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Client-therapist temporal congruence in perceiving immediate therapist self-disclosure and its association with treatment outcome

TAL ALFI-YOGEV¹, YOGEV KIVITY ¹, ILANIT HASSON-OHAYON¹,
SHARON ZIV-BEIMAN², IDO YEHEZKEL¹, & DANA ATZIL-SLONIM¹

¹Department of Psychology, Bar-Ilan University, Ramat-Gan, Israel & ²Faculty School of Behavioral Sciences, The Academic College Tel-Aviv Yaffo, Tel Aviv-Yaffo, Israel

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Abstract

Objective: Immediate therapist self-disclosure (Im-TSD) can be a powerful intervention. When engaged in judiciously, it can provide clients with a unique opportunity to explore their interpersonal relationship in real time. Relational theories suggest that for Im-TSD to be effective, both client and therapist must have temporally congruent perceptions of its occurrence. The present study examined (a) whether clients and therapists are temporally congruent in their session-by-session ratings of Im-TSD; and (b) whether this congruence is associated with therapy outcomes. **Method:** After each session, clients (n = 102) and therapists (n = 60) at a university-based clinic indicated whether Im-TSD was present during the session. Before each session, clients self-reported their functioning. They rated session quality after each session. **Results:** Therapists' ratings of their Im-TSD tended to be temporally congruent with their clients' Im-TSD ratings. Greater temporal congruence was associated with greater improvement over time in clients' experience of the session as helpful, but not with changes in clients' functioning. **Conclusion:** The findings highlight the importance of establishing a stronger temporal congruence of Im-TSD ratings between therapists and clients to further improve clients' experiences in treatment. The findings' implications are discussed as well as situations in which temporal congruence may not be beneficial.

Keywords: Therapist self-disclosure; Congruence; Truth and Bias Model; Process-outcome research

Public Significance Statement: Our findings indicate that clients and therapists tend to be temporally congruent in their im-TSD's perceptions. Greater congruence on im-TSD ratings was shown to be associated with an enhanced experience of therapy as helpful, which may augment the coordination between therapist and client as they work together to address client's needs, and hence may increase therapist's ability to help the client. These results contribute to the growing literature on the importance of investigating psychotherapy processes from a dyadic perspective.

The issue of whether therapist self-disclosure (TSD) hinders or enhances treatment effectiveness is one of the oldest controversies in the psychotherapy literature (e.g., Jourard, 1971; Strassberg et al., 2009). Post-modern psychotherapy theories posit that TSD is inevitable, whether the therapist intends to do so or not (e.g., Aron, 2013; Farber, 2006). More radical relational theorists consider TSD to be essential to equalizing power relations in the therapeutic dyad, fostering dialectical tension between openness and

privacy, and modeling how to expand self-reflection (e.g., Maroda, 2013; Renik, 1995). Recent studies have shown that TSD has beneficial effects on treatment outcome when it is used judiciously (Farber, 2006; Henretty et al., 2014; Henretty & Levitt, 2010; Hill & Knox, 2002; Ziv-Beiman et al., 2017).

TSD is defined as therapist utterances that reveal personal information about them (Hill & Knox, 2002). There are several typologies and classifications of this construct (for a review see Henretty

*Correspondence concerning this article should be addressed to Tal Alfi-Yogev, Department of Psychology, Bar-Ilan University, Ramat-Gan Israel. Email: Talalfi@gmail.com

& Levitt, 2010 and Ziv-Beiman, 2013). One unifying and comprehensive distinction is between immediate and non-immediate TSD, which was first put forward by McCarthy and Betz (1978) and later adopted by many psychotherapy researchers (e.g., Audet, 2011; Henretty & Levitt, 2010; McCarthy Veach, 2011; Ziv-Beiman et al., 2017).

Immediate TSD (Im-TSD) refers to the expression of therapists' feelings, thoughts, and opinions toward their clients, the treatment, or the therapeutic relationship in the here and now (e.g., "in the past few sessions I have experienced you as more engaged"), whereas non-immediate TSD involves revealing information about therapists' personal life outside of treatment, such as beliefs, values, life events and past experiences (e.g., "I also struggle with weight loss and dealing with emotional eating is a constant challenge for me as well"). It has been suggested that Im-TSD is more closely related to relational processes in psychotherapy, whereas non-Immediate TSD is more closely related to modeling other perspectives and increasing the client's self-acceptance (Audet, 2011; Kaufman, 2016). Here we focused on Im-TSD, since our goal was to explore the relational aspects of TSD and specifically the congruence between the client's and the therapist's perspectives.

