07 to -.14. Moreover, attachment anxiety shared a significant positive correlation of medium strength with therapeutic reactance of r=.38 with relationships to therapeutic reactance subscales ranging from .04 to .39.

Similarly, attachment avoidance was negatively related to working alliance with r=-.29 and its relationship to working alliance subscales ranged from -.14 to -.19. Attachment avoidance was also positively related to therapeutic reactance with r=.29 with correlations to its subscales ranging from .07 to .30. Finally, therapeutic reactance and working alliance shared a significant relationship of medium strength with r=-.32.

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Table 1.

Means, Standard Deviations and Intercorrelations of Age, Attachment, Working Alliance and Therapeutic Reactance Including Subscales.

(N=224)	α	1	2	3	4	5	6	7	8	9	10	11	M	SD
1. Age													25.23	3.87
2. Attachment Anxiety	.81	.02											4.67	1.29
3. Attachment Avoidance	.73	-.04	.17*										3.38	1.14
4. Working Alliance	.83	-.06	-.19**	-.29**									4.24	.46
5. Working Alliance (Task)	.71	.10	-.14*	-.14*	.73**								4.10	.59
6. Working Alliance (Goal)	.80	-.06	-.14*	-.17*	.78**	.58**							4.01	.61
7. Working Alliance (Bond)	.72	-.07	-.07	-.19**	.63**	.36**	.37**						4.40	.44
8. Therapeutic Reactance	.74	.11	.38**	.29**	-.32**	-.16*	-.18**	-.16*					2.51	.38
9. Reactance (Conflict Seeking)	.72	.09	.39**	.30**	-.43**	-.25**	-.27**	-.25**	.81**				2.04	.58
10. Reactance (Freedom)	.71	.03	.14*	.18**	-.21**	-.08	-.12	-.10	.61**	.46**			2.87	.49
11. Reactance (Influence)	.77	.09	.04	.09	-.25**	-.23**	-.23**	-.16*	.50**	.30**	.27**		2.45	.52
12. Reactance (Authority)	.74	.11	.18**	.07	-.18**	-.11	-.12	-.07	.59**	.34**	.37**	.26**	2.61	.63

Note. Questionnaire Subscales in Parentheses. * p<.05 **p<.01. a= Cronbach Alphas

Client and Therapist Gender Differences

As it may be seen in table 2., a series of four independent-samples t-tests sought to examine client and therapist gender differences in working alliance and therapeutic reactance. It appears that there were no gender differences based on client's gender in terms of the working alliance (mean difference= 0.05), however, significant differences were found for therapeutic reactance (mean difference= 0.17) suggesting that on average, male participants exhibited higher therapeutic reactance compared to female clients. Similarly, working alliance scores did not significantly differ based on therapist's gender (mean difference= 0.10), while significant differences were found for therapeutic reactance (mean difference= 0.15), suggesting that clients were on average, more reactive towards male rather than female CBT therapists. Levene's tests suggested equality of variances (see Appendix 2).

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Table 2.

Series of Independent Samples t-test Comparisons for Working Alliance and Therapeutic Reactance Based on Client and Therapist Gender.

Dependent Variables	Independent Groups	N	Mean	SD	SE	T	p	Cohen's d
	Gender of Client							
Working Alliance	Male	42	4.20	.588	.089	-.564	.573	-.097
	Female	182	4.25	.430	.042			
Therapeutic Reactance	Male	42	2.65	.340	.052	2.789	.006	.477
	Female	182	2.48	.382	.038			
Gender of Therapist								
Working Alliance	Male	46	4.16	.561	.083	-1.254	.212	-.207
	Female	178	4.26	.429	.042			
Therapeutic Reactance	Male	46	2.63	.366	.054	2.436	.016	.403
	Female	178	2.48	.379	.038			

Note. Df=222

In addition, a series of one-way ANOVAs were performed to examine whether working alliance and therapeutic reactance scores differed across levels of Duration of CBT Treatment (4 levels; 0-1 years, 1-2 years, 2-3 years, 3-4 years), Education of CBT Therapist (4 levels; CBT training, Undergraduate degree with CBT training, Postgraduate degree with CBT training, Doctoral degree with CBT training) and Type of Referral (4 levels; Internet, Referral by a Client, Referral by a Therapist or Medical Referral). As it may be seen in table 3., working alliance scores did not vary based on the duration of psychotherapy and therapist's education with $F(3,70.069)=.403$, $p=.846$ (Welch test performed after homogeneity violation), $\eta^2=.005$ and $F(3,220)=1.425$, $p=.236$, $\eta^2=.055$, respectively. However, scores of working alliance varied significantly based on type of referral with $F(3, 220)=4.261$, $p<.01$ and $\eta^2=.055$ with Tukey's post-hoc comparisons (see Appendix 2) suggesting that working alliance scores were significantly higher in clients who received referrals by therapists compared to internet referrals or referrals by other clients and medical referrals compared to client referrals.

