

DO CHILDHOOD MEMORIES INFLUENCE THE THERAPEUTIC RELATIONSHIP? AN EMPIRICAL BAYESIAN SEM APPROACH

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Summary

Background: This study aims to explore the interplay of these concepts in a sample of patients diagnosed with schizophrenia and related psychotic disorders. Hence, the potentially mediating role of countertransference in the relationship between recalled parenting styles, childhood trauma and therapeutic working alliance was examined.

Subjects and methods: A total sample of 30 patients (Age: 38.60; SD = 16.37; 50% female) treated for psychotic disorders in an inpatient setting were assessed. Pathways between the variables Recalled Parental Styles, Childhood Trauma, Countertransference and Working Alliance were estimated via frequentist and empirical Bayesian Structural Equation Modeling (EBSEM).

Results: Both maximum likelihood and EBSEM derived results suggested direct effects of remembered parental style on childhood trauma, as well as of childhood trauma on negative countertransference. Positive and negative countertransference were associated with working alliance. Furthermore, the findings suggested indirect effects of remembered parental style on negative countertransference via childhood trauma, as well as remembered parental style with working alliance mediated via childhood trauma and negative countertransference. Childhood trauma showed a significant indirect effect on working alliance via negative countertransference.

Conclusion: The results provide preliminary support for the idea that traumatic memories from the past influence the therapeutic relationship in the present. In correspondence to this, the clinical significance of concepts like reverie and containment are discussed.

Keywords: Therapeutic alliance, working alliance, countertransference, childhood trauma, recalled parental styles

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INTRODUCTION

Psychotherapeutic treatment of schizophrenia and related psychotic disorders are commonly accepted as effective (Gottdiener & Haslam 2002, Pfammatter et al. 2006, Pharoah et al. 2010, Wykes et al. 2008), but more research is needed to understand predictors of better outcomes.

The significant relationship between therapeutic working alliance and positive treatment outcome has been well documented (Horvath & Symonds 1991, Martin et al. 2000). Initially developed by Greenson (1965) and further developed by Bordin (1979), the concept of working alliance refers to the dynamic interaction and collaboration between a client and therapist, and their capacity to work together effectively, aiming to resolve problems and improve the outcome of the treatment. According to Horvath & Greenberg (1989) a positive working alliance includes agreement between client and therapist on goals and tasks as well as a stable therapeutic bond. While there is a substantial amount of research regarding the relevance of therapeutic alliance in general psychopathology, comparably little research was done concerning its role in the treatment of psychotic disorders.

Nevertheless, Browne et al.'s (2019) narrative review and Shattocks et al.'s (2018) systematic review underscored the predictive significance.

The relationship between a psychotic patient and caregiver is often complicated by the highly traumatic biographies of these individuals. Experiences of interpersonal childhood trauma are defined as exposure to sexual, physical and emotional abuse and neglect prior to the age of 18 (Grad 2022). The pathogenic effects of childhood traumatization have been discussed in scientific literature for more than 100 years (Breuer & Freud 1895/1991, Janet 1889) and there remains little doubt about its significance as major transdiagnostic risk factor for the development of psychiatric disorders (Cay et al. 2022, Kessler et al. 2010, McLaughlin et al. 2010, Noll 2021). Particularly, patients suffering from psychotic disorders report increased rates of traumatic childhood experiences (Chaiyachati & Gur 2021, Read et al. 2005, Varchmin et al. 2021). Further research has suggested that specific parental behavior patterns might contribute to the etiology of psychotic disorders (Goldstein 1985, Janssen et al. 2005, Mansueto et al. 2018, Onstad et al. 1994, Wahlberg et al. 1997), with a notable correlation between recalled parenting styles characterized by a lack of emotional warmth or

a tendency towards punishment and rejection, and childhood traumatization (Miranda et al. 2013).