Most studies addressing the association between TSD and treatment processes or outcomes have tended to focus on the client's perspective (e.g., Ain & Gelso, 2008; Knox et al., 1997), although some have examined TSD from the therapist's perspective (e.g., Alfi-Yogev et al., 2021). However, despite the growing acknowledgment of the importance of taking both clients' and therapists' perspectives of the therapeutic process into account and the extent to which these two perspectives are congruent (i.e., are in agreement) (e.g., Kivlighan et al., 2017; Zilcha-Mano et al., 2017), surprisingly few studies have focused on the congruence between clients' and therapists' perceptions of the therapists' interventions, or specifically TSD, and the association between this congruence and treatment outcomes.

Temporal congruence between clients and therapists is defined as the correlation between clients' and therapists' ratings on a set of judgments (e.g., the occurrence of TSD) as they co-fluctuate over time. Temporal congruence captures the dynamic ways in which the client and the therapist change mutually in their perceptions over time.

The importance of temporal congruence between clients and therapists is embedded in current relational views. Over the past few decades, there has been a major shift in psychotherapy from a one-person psychology which focuses exclusively on the clients' inner experience, to a two-person

psychology that recognizes the importance of interdependent processes between the client and the therapist (e.g., Aron & Harris, 2014). This shift, which is referred to as the "relational turn" (Kuchuck, 2021), is rooted in the growing understanding that therapeutic relationships are subjectively experienced and co-created by the client and the therapist (Aron, 2013; Aron & Harris, 2014; Benjamin, 2004). According to these relational theories, through congruent interactions, client-therapist bonds deepen, and clients' ability to further explore their experience grows. This process is expected to lead to better therapeutic outcomes. The importance of addressing temporal congruence is also reflected in humanistic theories which consider congruence to be one of the core conditions for growth in therapy. Congruence requires therapists to be aware of their inner experiences and to be able to share this awareness with their clients if they see it as helpful to the therapeutic process. This can establish trust and facilitate clients' ability to open up to explore their experiences with their therapists and resolve their blocks to self-acceptance and change (Rogers, 1951; 1957).

Congruence and its beneficial outcomes have been studied across a range of interpersonal relationships including romantic partners (e.g., Butler, 2015) and parent-infant relationships (Feldman, 2012). The growing acknowledgment of the importance of congruence in interpersonal relationships has recently led psychotherapy researchers to start addressing the role of congruence in psychotherapy. Consistent with research outside the clinical domain, studies in psychotherapy have found that congruence between clients and therapists is often associated with favorable treatment outcomes. For example, temporal congruence between the clients and therapists in their perception of the therapeutic alliance has been linked to better treatment outcomes (e.g., Atzil-Slonim et al., 2015; Kivlighan et al., 2017), and congruence in the perception of positive emotions was found to be associated with improvement in clients' functioning (Atzil-Slonim et al., 2018). However, as psychotherapy studies examining congruence have started to amass, it has become evident that congruence in itself is not always beneficial (Ramseyer, 2020). For example, congruence between clients and therapist in the experience of positive but not negative emotions was associated with improvements in clients' outcomes (Atzil-Slonim et al., 2018).

In an attempt to disentangle this mixed pattern of results, several authors (Atzil-Slonim & Tschacher, 2020; Ramseyer, 2020) have argued that congruence should not be considered a good relational process in and of itself, but as a relational marker whose effect

depends on the specific process being examined. It has been suggested that to further understand the role of congruence in psychotherapy, more needs to be known about the processes in which congruence leads to a better outcome and the processes in which it does not. One area that has not yet been explored in the context of congruence is the extent to which clients and therapists mutually perceive fluctuations in the occurrence of therapist interventions in a session, and specifically Im-TSD, and its association with therapeutic success.

Temporal congruence between clients and therapists is particularly important with regard to Im-TSD. Because Im-TSD is an intervention where therapists share an experience with their clients in the here and now, the ability of both parties in the dyad to recognize the occurrence of this intervention in a session may allow them to make therapeutic use of it (Knight, 2009). It is possible that any intervention on the part of a therapist that the client notices is likely to be more effective than an unintentional intervention on the part of the therapist or one that the client did not notice. However, since Im-TSD can be a powerful intervention which may not always contribute to clients' progress in treatment (Gabbard, 2001) it is particularly crucial for therapists to carefully decide when and how to share their experiences and be sensitive to their clients' responses to the intervention. The mutual recognition of the occurrence of an Im-TSD may allow a collaborative inquiry where therapists can explore the clients' reaction to their sharing and clients can explore their interpersonal relationship in real time and expand their self-understanding. By enhancing both sides' awareness of the Im-TSD, therapists can be more attuned and responsive to their clients' interpersonal needs and use this information to adjust their interventions accordingly (Gelso et al., 2021). Thus, the congruence between client and therapist in Im-TSD ratings is expected to increase coordination between them and to facilitate dyadic engagement in the therapeutic process, which may lead to better therapeutic outcomes.