More specifically, Tukey's test for multiple comparisons (see Appendix 2) found that the mean value of the working alliance was not significantly higher for medical referral compared to internet referral (Mean Difference=-.342, 95%CI [-.740, -.056], $p>.05$) but was higher compared to referral by another client (Mean Difference=-.368, 95% CI [-.810, .075], $p<.05$). Similarly, Tukey's test suggested that working alliance was higher for referral by therapist compared to internet referral (Mean Difference=-.457, 95% CI [-.878, -.036], $p<.05$) and referral by another client (Mean Difference=-.483, 95% CI [-.946, -.019], $p<.05$), while there were no significant differences between medical referral and referral by another therapist (Mean Difference=.115, 95% CI [-.451, .681], $p>.05$), or internet referral and referral by another client (Mean Difference=.025, 95% CI [-.204, .255], $p>.05$). Finally, no significant differences existed in therapeutic reactance based on duration of therapy with $F(3,220)=1.106$, $p>.05$, $\eta^2=.015$, therapist's education with $F(3,220)=1.192$, $p>.05$, $\eta^2=.016$ and type of referral with $F(3,220)=1.955$, $p>.05$, $\eta^2=.026$.

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Table 3.

ANOVAs Comparing Working Alliance and Therapeutic Reactance Across Levels of Therapy Duration, Therapist Education and Referral Type.

Independent Variables	Sum of Squares	Df	Mean Square	F	P	η^2
Working Alliance						
Duration of Therapy*	.257	3	.086	.403	.846	.005
Residual	46.844	70.069	.669			
Education of Therapist	.898	3	.299	1.425	.236	.019
Residual	46.204	220	.210			
Type of Referral	2.586	3	.862	4.261	.006	.055
Residual	44.515	220	.202			
Therapeutic Reactance						
Duration of Therapy	.479	3	.160	1.106	.348	.015
Residual	31.739	220	.144			
Education of Therapist	.515	3	.172	1.192	.314	.016
Residual	31.703	220	.144			
Type of Referral	.837	3	.279	1.955	.122	.026
Residual	31.381	220	.143			

Note. * Welch test was used due to homogeneity violation.

Since the hypothesized causal variables (Attachment Anxiety and Attachment Avoidance) were significantly related to the outcome variable (Working Alliance) and the mediating variable (Therapeutic Reactance), it was established that there is indeed a relationship that may be mediated by reactance. Secondly, although both causal variables were positively related to therapeutic reactance, as a mediator, it additionally shared a significant relationship with the outcome variable of working alliance meeting the basic assumptions for performing mediation analyses as suggested by Baron & Kelly (2013). Moreover, QQ plots, scatterplots and Shapiro-Wilks tests indicated linearity, normality, and independence of errors (see Appendix 3) as suggested by Keele (2015). Therefore, SEM procedures were completed to assess the mediational role of therapeutic reactance in the adult attachment variables – working alliance relationship, while controlling for the positive correlation (r=.17) between adult attachment anxiety and adult attachment avoidance.

As it may be seen in table 4, the results revealed a significant indirect effect of attachment anxiety on working alliance through therapeutic reactance (β=-.080, t=-3.402, p<.05). The total effect of attachment anxiety on working alliance was also significant (β=-.147, t=-2.270, p<.05) and the direct effect was non-significant with (β= -.067, t=-.989, p>.05). Therefore, it may be supported that there is a significant full mediation explaining 19.5% of the variance in the attachment anxiety – working alliance link.

In addition, mediation analyses revealed a significant indirect effect of attachment avoidance on working alliance through therapeutic reactance (β=-.054, t=-2.539, p<.05). The total effect of attachment avoidance on working alliance was significant (β=-.267, t=-4.140, p<.05) and the direct effect was also significant (β=-.213, t=-3.303, p<.05). Therefore, it may be supported that there is a significant partial mediation explaining 15% of the variance in the effect of attachment avoidance on working alliance. The structural equation mediation model of adult attachment anxiety and adult attachment avoidance can be seen in diagram 1.