Limited research exists on the impact of remembered parenting styles and childhood trauma on working alliance, but severity of childhood abuse was linked to challenges in establishing therapeutic relationships (Paivio & Cramer 2004, Paivio & Patterson 1999). From a psychodynamic perspective this might be explained via the concept of *transference* and *countertransference*. While, transference denotes the phenomenon in which patients displace unconscious wishes onto their therapist (Laplanche & Pontalis 2018), countertransference was initially defined as the patient's influence on the unconscious feelings of the therapist (Freud 1910). Its definition has since been widened to include all affective experiences of the analyst toward a patient (Heimann 1950, Parth et al. 2017). Originally, countertransference was considered to be merely a source of disturbance obstructing the therapeutic process. However, since the 1950s there has been a considerable shift in psychoanalytic discourse emphasizing the potential usefulness of countertransference (Hayes et al. 2011, Heimann 1950, Reich 1951, Winnicott 1949). Greenson (1965) proposed three elements of the therapeutic relationship: working alliance, (counter-)transference, and the real relationship. Individuals with a history of significant childhood trauma may be susceptible to unconsciously reenacting their expectations of mistreatment from caregivers, which in turn, can evoke strong negative countertransference reactions in the therapist. Consequently, this can hinder the development of a robust therapeutic alliance between the patient and therapist.

To date only few studies investigated the relationship between working alliance and countertransference

empirically. A systematic review by Machado et al., (2014) identified three studies: One study found moderate correlations between positive countertransference and working alliance in therapists, and a weak correlation in the client version (Najavits et al. 1995). Another study suggested negative correlations between working alliance and both negative and positive countertransference (Ligiéro & Gelso 2002), while the third study suggested a positive relationship between working alliance and positive transference (Dahl et al. 2012). More recently, Machado et al. (2015) observed negative correlations between working alliance and negative transference.

Study aims and hypothesis

The aim of this study is to explore the interplay between working alliance, countertransference, childhood trauma, and maternal parenting styles. Building on prior research reviewed above, we hypothesized significant associations among all assessed constructs. It is hypothesized that childhood trauma mediates the effects of maternal parenting style onto countertransference and working alliance, while countertransference mediates the relationship of parenting styles and childhood trauma with working alliance. To investigate the assumed relationships, the present studies utilized both a frequentist and empirical Bayesian structural equation modeling approach (EBSEM). Previous studies indicated, that EBSEM is superior to classical frequentist techniques with regard to small sample sizes often encountered in clinical studies (Ozechowski 2014, Smid et al. 2020, Smid & Winter 2020). The initially proposed model is displayed in Figure 1.

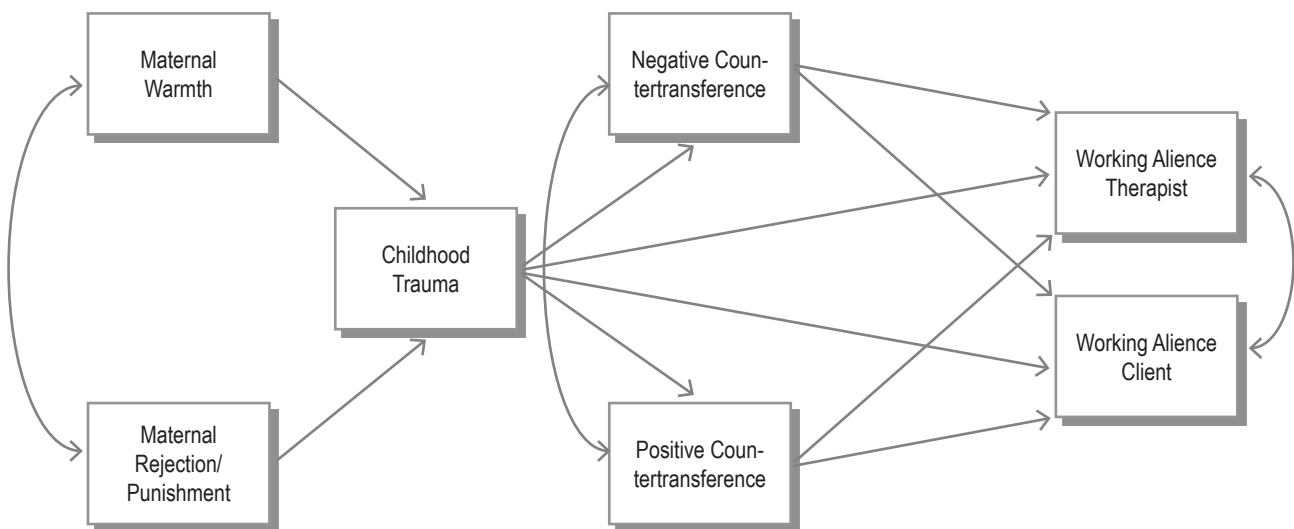


Figure 1. Initial path model of the relationship between maternal parental style, childhood trauma, countertransference and working alliance.