It is reasonable to assume that temporal congruence between clients and therapists is important when the TSD level is high but also when it is low, because it may indicate that both parties were aware of the occurrence or its absence and that they tended to fluctuate together in the same direction in their perception of an increase or decrease in TSD. For instance, if therapists and clients both perceive that in a session the therapist used more TSD than usual, and in another session they both agree that the therapist used less TSD than usual, this may indicate that the therapist conducted the intervention judiciously and that the client noticed

it, which may lead to the increased effectiveness of the intervention.

Incongruence between clients and therapists in perceiving fluctuating changes in TSD may indicate that the parties are not on the same page regarding the occurrence or absence of the intervention, which may influence its effect. For instance, if the presence or the absence of TSD goes unnoticed by one of the parties as it fluctuates from session to session, it may indicate that the therapist is unaware of his/her Im-TSD or that the client tends not to observe changes in the occurrence of the intervention, which may reduce its effectiveness.

Previous studies on the association between clients' and therapists' TSD ratings and treatment outcomes have examined the association between TSD ratings of each party separately (i.e., clients or therapists) and outcome variables, but have not assessed whether the *congruence* between clients and therapists was associated with treatment processes and outcomes. Ain and Gelso's (2011) finding that clients' and therapists' TSD ratings were differentially associated with outcome emphasizes the importance of taking a dyadic perspective on TSD and examining whether congruence between clients' and therapists' perspectives leads to better therapeutic outcomes.

Only two studies have examined congruence between clients' and therapists' TSD ratings (Ain & Gelso, 2011; Fuertes et al., 2019). Ain and Gelso (2011) assessed the client and therapist-rated amount of both immediate and non-immediate TSD (divided into seven subtypes: facts, feelings, reassurance, strategies, challenges, immediacy and insight). They showed a positive association between clients' and therapists' ratings for all TSD types. In the other study, Fuertes et al. (2019) examined client-therapist congruence solely with regard to non-immediate TSD. They reported a significant positive correlation between therapists' and clients' ratings as to the frequency of TSD. These studies showed that clients and therapists tended to judge TSD's frequency similarly. However, since congruence was assessed at only one time point, these studies were not designed to examine the correlation between clients' and therapists' TSD ratings as they dynamically co-fluctuate over time.

The Present Study

The present study examined the existence of temporal congruence between clients' and therapists' ratings of Im-TSD on a session-by-session basis over the course of psychodynamic therapy. It also assessed whether temporal congruence was

associated with treatment outcome. Based on the literature, we explored the following hypotheses:

Hypothesis 1: Higher therapists' Im-TSD ratings should be associated with higher clients' Im-TSD ratings over time (temporal congruence).

Hypothesis 2: Greater temporal congruence should be associated with improvement throughout treatment in clients' experience of the treatment as helpful (*Hypothesis 2a*) and in clients' functioning (*Hypothesis 2b*).

Method

Participants and Treatment

The sample was drawn from a broad pool of clients who received individual psychotherapy at a large university outpatient clinic between August 2017 and August 2018. Inclusion criteria included participating in a minimum of 5 therapy sessions. Of the 124 clients who started treatment and agreed to participate in the study, 22 (17.74%) were excluded based on the above-mentioned criteria. In the end, 102 (82.25%) clients were included in the analyses. The clients were all over the age of 18 ($M = 37.93$ years, $SD = 9.37$, age range = 21–70 years), and the majority were female (55.10%). Of these, 40.43% were single, 17.02% were divorced or widowed, and 42.55% were married or in a permanent relationship. Most clients had at least a bachelor's degree (60.64%) and were fully or partially employed (86.96%). The Mini International Neuropsychiatric Interview Version 5.0 (M.I.N.I.; Sheehan et al., 1998) was used to establish an Axis I diagnosis (DSM-IV; American Psychiatric Association, 1994). The interview was conducted before the actual treatment began by intensively trained independent clinicians. All intake sessions were audiotaped, and a random 25% of the interviews were sampled and rated again by an independent clinician to ensure the reliability of the diagnosis. Of the total sample, 37.25% of the clients had a single diagnosis, 22.55% had two diagnoses, and 10.78% had three or more diagnoses. Most clients were diagnosed as coping with co-morbid affect and anxiety disorders (34.48%). The other primary diagnoses included single affect disorder (11.49%), single anxiety disorder (11.49%), other co-morbid disorders (6.90%), other diagnoses (4.60%) and co-morbid anxiety disorders (2.30%). A sizable group of clients (28.74%) reported experiencing relationship problems, academic/occupational stress, or other problems but did not meet the criteria for Axis I diagnosis.¹

The participating clients were assigned to therapists in an ecologically valid manner based on real-

world issues such as therapist caseload, therapist availability and compatibility with the clients' scheduling needs. A total of 60 therapists treated the clients. The therapists were in clinical training at different stages of their 2- to 5-year clinical training program: 26 therapists treated one client each (43.33%), 28 therapists treated two clients each (46.67%) and 6 treated between three and five clients each (10%).