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Table 4.

Structural Equation Modelling Mediation Estimates Between Attachment Variables and Working Alliance Mediated by Therapeutic Reactance.

				95% C.I.					
Type	Effect	Estimate	SE	Lower	Upper	B	T	P	% Explained
Indirect	Att. Anxiety ⇒ Reactance ⇒ Working Alliance	-0.029	0.010	-0.048	-0.009	-0.080	-3.402	0.003	19.5%
	Att. Avoidance ⇒ Reactance ⇒ Working Alliance	-0.022	0.009	-0.039	-0.005	-0.054	-2.539	0.011	15%
Direct	Att. Anxiety ⇒ Working Alliance	-0.024	0.024	-0.070	0.023	-0.067	-0.989	0.318	81.5%
	Att. Avoidance ⇒ Working Alliance	-0.086	0.026	-0.137	-0.035	-0.213	-3.303	< .001	85%
Total	Att. Anxiety ⇒ Working Alliance	-0.052	0.023	-0.097	-0.007	-0.147	-2.270	0.022	100%
	Att. Avoidance ⇒ Working Alliance	-0.108	0.026	-0.158	-0.057	-0.267	-4.140	< .001	100%

Note. Confidence intervals computed with method: Standard (Delta method). Betas are completely standardized effect sizes.

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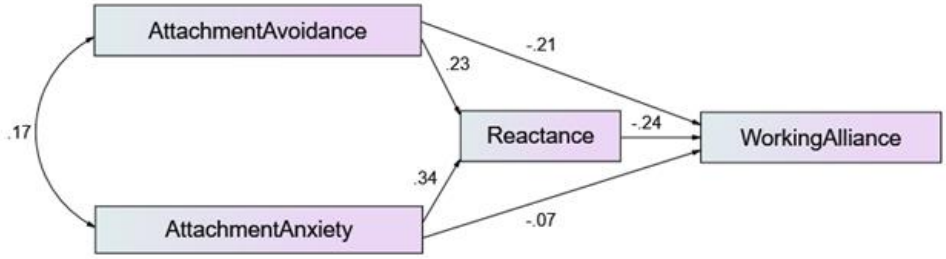
Diagram 1.

Structural Equation Model of Attachment Anxiety and Attachment Avoidance on Working Alliance Mediated by Therapeutic Reactance



Note. Standardized Component Effects. All relationships were significant apart from the direct attachment anxiety-working alliance relationship.

Discussion

The present study, primarily sought to examine the mediating role of therapeutic reactance in the effect of attachment dimensions onto therapeutic relationships in CBT. Structural Equation Modelling (SEM) analyses revealed that therapeutic reactance fully mediated the attachment-working alliance link with an indirect effect of β=-.080, t=-3.402, p<.05 and partially mediated the attachment avoidance-working alliance link with β=-.054, t=-2.539, p<.05. This finding revalidates the documented direct link between attachment dimensions and the working alliance but also elucidates a mechanism through which it takes place and unfolds into CBT working alliances. Attachment anxiety and attachment avoidance shared a weak positive correlation, a common finding in European countries contrary to North American samples where these dimensions seem to appear in an orthogonally distinct fashion and both attachment factors were related to lower levels of working alliance (Li & Chan, 2012).

In addition, both adult attachment anxiety and avoidance related negatively to overall working alliance with r=-.19 and r=-.29, respectively. As mentioned in the introduction, adult attachment variables are considered very important for the formation and maintenance of relationships, a phenomenon which consistently extends to therapeutic relationships (e.g. Slade & Holmes, 2019). The general relationship style of clients exerts significant influences in the ways that therapists are perceived (Bernecker, Levy & Ellison, 2014). Interestingly, although adult attachment avoidance has been found to relate more closely to reactance than adult attachment anxiety (Levy, 2013), in the present sample, attachment anxiety shared a stronger correlation with it. Possibly, due to the correlation between attachment anxiety and avoidance this could be a function of the shared covariance between the two, or, by closely examining the relationship of adult attachment variables with the subscales of reactance, due to the factor structure of the TRS as it loads more strongly with conflict seeking, adult attachment anxiety is more closely associated with aggressive and conflictual behaviours and communicative styles. Therefore, this tendency towards conflict could produce an inflated total therapeutic reactance score in the case of attachment anxiety (Hua et al., 2014). Nevertheless, this effect does not seem to affect the bond of the working alliance. Similarly to romantic relationships, for individuals scoring high in attachment anxiety, the experiencing of bond in general is rather

irrelevant to the presence of conflict compared to individuals scoring higher in attachment avoidance (Savage, 2014).