Table 1. Descriptive statistics

	Female	Male	Total
Sex	n = 15	n = 15	N = 30
Age	44.20 SD = 17.58 range = 20 – 74	33 SD = 13.38 range = 18 – 71	38.60 SD = 16.37 Range = 18 – 74
Marital status	Single = 6 In relationship = 1 Married = 2 Divorced = 4 Widowed = 2	Single = 9 In relationship = 2 Married = 2 Divorced = 0 Widowed = 1 Missing data = 1	Single = 15 In relationship = 3 Married = 4 Divorced = 4 Widowed = 3 Missing data = 1
Education	No graduation = 1 Compulsory school = 5 Apprenticeship = 2 High school degree = 6 University degree = 1	Compulsory school = 3 Secondary school = 2 Apprenticeship = 6 High school degree = 2 University degree = 1 Missing Data = 1	No graduation = 1 Compulsory school = 8 Secondary school = 2 Apprenticeship = 8 High school degree = 8 University degree = 2 Missing Data = 1
Nationality	Austria = 12 Other = 3	Austria = 13 Other = 2	Austria = 25 Other = 5
Diagnosis	F20.0 = 4 F20.9 = 1 F23.0 = 1 F23.9 = 1 F25.0 = 2 F25.1 = 1 F33.2 = 3 F33.9 = 1 F60.3 = 1*	F20.0 = 5 F20.9 = 1 F23.1 = 2 F23.9 = 1 F31.4 = 3 F32.2 = 1 F33.1 = 1* F33.2 = 1	F20.0 = 9 F20.9 = 2 F23.0 = 1 F23.1 = 2 F23.9 = 2 F25.0 = 2 F25.1 = 1 F31.4 = 3 F32.2 = 1 F33.1 = 1 F33.2 = 4 F33.9 = 1 F60.3 = 1
Comorbidity	No comorbidity = 9 F12.1 = 1 F33.2 = 1 F42.3 = 1 F60.3 = 1	No comorbidity = 5 F10.2 = 1 F12.1 = 1 F12.2 = 1 F14.2 = 1 F19.2 = 1 F41.9 = 1 F60.3 = 3 F69.0 = 1 F84.8 = 1	No comorbidity = 14 F10.2 = 1 F12.1 = 2 F12.2 = 1 F14.2 = 1 F19.2 = 1 F33.2 = 1 F41.9 = 1 F42.3 = 1 F60.3 = 3 F69.0 = 1 F84.8 = 1
Medication	Antipsychotic = 12 Antidepressant = 10 Hypnotics = 9	Antipsychotic = 15 Antidepressant = 9 Hypnotics = 10	Antipsychotic = 27 Antidepressant = 19 Hypnotics = 19

Note. *Case histories for both patients indicated episodes of an acute polymorphic psychotic disorder without symptoms of schizophrenia (F23.0) in their past.

SUBJECTS AND METHODS

Participants

The sample consisted of 30 participants (50% female; mean age = 38.6 years, SD = 16.37 years, range = 18 – 74) recruited in a psychiatric ward with a health care mandate for a region with over 200.000 inhabitants in a suburban area in the South of Vienna. Informed consent was acquired before each participant filled in the test form that included demographic questions as well as the standardized questionnaire described below. The study was approved by the ethics committee of the City of Vienna. Sample characteristics across gender are detailed in Table 1. Most participants declared an apprenticeship as their highest educational level (n = 8) and were single (n = 15) at the time of the study. The nationality of the majority of participants was Austrian (n = 25).