The therapists were blind to the study hypotheses. Each therapist received 1 h of individual supervision and 4 h of group supervision on a weekly basis. All treatment sessions were audiotaped for use in supervision with senior clinicians. The individual and group supervision focused heavily on a review of the audiotaped case material.

Individual psychotherapy consisted of once-weekly sessions of primarily psychodynamic psychotherapy, organized, aided, and informed (but not prescribed) by a short-term psychodynamic psychotherapy treatment model (Shedler, 2010). The key features of this model are as follows: (a) focus on affect and the experience and expression of emotions; (b) exploration of attempts to avoid distressing thoughts and feelings; (c) identification of recurring themes and patterns; (d) emphasis on past experiences; (e) focus on interpersonal experiences; (f) emphasis on the therapeutic relationship; and (g) exploration of wishes, dreams, or fantasies. Individual treatment length was open-ended. However, given the constraints of the university-based community clinic which operates on an academic schedule, treatment length was often limited to 9–12 months. The mean treatment length was 19.33 sessions ($SD = 9.37$; range = 5–63). A total of 1940 sessions were available for analysis.

Procedure

The study procedures were part of the routine assessment and monitoring process in the clinic. Clients were asked to sign consent forms and were told that they could choose to terminate their participation in the study at any time without jeopardizing treatment. They were also told that their responses would not be shown to their therapist and their anonymity would be preserved. Only clients that gave their consent to participate were included in the study. The therapists were also insured anonymity and asked to sign consent forms. The study was conducted after receiving approval from the university ethics review board. Session-by-session questionnaires were completed by the participants using computers located in the clinic rooms and software that time-stamped their responses.

Measures

Therapist self-disclosure questionnaire (TSDQ; Ain & Gelso, 2011). The TSDQ assesses the frequency and the centrality of the therapist's self-disclosure during a session. In the current study, solely the Im-TSD subscale of the TSDQ was included, due to the relational nature of both the Im-TSD intervention and the congruence process. Both the clients and the therapists completed the TSD questionnaire immediately after each therapy session. The therapist's and the client's versions are similar and include the same instructions and items except that they are framed for the therapist or the client to answer from his or her perspective. The scale consisted of two items referring to the quantity and centrality of the Im-TSD in the session. Both the clients and the therapists were given a short explanation of Im-TSD ("self-disclosure that pertains to the "here and now" when therapists share their feelings, associations and thoughts to clients, the issues and topics raised during the session, and the therapy process which the therapist and client are both part of, etc..."), and were asked to use the cursor to mark: (1) the frequency with which they used Im-TSD ("At which frequency have you used self-disclosure that pertains to the "here and now" in the last session?"), and (2) the extent to which the Im-TSD was a central part of the session ("To what extent was the self-disclosure that pertains to the "here and now" a central part of the session?"), on a scale ranging from 1 (not at all) to 5 (very much). The within- and between-person reliabilities for the Im-TSD subscale were computed following procedures described in Cranford et al. (2006) for estimating reliabilities for repeated within-person measures.² Reliabilities were moderate-high (Im-TSD- within = .92, between = .85). Ain and Gelso (2008) reported moderate-high internal consistency ($\alpha = .78$) for the items referring to the amount of TSD in the client's version of the TSDQ. In the current study, both versions showed high internal consistency (client's version: $\alpha = .97$, therapist's version: $\alpha = .94$).

Session evaluation scale (SES; Hill & Kellems, 2002). The SES was completed by the clients after each session. The SES assesses the client's perception of the quality of the session ("I am glad I attended this session", "I did not feel satisfied with what I got out of this session" and "I thought the session was helpful"). The present study used the five-item version of the SES, in which the items are rated on a 5-point Likert scale from 1 to 5, where higher scores indicate stronger agreement. The negative items are reverse-scored.

In the current study, the within- and between-person reliabilities for the scale were high (within = .84, between = .91). The SES showed fairly high internal consistency in the sample ($\alpha = .83$).

Outcome rating scale (ORS; Miller et al., 2003). The ORS was completed by the client before each session. The ORS is a four-item visual analog scale developed as a brief alternative to the OQ-45. The overall correlation between the ORS and OQ-45.2 total scores is .59, corresponding to a moderate indication of concurrent validity. Both scales are designed to assess change in three areas of client functioning that are widely considered to be valid indicators of progress in treatment: individual (or symptomatic) functioning, interpersonal relationships and social role performance. Respondents fill in the ORS by marking their agreement with four statements on a visual analog scale anchored at one end by the word *low* and at the other end by the word *high*, which are converted into scores from 0 to 10 and then summed for a total score ranging from 0 to 40, with higher scores indicating better functioning. In the current study, the within- and between-person reliabilities for the scale were high (within = .94, between = .90). The ORS showed high internal consistency in the current sample ($\alpha = .95$).