Male participants in the sample, exhibited significantly greater therapeutic reactance towards therapists, a finding that has been repeatedly observed by the reactance research community with very few contradicting findings, as males are generally less trusting of therapists, more reactive towards authority figures, and more prone towards safeguarding their personal freedoms (Mihelic, 2019). The secondary finding of higher reactance towards male therapists, may stem from the general sociopsychological theory which posits that men are generally perceived as more threatening (Kenrick, 2010) and less trustworthy than women in general, an effect that continues to hold in gender differences of individuals in caring professions (Munoz et al., 2019) or due to the more technical communicative style that is observed in men in psychotherapeutic professions (Arora & Bhatia, 2022). Nevertheless, it was found that gender differences in reactance were not representative of the formation of the overall working alliance, suggesting that other buffering effects of male CBT therapists may diminish the spill-over effect of therapeutic reactance onto the working alliance (Budge & Morandi, 2018).

Therapists' educational background or duration of the psychotherapeutic process was surprisingly unrelated to both reactance and the working alliance. Although literature suggests that the educational background of therapists produces slight benefits in therapeutic resistance and the working alliance formation (Wampold & Owen, 2021), it has generally been shown that treatment duration tends to increase trust in the therapist and the therapeutic process. Possibly, due to the limited focus of CBT on issues of resistance or the therapeutic relationship, compared to psychodynamic and person-centred schools of thought, these important psychotherapeutic variables tend to remain unchanged during CBT treatment (Cameron, Rodgers & Dagnan, 2018). Type of referral played an important role in the formation of working alliance, possibly due to the greater trust that is placed by clients when they receive referrals from health care professionals compared to the internet or the opinions of other clients.

As far as the mediative relationship was concerned, it appeared that for adult attachment anxiety, therapeutic reactance fully mediated its effects on the working alliance. This is a valuable finding for psychotherapeutic research since it suggests that in the case of adult attachment anxiety, it is highly possible that dealing effectively with the occurrence of reactance alone, one could expect its negative influence on the working alliance to be completely diminished, paving the way for a working alliance of higher quality and therefore, better therapeutic outcomes. In the case of adult attachment avoidance, the magnitude of the mediating role of reactance to psychotherapy was more modest compared to attachment anxiety, as it partially mediated its effects towards the working alliance. This could be attributed to the significant independent effect of attachment avoidance on the formation of emotional bonds (Vollmann, Sprang & Van den Brink, 2019). Generally, the psychotherapeutic bond, as a factor of working alliance, appears to be only marginally influenced by therapeutic reactance, therefore, it is possible that regardless of trait reactance, avoidant individuals tend to generally experience their bonds as less deep and meaningful irrespective of conflicts or secondary variables (Neath & McCluskey, 2018). Therefore, in the case of attachment avoidance, tackling reactance is also expected to produce significant therapeutic benefits through consequent increases in working alliance, however, the experiencing of bonding with therapists should be treated through other means.

The findings of the present study are pioneering in terms of originality, examining, in a combined fashion, important psychotherapeutic variables to determine how the variable of

outmost importance for psychotherapeutic outcomes, the working alliance, may be affected by therapeutic reactance. Although numerous research endeavours have focused their efforts on linking attachment dimensions to the working alliance and therapeutic relationship processes, very few of them have directed their scope towards mediating or moderating variables which tend to be more practically important, since adult attachment dimensions are rather stable. By determining a mechanism of how attachment dimensions exert their influence on the working alliance this could provide the scientific community with valuable practical and theoretical insight on the perpetuating effects of reactance which could be easier and more economical to address in therapeutic settings compared to attachment issues, alone. Moreover, since only recently CBT has become theoretically accepting towards attachment theory, CBT research involving attachment variables is scarce. The present research emphasizes the need to direct the attention of CBT therapists towards more relational variables to promote the optimal benefits of all the evidence-based techniques under the CBT «umbrella», since it has been repetitively documented that low therapeutic reactance and a working alliance of good quality contributes significantly to the efficacy of standardized interventions such as CBT techniques.