Procedure

30 patients were recruited in a psychiatric acute care unit in Austria from 2019 to 2021. Study participation was voluntarily and the study was carried out in accordance with the Declaration of Helsinki. Inclusion criteria included: A psychotic episode, which was either (1) subsiding at the time of the study, (2) was in remission or (3) had a psychotic disorder in the past. Furthermore, (4) all participants were at least 18 years old and (5) had to be in a stable condition at the time of the study. Exclusion criteria: Patients were excluded from study participation if they were diagnosed with (1) secondary psychotic disorders like substance induced psychotic disorders (F1X.5), Charles Bonnet syndrome (F06.0), organic catatonic disorder (F06.1) and organic delusions and schizophreniform disorders (F06.2). Finally, (2) no patient was included in the study, if they were hospitalized against their will according to the Austrian Accommodations Law (Unterbringungsgesetz, UBG).

Psychometric assessment Childhood experience

Der Fragebogen zum erinnerten elterlichen Erziehungsverhalten (FEE; Schumacher et al., 2000) aims to assess remembered parental styles in childhood and youth. It is the German adaption of the Swedish *Egna Minnen Beträffande Uppfostran* (EMBU; Arrindell et al., 1999). Based on factor analyses the FEE measures 3 remembered parental style scales (“rejection and punishment”, “emotional warmth”, and “control and overprotection”) separated for mothers and fathers with internal

consistencies ranging from good to excellent ($\alpha = .72 - .89$; Schumacher et al., 2000). Due to missing data in the paternal domains, this study investigated the scales “maternal punishment and rejection” as well as “maternal emotional warmth”.

The German version of the Childhood Trauma Questionnaire (CTQ) developed by Wingenfeld et al. (2010) is a self-report measure consisting of 28 items that assess traumatizing experiences during childhood. The questionnaire includes a total childhood trauma scale as well as four subscales: “Emotional Abuse,” “Physical Abuse,” “Sexual Abuse,” and “Emotional Neglect.” Respondents rate their experiences on a Likert scale ranging from 1 (“never”) to 5 (“very often”), with higher scores indicating more severe instances of abuse or neglect. The internal consistencies of the subscales were found to be good to excellent, with Cronbach’s $\alpha \geq 0.89$ (Wingenfeld et al. 2010).

Countertransference

The German Version of the Countertransference Questionnaire (Löffler-Stastka & Grassl 2006) is an external assessment questionnaire comprised of 79 Items, which operationalizes patterns of therapeutic countertransference. Developed by Westen and Muderrisoglu (2006) the questionnaire comprises 79 items to assess therapeutic countertransference patterns. It covers various therapist emotions, thoughts, and behaviors towards patients including the subscales. The total scale “Positive countertransference” was calculated from the subdomains “positive/satisfying” and “parental/protective,” while the total scale “negative countertransference” from “hostile/mistreated,” “helpless/inadequate,” “overwhelmed/disorganized,” and “disengaged.” Interrater reliability was $\kappa = .69$.

Working alliance

The German version of the Working Alliance Inventory-short-Therapists and Working Alliance Inventory-short-Clients (WAI-S-TR & WAI-S-C; Tracey & Kokovic 1989) were developed as an adaptation of the widely used Working Alliance Inventory (WAI) originally created by Horvath and Greenberg (1989). The WAI is grounded in Bordin’s (1979) conceptualization of the therapeutic alliance and assesses the three dimensions of the working alliance: Bond, Tasks, and Goals. To rate the 12 items in the WAI-S, participating therapists and clients rated a 5-point Likert scale, ranging from rarely (1) to always (5), indicating their perception of the relationship

with their designated therapist/client. The internal consistency of the total sum (Working Alliance Inventory Client = WAIC; Working Alliance Inventory Therapist = WAIT) scores were deemed good, with Cronbach's $\alpha \geq 0.80$ (Munder et al. 2010).

Statistical analysis and analysis strategy

The frequentist and EBSEM path analysis and assessment of multivariate normality were conducted with AMOS 29. SPSS 29.0 was used for data management, descriptive statistics and bivariate Pearson correlations.

Frequentist path analysis

The data was fitted to an initial path model (see Fig. 1). After this model was fitted, a pruning strategy was applied in which all non-significant ($p > .05$) paths were removed. Goodness-of-fit was assessed with a maximum likelihood (ML) estimation in AMOS. With regard to the small sample size, nonparametric bootstrapping was used to test for direct, indirect and total effects, employing a bias-corrected confidence interval of 95% and 2000 bootstrap samples (Chernick 2011, Cheung & Lau 2008).