Data Analytic Strategy

The data were analyzed using R software version 4.1.2. The dataset had a hierarchical structure, with session ratings nested within clients and clients nested within therapists. Thus, multilevel modeling (MLM; Raudenbush & Bryk, 2002) was used, with sessions at Level 1 and clients at Level 2.³

To test the first hypothesis regarding temporal congruence between therapists' and clients' perceptions of TSD on a session-by-session basis, an adaptation of West and Kenny's (2011) Truth and Bias model was used, where therapists' ratings of TSD served as the dependent variable and were predicted by clients' ratings of TSD. In T&B terms, temporal congruence can be considered a *truth force* (i.e., whether the therapists' ratings tracked their clients' changing TSD ratings), and mean-level discrepancy can be considered a *directional bias* (i.e., whether the therapist's ratings were positive or negatively biased vis-à-vis the client's). The latter was not examined here due to low theoretical value of determining the absolute differences between client's and therapist's ratings within specific sessions.

Prototypical Truth and Bias studies use the ratings of one partner in the dyad as the truth criterion and examine the extent to which the other partner is accurate in assessing the partner's ratings. Consistent with previous studies in the psychotherapy literature (e.g., Atzil-Slonim et al., 2015; 2018) that have modified the T&B model, the current study departed from this design by exploring congruence within the therapeutic dyad rather than accuracy or bias. Nevertheless, therapy clearly involves an asymmetrical relationship in which one of the therapists' explicit goals is to attend to and understand their clients' experience, and not vice-versa. Therefore, clients' ratings were treated as the "truth" benchmark and therapists' ratings as the (to-be-predicted) "judgment". This choice does not imply that the clients' view is any truer (or less true) than the therapists' view. Using the T&B model to assess congruence in client-therapist perspectives on TSD coincides with relational approaches to TSD which suggest that there is no absolute truth as to whether TSD occurred or not, and that what matters is the extent to which clients and therapists agree that it has occurred (Knight, 2009).

The slope coefficient of the model represents the extent to which the therapists' ratings were temporally congruent with their clients' TSD ratings (i.e., whether therapists' ratings were higher in sessions in which the clients' ratings were higher). As West and Kenny suggested, both the therapists' TSD ratings and the clients' TSD ratings were centered on the *clients' mean* TSD ratings across all sessions, which served to remove broad individual differences when examining within-subject fluctuations. The intercept's estimate represented the directional bias (i.e., the extent to which therapists, on average, overestimated [in cases of positive intercepts] or underestimated [in cases of negative intercepts] their clients' TSD ratings). These estimates are reported below for completeness, but are not discussed in detail because this study had no a-priori theoretical interest in these effects. The equations were:

Level 1:

$$\text{Therapists' } TSD_{sd} = \beta_{0d} + \beta_{1d} * \text{Clients' } TSD_{sd}$$

$$+ e_{sd} e_{sd} \sim N[0, \sigma^2] e_{ss'd} \sim N(0, \sigma^2 \times \rho^{|s-s'|})$$

Level 2:

$$\beta_{0d} = \gamma_{00} + u_{0d};$$

$$\beta_{1d} = \gamma_{10} + u_{1d}$$

$$\begin{pmatrix} u_{0d} \\ u_{1d} \end{pmatrix} \sim N \left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{00} & \\ & \tau_{11} \end{pmatrix} \right]$$

The Level 1 equation modeled the therapists' ratings of TSD for session s of dyad d as a function of the

directional bias (i.e., the intercept β_{0d}), temporal congruence (i.e., the slope β_{1d}), session client ratings and a Level 1 residual term (i.e., e_{sc}). A homogenous first-order autoregressive structure was modeled for the covariance matrix for the within-client residuals.

The Level 2 equation modeled the sample's average directional bias/temporal congruence (i.e., γ_{00} / γ_{10} respectively) which represented fixed effects, and the dyad's deviation from these averages (i.e., u_{0d} / u_{1d}) which represented random effects. Finally, unrestricted variance-covariance structure was modelled for random effects at Level 2.