Nevertheless, the study has a considerable limitation in terms of sampling. Gender sample discrepancies could severely influence the mediating model's configural invariance in terms of gender. More equal samples in terms of gender would allow for greater generalizability of the mediation model in both gender populations and reduce the occurrence of Type 1 error. Moreover, a considerable sampling bias has taken place since both research sites operated in Athens neighbourhoods of residents with predominantly high socio-economic status and all individuals received CBT therapy in private practice settings, therefore they were able to provide themselves with such a costly endeavour. The effect of the therapeutic setting on therapeutic relationship variables has also been well-documented, suggesting that on average, in private settings, therapeutic relationships are easier to develop positively since clinical practitioners are more closely supervised in upholding their professional standards and the therapeutic context is experienced by clients as more personalized, leaving them feeling more important and less expendable (Basu et al., 2012). Therefore, the generalizability of these findings should be treated with caution. Finally, for confidentiality purposes, the access of the measurement to other important variables such as diagnostic entities was limited, but it is highly likely that such information regarding psychopathological variables would moderate the mediating relationship of therapeutic reactance. For instance, clients with borderline personality traits, who are uncontrollably reactive and turbulent in their therapeutic relationships are highly probable to rate their therapeutic reactance and working alliance inconsistently through the experiencing of alternations between the extremes of idealization and devaluation in the therapeutic relationships (Salin et al., 2021). Similarly, other diagnostic entities are expected to relate differently to therapists and therapeutic reactance could also function in different ways. Consequently, the present model should be viewed as a preliminary model for individuals with low psychopathology scores (since therapists were instructed to include in the study solely clients characterized by a certain degree of affective stability), highlighting the profound mediating effect of reactance in the attachment-working alliance link which should be more extensively studied by CBT researchers.

Since CBT prides itself in designing very inclusive and descriptive models of problematic behaviour occurrence (e.g. the panic model of CBT), CBT researchers could extend the findings of the present study by examining the differentiation of the mediating role of reactance across different diagnostic entities in order to design procedural treatment protocols in terms of the working alliance. Moreover, since CBT interventions are more reliant on

procedural effects, such as techniques etc., it is quite possible that the findings of the present study which are limited to CBT practitioners, could be even more inflated in therapeutic instances where more relational models of treatment are used. Therefore, studies including therapists of other approaches could allow the scientific community to obtain a more informative representation of reactance effects on the working alliance and examine in tangible ways whether targeting reactance would indeed diminish the contagion of attachment insecurity on the formation of therapeutic relationship. Longitudinal designs would be especially preferred, since various clients could have unstable internal representations of therapists, thus, repeated measurements across various time points would help control for this instability. Moreover, mixed, or qualitative research designs could be employed to provide meaningful relationship and reactance information which might not be captured effectively via psychometric means, alone and help address the gaps of the present study.

Various client reactance intervention strategies could be examined for their efficacy, especially in clients with severe attachment trauma. This would allow for randomised clinical trial designs to establish effective frameworks for dealing with reactance, providing therapists with the necessary ammunition to combat this form of self-sabotaging behaviour of clients and control its destructive effect on the working relationship. Moreover, comparative study designs could examine a plethora of therapist characteristics, communication styles and other traits which could be particularly useful for limiting reactance's effects on the working alliance. Overall, research could employ a multitude of research designs to better comprehend such a significant phenomenon for psychotherapy and extend it to various treatment modalities and psychopathological categories in order to design scientific methods, appropriate for intercepting its influence on therapeutic relationships and consequently, therapeutic outcomes.

Conclusions

Therapeutic alliance is considered by many researchers and clinicians the determining factor for conducting effective psychotherapy. Therefore, examining its development is pivotal in psychotherapy research. Common sense dictates that aetiological links would be sought in attachment theory, as a well-studied framework which best accounts for relationship formation. However, examining the link between attachment dimensions and working alliance is insufficient and practically sterile on its own, since it merely states an obvious link between the two. Exploring possible factors which mediate or moderate the aforementioned link, is of outmost importance to better understand the various pathways through which therapeutic alliance suffers due to attachment issues.

The present study revealed that indeed, therapeutic reactance represents a pathway which can effectively capture the effect of adult attachment anxiety on working alliance in its entirety by also partially accounting for the link between attachment avoidance and working alliance. Findings suggest that studies on similar fields can be promising and fruitful for further research, through the inclusion of secondary mediators and moderators and its findings can inform clinical practice in ways that will increase the effectiveness of existing therapeutic modalities. This is especially important for CBT which relies heavily on protocol adherence and high levels of client-therapist collaboration. By addressing the limitations and constructing a multitude of diverse research designs to expand on the mediating effects of reactance, clinical practice improvements can be expected for both clients and therapists.

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