In accordance with Kline (2023) the following fit-indices were considered as markers for an excellent model fit: (a) The comparative fit index (CFI) > 0.95 ; (b) Tucker-Lewis index (TLI) relative fit index > 0.95 ; (c) the square root error of approximation (RMSEA) < 0.05 and the upper bound of its 90% confidence interval < 1 . For the comparison of competing models, the Akaike Information Criterion (AIC) was used, with the smaller value indicating a more parsimonious model.

Empirical Bayes structural equation modelling

Following Ozechowski (2014), the regression weights of the pruned ML model were used as data-derived priors for the EBSEM. Prior distributions for all parameters were specified as normal with mean equal to the corresponding ML point estimate and standard deviation equal to the corresponding ML standard error estimate. Posterior distributions for investigated parameters were estimated via Markov chain Monte Carlo (MCMC; Metropolis algorithm). The MCMC techniques generate sequential samples, where each new sample is influenced by the preceding one, creating what's known as a Markov Chain. This allows the algorithms to converge towards the desired target quantity within a distribution, even when dealing with a substantial number of random variables. The MCMC algorithm implemented in AMOS

propagates the posterior distribution by stochastically sampling parameter values treated as variables. Posterior mean values are approximated by calculating the averages of analysis samples generated via the MCMC process (Byrne 2010).

A convergence statistics = 1 and a posterior predictive p value (PPP) $> .5$ was assumed as indicator for an excellent fit (Garnier-Villarreal & Jorgensen 2020). Bayesian analysis do not use a traditional p value to test for significant results but employ so called *credibility intervals* (CrI). Comparable to the traditional "significant" p-value approach, estimates distributions who do not cover zero within the lower and upper 95% bounds are regarded as credible.

RESULTS

Correlation analysis

As shown in Table 2 WAIC was significantly correlated with WAIT ($r = .58$; $p < .001$), but uncorrelated with all other variables (all $p > .05$). In contrast WAIT showed significant negative relationships with negative countertransference ($r = -.69$; $p < .01$), and childhood trauma ($r = -.37$; $p < .05$). Furthermore, WAIT was positively correlated with positive countertransference ($r = .52$; $p < .01$). Negative countertransference exhibited a positive correlation with childhood trauma ($r = .47$; $p < .01$). Childhood trauma was strongly correlated with maternal warmth ($r = -.79$; $p < .001$) as well as maternal rejection and punishment ($r = -.65$; $p < .001$). Age was only related to maternal warmth ($r = -.34$; $p < .05$).

Frequentist path analysis

The analysis indicated multivariate normality (Mardia's coefficient = 4.68; c.r. = 1.14). The initial path model (see Fig. 1) results indicated an excellent fit: RMSEA = 0.00 (90% CI: 0.00, 0.00); TLI = 1.19; CFI = 1.00; AIC = 56.398. In the next step, every non-significant regression path of the model was deleted. While WAIT was significantly correlated with WAIC ($r = .50$; BCa 95% CI [.12, .80]; $p < .05$), no regression paths towards WAIC remained significant, which led to the exclusion of this variable. This procedure yielded a second model with an excellent fit: RMSEA = 0.00 (90% CI: 0.00, 0.05); TLI = 1.14; CFI = 1.00; AIC = 42.34. The overall reduction in AIC score was $\Delta 14.06$, indicating a significantly more parsimonious model and therefore, a better fit for the data. The second model is displayed in Fig. 2.

Table 2. Means, standard deviations and correlations between investigated variables.

Variable	1	2	3	4	5	6	7	8
1. WAI-S-C	-							
2. WAI-S-T	.58**	-						
3. NCT	-.32	-.69**	-					
4. PCT	.26	.52**	-.37*	-				
5. CTQ total	-.17	-.39*	.48**	.12	-			
6. M-Warmth	.07	.30	-.33	-.09	-.79**	-		
7. M-R/P	-.21	-.35	.32	.08	.65**	-.43*	-	
8. Age	.19	-.13	.01	-.18	.21	-.37*	.18	-
M	15.43	14.57	7.65	4.92	45.47	21.67	13.00	38.60
SD	2.73	2.04	2.01	.92	3.48	5.80	6.32	16.37

Notes. ** $p < .01$; * $p < .05$; WAI-S-C = Working Alliance Client total score; WAI-S-T = Working Alliance Therapist total score; NCT = Negative Countertransference; PCT = Positive Countertransference; CTQ total = Childhood Trauma Questionnaire total score; M-Warmth = Maternal Emotional Warmth; M-R/P = Maternal Rejection and Punishment.