To test the second hypothesis on temporal congruence as a predictor of change in session quality and functioning, the client-specific empirical Bayes estimates (Raudenbush & Bryk, 2002) of the temporal congruence were extracted from the Truth & Bias model described above (β_{1d}). Then these scores were grand-mean centered and used as predictors of change in session quality (SES) and change in functioning (ORS) during treatment. Session-by-session SES/ORS scores were regressed on the session number (centered around the pre-treatment assessment), such that the intercept's estimate represented pre-treatment levels of SES/ORS and the slope of time represented the change per session in SES/ORS. When examining model fit and deviance we opted for the log- linear change model (rather than linear or quadratic change models). The equations were as follows:

Level 1:

$$\begin{aligned} \text{Session quality/Functioning}_{sd} &= \beta_{0d} \\ &+ \beta_{1d} * \log(\text{Session number})_d \\ &+ e_{sd} e_{sd} \sim N[0, \sigma^2] \end{aligned}$$

Level 2:

$$\begin{aligned} \beta_{0d} &= \gamma_{00} + \gamma_{01} * \text{TemporalCongruence}_d + u_{0d}; \\ \beta_{1d} &= \gamma_{10} + \gamma_{11} * \text{TemporalCongruence}_d + u_{1d} \\ (u_{0d} \ u_{1d}) &\sim N[(0 \ 0), (\tau_{00} \ \tau_{11})] \end{aligned}$$

The Level 1 equation modeled the ratings of session quality/functioning for session s of dyad d as a function of a client-specific baseline level (i.e., the intercept β_{0d}), the log of session number (i.e., the loglinear slope of time β_{1d}), and a Level 1 residual term (i.e., e_{sd}). A homogenous first-order autoregressive structure was modeled for the covariance matrix for the within-client residuals.

The Level 2 equation modeled the sample's average baseline level and loglinear time trends

(i.e., $\gamma_{00} / \gamma_{10}$ respectively) which represented fixed effects, and the dyad's deviation from these averages (i.e., u_{0d} / u_{1d}) which represented random effects as a function of the dyad's temporal congruence (grand-mean center). Dyad-level temporal congruence score were saved from the Truth and Bias model (i.e., empirical bayes estimates). Finally, unrestricted variance-covariance structure was modelled for random effects at Level 2. A similar process was done also for the directional bias.

The 102 clients were treated in a total of 2308 sessions. Of these sessions, there were a total of 336 missing datapoints for TSDQ (26 for the client's version, 87 for the therapists' version, and 223 for both versions) and 32 missing data for SES. As a result, we were missing a total of 368 sessions, and ended up with 1940 sessions. Given this level of missingness (15.9% of the data missing at random), we did not impute missing values, but rather relied on the robustness of REML models in handling missing data (Shin et al., 2017).

Results

Temporal Congruence in Im-TSD Ratings (First Hypothesis)

Table 1 displays descriptive statistics for study variables. Table 2 presents the results of the Truth-and-Bias analysis. The fixed effect of the temporal congruence was positive and significant, indicating that therapists tended to be temporally congruent with their clients in their perception of Im-TSD, as predicted ($b = 0.205$, $SE = 0.030$, $p < .001$, 95% CI [0.147,0.264], effect size = 0.10). That is, on sessions in which clients reported increasing (or decreasing) levels of Im-TSD in the previous session, their therapists reported increasing (or decreasing) levels as well (Hypothesis 1; Figure 1).

The random effect of the temporal congruence was also significant at Level 2, indicating significant between-client variability in the extent to which therapists were temporally congruent with their clients in their ratings of Im-TSD ($b = 0.128$, $SE = 0.064$, $p < .001$, 95% CI [0.065,0.251]). Despite this variability, the clients' Im-TSD ratings for all therapists was positive, indicating that congruence was indeed the standard.

The Truth-and-Bias framework served to simultaneously assess the mean-level directional bias, in addition to the temporal congruence. Hence, though not part of our hypotheses, it also emerged that the fixed effect of directional bias was negative but not significant, indicating that on average therapists did not tend to under- or overestimate Im-TSD compared to their clients' ratings ($b = -0.194$, $SE = 0.124$, ns , 95% CI [-0.437,0.048]). However, the random effect of the directional bias was significant at Level 2, indicating significant between-

Table 1. Means, Standard Deviations, and Inter-Correlations for Study Variables.

Variable	M	SD	Zero-order correlations ^a		
			2	3	4
1. client reports of Im-TSD	2.08	1.01	0.16***	0.16***	-0.06**
2. therapist reports of Im-TSD	1.88	0.77		-0.05*	0.07**
3. SES	4.41	0.70			0.15***
4. ORS	24.11	8.56			

Note. Im-TSD = Immediate Therapist Self-Disclosure, SES = Session Evaluation Scale, ORS = Outcome Rating Scale.

^aThe zero-order correlations with the clients' and therapists' ratings of Im-TSD were computed using the means for these variables (computed across all treatment sessions).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. Adapted Truth and Bias Model assessing Temporal Congruence and Directional Bias in Im-TSD Ratings.