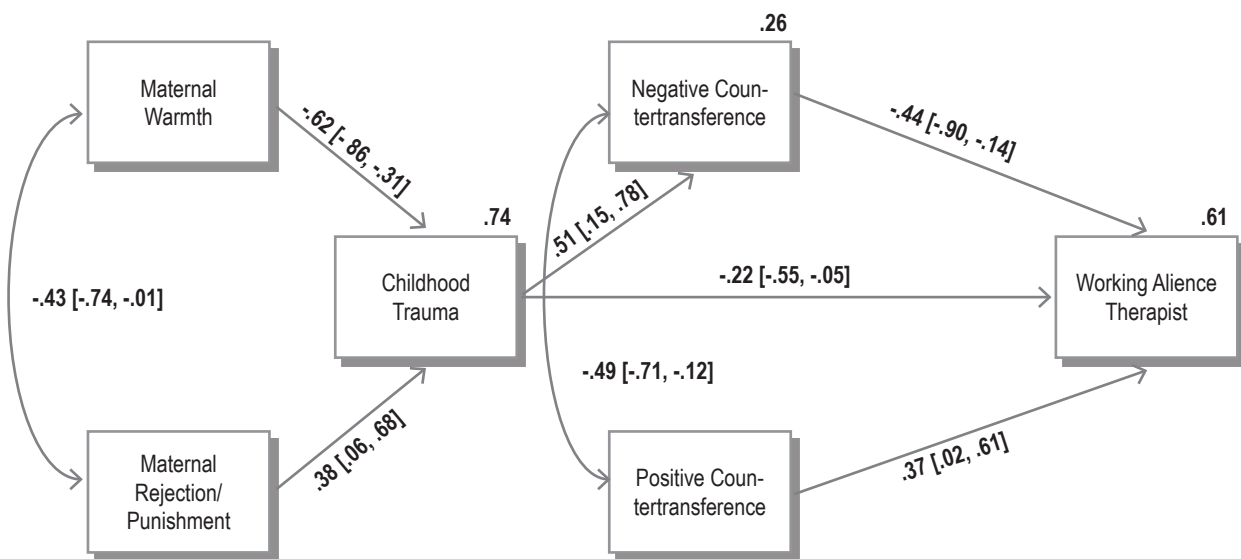


Figure 2. Trimmed path model of the relationship between maternal parental style, childhood trauma, countertransference and working alliance. Indirect effects are presented in brackets, explained variance is presented above the indicators; * $p < .05$; estimated with maximum likelihood technique.

Direct effects

The pruned model suggested the following associations: Maternal emotional warmth ($\beta = -.64$; BCa 95% CI [-.86, -.31]; $p < .01$) and maternal rejection and punishment ($\beta = .38$; BCa 95% CI [.06, .68]; $p < .05$) were significantly associated with childhood trauma. Childhood trauma was positively related to negative

countertransference ($\beta = .51$; BCa 95% CI [.15, .78]; $p < .01$). Positive countertransference ($\beta = .37$; BCa 95% CI [.02, .61]; $p < .05$) and negative countertransference ($\beta = -.44$; BCa 95% CI [-.90, -.14]; $p < .01$) were associated with WAIT. Noteworthy, childhood trauma showed a non-significant direct effect on WAIT ($\beta = -.22$; BCa 95% CI [-.52, .09]; $p = .13$).

Indirect effects

Bootstrapping indicated significant indirect effects of maternal emotional warmth ($\beta = -.32$; BCa 95% CI [-.53, -.13], $p < .05$) and maternal rejection and punishment on negative countertransference ($\beta = .19$; BCa 95% CI [.05, .45]; $p < .05$) via childhood trauma, as well as indirect associations between maternal emotional warmth ($\beta = .28$; BCa 95% CI [.42, .10]; $p < .01$) and maternal rejection and punishment ($\beta = -.17$; BCa 95% CI [-.37, -.04]; $p < .01$) with WAIT mediated via childhood trauma and negative countertransference. Childhood trauma showed a significant indirect effect on WAIT ($\beta = -.22$; BCa 95% CI [-.55, -.05]; $p < .01$). The total effect of childhood trauma onto WAIT was $\beta = -.44$ (BCa 95% CI [-.67, -.16]; $p < .05$).

Explained variance

In sum, positive and negative countertransference as well as childhood trauma explained 61% of the total variance of WAIT. Childhood trauma explained between 26% of negative countertransference. Taken together, maternal emotional warmth and rejection and punishment solved 74% of the variance of childhood trauma in the ML-model.

Empirical Bayes structural equation modelling

All investigated parameters showed convergence statistic = 1, suggesting general model convergence. Posterior predictive p indicated very good fit with PPP = .63. Results of bootstrapped ML analysis and EBSEM were substantially concurring. Maternal emotional warmth (BE = -.62; 95% CrI [-.80, -.40]) and maternal rejection and punishment (BE = .37; 95% CrI [.15, .59]) showed associations with childhood trauma. Childhood trauma was linked to negative countertransference (BE = .49; 95% CrI [.19, .73]). Positive countertransference (BE = .36; 95% CrI [.08, .62]) and negative countertransference (BE = -.44; 95% CrI [-.90, -.14]) were associated with WAIT. This time, childhood trauma showed a meager direct effect on WAIT (BE = -.22; 95% CrI [-.43, .01]).

In a similar pattern, indirect effects matched the ML-model. The estimates indicated indirect effects of maternal emotional warmth (BE = -.31; 95% CrI [-.51, -.11], $p < .05$) and maternal rejection and punishment on negative countertransference (BE = .18; 95% CrI [.05, .35]; $p < .05$) via childhood trauma, as well as indirect associations between maternal emotional warmth (BE = .28; 95% CrI [.45, .11]) and maternal rejection and punishment (BE = -.16; 95% CrI [-.37, -.04]) with WAIT mediated via childhood trauma and negative countertransference. Childhood trauma showed a significant indirect

effect on WAIT (BE = -.21; 95% CrI [-.42, -.04]). The total effect of childhood trauma onto WAIT was BE = -.43 (95% CrI [-.65, -.20]).

DISCUSSION

The aim of this study was to examine the relationship between childhood memories and the patient-therapist dyad. Consistent with existing conceptual and empirical literature (Paivio & Cramer 2004, Paivio & Patterson 1999), both frequentist-ML and EBSEM estimated model revealed significant indirect negative effects of childhood traumatization on the therapist's perception of therapeutic alliance, which were fully mediated through negative countertransference. The patient's working alliance was exclusively correlated with the therapist's working alliance. Additionally, we found that recalled maternal parenting style played a substantial role in predicting childhood traumatization: Specifically, experiences of maternal rejection and punishment intertwine closely with traumatic events in childhood, while maternal emotional warmth serves as a protective factor.

Concepts such as countertransference and projective identification suggest that essential parts of the patient's personality structure and internal world are conveyed in the manner the patient engages with the therapist. Following from this is also the responsibility of the therapist to understand and to work with these forceful interpersonal experiences, conceptualized by concepts such as containment, reverie and holding (Bion 1962). Especially in the case of traumatised persons, these issues can be a crucial difference between a successful therapy and premature termination or even traumatisation.

Our results highlight that reactivation of memories concerning trauma has a very forceful impact on the relationship between therapist and patient. The CTQ results showed that the dimensions "hostile/mistreated", "helpless/inadequate", "overwhelmed/disorganized" and "disengaged" correlated positively with the manifest memory of trauma. In a similar study, Colli et al. (2014) confirm this countertransference constellation with BPS patients. In a narrative description of these dynamics they record: "Clinicians tend to feel overwhelmed by strong emotions and intense needs. In particular, more than with most patients, therapists feel like they have been pulled into things but do not realize it until after the session is over. [...] Therapists can also feel incompetent or inadequate and often experience a sense of confusion and frustration in sessions. They are afraid they are failing to help these patients" (2014: 5). With making use of the countertransference concept, these dynamics can be thought about

and understood as part of the patient's personality instead of leading to termination of the treatment. Subsequently, associated intense feelings arising in the therapeutic relationship can be addressed diverting its detrimental impact and utilizing it as a tool for therapeutic change.