Parameters	Estimate (SE)	p	95% CI	Effect Size
Fixed effects				
Directional bias (intercept)	-0.194 (0.124)	0.116	[-0.437, 0.048]	
Temporal congruence (slope)	0.205 (0.030)	<0.001***	[0.147, 0.264]	0.10
Random effects				
Level 1 (sessions)				
Residual	0.818			
Level 2 (clients)				
Intercept	1.222 (0.360)	<0.001***	[1.057, 1.412]	
Slope	0.128 (0.064)	<0.001***	[0.065, 0.251]	
Intercept/slope covariance	0.541 (0.264)	0.173	[-0.158, 0.879]	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

CI = confidence interval.

Effect sizes were calculated as the semi-partial r (r_{cs} ; Jaeger et al., 2017; Nakagawa & Schielzeth, 2013).

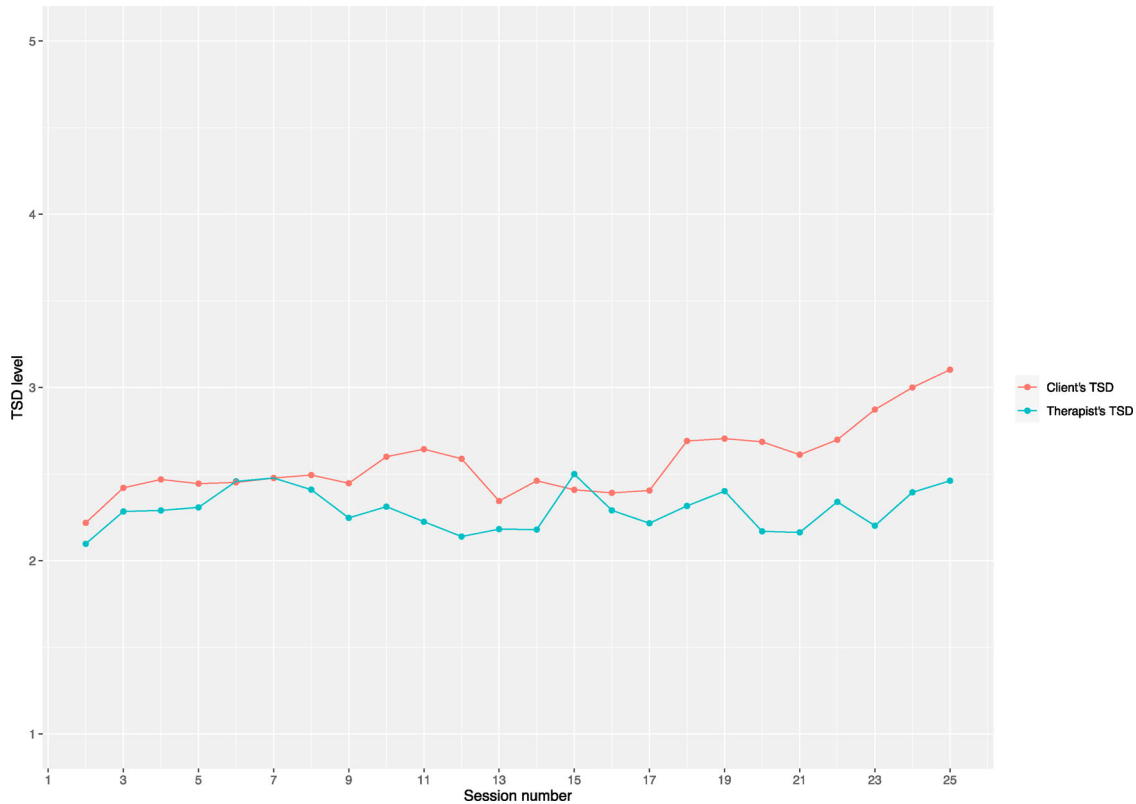


Figure 1. Temporal congruence in Im-TSD ratings.

client variabilities in terms of the extent to which therapists tended to under- or overestimate their clients' Im-TSD ratings⁴ ($b = 1.222$, $SE = 0.360$, $p = <.001$, 95% CI [1.057,1.412]).

Temporal Congruence of Im-TSD as a Predictor of Change in Session Quality and Functioning (Second Hypothesis)

Tables 3 and 4 present the results of this analysis. The values of both the estimated session quality and functioning scores at pre-treatment for clients with an average level of congruence (i.e., intercept) as well as the estimated weekly change in session quality and functioning for clients with an average level of congruence (i.e., slope) were significant, suggesting that on average session quality and functioning improved during treatment (SES; intercept: $b = 4.242$, $SE = 0.066$, $p = <.001$, 95% CI [4.113,4.371]; slope: $b = 0.138$, $SE = 0.047$, $p = .003$, 95% CI [0.046,0.232], effect size = 0.07); (ORS; intercept: $b = 22.697$, $SE = 0.807$, $p = <.001$, 95% CI [21.113,24.279]; slope: $b = 1.688$, $SE = 0.597$, $p = .004$, 95% CI [0.517,2.859], effect size = 0.10).