Although the present study indicates robust links between negative countertransference and assessment of working alliance by the therapists, the patients' therapeutic alliance was not significantly related to neither recalled childhood experiences nor countertransference. This finding aligns with previous results by Najavits et al. (1995) which showed weak correlations between countertransference and the patients' working alliance.

Interestingly, our finding suggested that the investigated facets of positive countertransference were significantly less connected with the childhood experiences of patients than negative countertransference. Previously, Löffler-Stastka et al. (2019) did find correlations to "Parental/protective" ratings, while working with psychotically structured depressed patients. Additionally, positive symptom development correlated with more positive countertransference over time (Lingiardi et al. 2011, Van Wagoner et al. 1991).

In the therapeutic setting, this fundamental process between mother and infant becomes reactivated through the relationship to the therapist, who is required to present the patient with a mind that can contain his or her thoughts and therefore allow a space for working on feelings and ideas that cannot be thought by the patient alone. The capacity of the mother (and the analyst) for containing, her "reverie", determines the quality of mental development and thus the quality of the psychic structure, the quality of affect regulation and attachment. Bion states: "Reverie is that state of mind which is open to the reception of any "objects" from the loved object and is therefore capable of reception of the infant's projective identifications whether they are felt by the infant to be good or bad (Bion 1962: 36)". These objects have to be understood as particles, of internal structures, feelings, phantasies and object relations, which impacts on the therapist like a rain of splinters. In case this highly complex and consuming mental state of reverie cannot be maintained, Bion argued, the formerly contained mind becomes depleted of the positive projections and supporting qualities of the container and subsequently is subjected to a nameless dread, in which no understanding can come about thinking is suspended and psychotic states of mind overpower the mental apparatus.

Limitations

Limitations of our study include the number of observations ($N = 30$), which was – especially in the context of structural equation modeling – small. While it is generally possible to estimate models under this condition using non-parametric techniques like bootstrapping (Chernick 2011), several problems might arise regarding stability, convergence, bias and power (Byrne 2010, Smid et al. 2020). To counteract this shortcoming this study used the EBSEM technique as outlined by Ozechowski (2014) employing data derived priors from the ML-analysis. The general agreement between frequentist and EBSEM findings regarding global model fit and local estimates underline the robustness of our results. Additionally, estimated posterior distribution of this study will help identify better informed priors for future projects investigating the interplay between childhood memories and therapeutic alliance and countertransference. Nevertheless, due to the small sample size, the generalizability of the results to a broader population remains unclear at this point. Thus, the results should be seen as a preliminary starting point for further investigation.

Further, this study is limited by its cross-sectional design, which makes it impossible to infer causal mechanisms. This is especially relevant in terms of collected data concerning childhood experiences, which should be seen as *subjective* memories, prone to distortions due to biases and the current mental state of the participants (Laney & Loftus 2005).

CONCLUSION

To summarize, this study explored the conjunctions between childhood, countertransference, and the therapeutic alliance in the treatment of psychotic patients. The findings provide evidence for the notion that traumatic memories from the past have an impact on therapeutic relationships in the present. Furthermore, the observed connections between countertransference and the therapeutic alliance suggest that therapists' personal experiences and emotional responses play a crucial role in treatment underscoring the need for therapists to maintain self-awareness and effectively regulate their countertransference reactions.

Ethics statement: Does this study include human subjects? YES

Authors confirmed the compliance with all relevant ethical regulations.

This study was carried out in accordance with the recommendations of the ethics guidelines of the Medical University of Vienna. The protocol was approved by the ethics committee of the City of Vienna. All subjects gave written informed consent in accordance with the Declaration of Helsinki.

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Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial incentive that could be construed as a potential conflict of interest.

Availability of Data: The raw data supporting the conclusions of this manuscript will be made available by the authors, without undue reservation, to any qualified researcher.

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Authors contribution: dr. Jürgen Fuchshuber – statistical analysis, first draft, approval of final version. dr. Dieter Schwigon – data collection, approval of final version. Mr. Namik Masic – data collection, approval of final version. Prof. Dr. Henriette Loeffler-Stastka – study design, resources, approval of final version.

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