Regarding the second hypothesis, we found that greater temporal congruence was associated with a

greater increase in session quality during treatment (Hypothesis 2; Figure 2) ($b = 1.180$, $SE = 0.540$, $p = .029$, 95% CI [0.121,2.239], effect size = 0.06). However, in contrast to predictions, temporal congruence was not associated with changes in client functioning ($b = 6.418$, $SE = 6.880$, ns , 95% CI [-7.076,19.912], effect size = 0.04). In other words, dyads who showed greater temporal congruence in Im-TSD ratings also showed a greater increase throughout treatment in session quality as experienced by the client, but not necessarily greater changes in the clients' functioning level.

Interestingly, the findings revealed that greater temporal congruence was associated with *lower* client ratings of session quality at the beginning of therapy ($b = -2.336$, $SE = 0.749$, $p = .002$, 95% CI [-3.823, -0.849], effect size = 0.11). In other words, dyads with greater average temporal congruence tended to begin treatment with lower levels of session quality but also showed greater improvement in session quality throughout treatment. No significant association was found between temporal congruence and clients' functioning as a function of time in treatment ($b = 7.803$, $SE = 9.222$, ns , 95% CI [-10.493,26.099], effect size = 0.06).

Although not of primary interest, directional bias as a predictor of outcome was also examined. No

Table 3. Temporal Congruence of Im-TSD as a Predictor of Change in Session Quality (SES).

Parameters	Estimate (SE)	<i>p</i>	95% CI	Effect Size
Fixed effects				
Intercept	4.242 (0.066)	<0.001***	[4.113, 4.371]	
Session number (Linear change over time)	0.138 (0.047)	0.003**	[0.046, 0.232]	0.07
Intercept X temporal congruence	-2.336 (0.749)	0.002**	[-3.823, -0.849]	0.11
Session number X temporal congruence	1.180 (0.540)	0.029*	[0.121, 2.239]	0.06
Random effects				
Level 1 (sessions)				
Residual	0.414			
Level 2 (clients)				
Intercept	0.603 (0.052)	<0.001***	[0.509, 0.716]	
Slope	0.359 (0.045)	<0.001***	[0.281, 0.459]	
Intercept/slope covariance	-0.410 (0.120)	0.001**	[-0.618, -0.149]	

Note. **p* < .05. ***p* < .01. ****p* < .001.

CI = confidence interval.

Effect sizes were calculated as the semi-partial *r* (*r*_s; Jaeger et al., 2017; Nakagawa & Schielzeth, 2013).

Table 4. Temporal Congruence of Im-TSD as a Predictor of Change in Functioning (ORS).

Parameters	Estimate (SE)	<i>p</i>	95% CI	Effect Size
Fixed effects				
Intercept	22.697 (0.807)	<0.001***	[21.113, 24.279]	
Session number (Linear change over time)	1.688 (0.597)	0.004**	[0.517, 2.859]	0.10
Intercept X temporal congruence	7.803 (9.222)	0.399	[-10.493, 26.099]	0.06
Session number X temporal congruence	6.418 (6.880)	0.351	[-7.076, 19.912]	0.04
Random effects				
Level 1 (sessions)				
Residual	4.083			
Level 2 (clients)				
Intercept	7.702 (0.612)	<0.001***	[6.593, 8.995]	
Slope	5.175 (0.519)	<0.001***	[4.256, 6.293]	
Intercept/slope covariance	-0.439 (0.094)	<0.001***	[-0.606, -0.235]	

Note. **p* < .05. ***p* < .01. ****p* < .001.

CI = confidence interval.

Effect sizes were calculated as the semi-partial *r* (*r*_s; Jaeger et al., 2017; Nakagawa & Schielzeth, 2013).

effects of directional bias on change in session quality or on changes in clients' functioning during treatment were observed. Note that clients with higher session quality (SES) at baseline had more negative directional biases (in absolute terms, which means greater underestimation of Im-TSD by clients). No significant association was found between clients' functioning level (ORS) at baseline and directional bias. Since this additional analysis was beyond the scope of this study, it is provided as supplemental material.

Sensitivity Analysis

It is possible that the absolute level of, rather than agreement on, Im-TSD could predict session quality. For example, higher levels of Im-TSD might predict higher session quality and therapist-client agreement

could be easier to achieve when the level of Im-TSD is high. To rule out this possibility, we ran a sensitivity analysis, by adding the level of TSD (at the dyad level, grand mean centered, and separately according to client's and therapist's ratings) as another predictor of outcome in the same model, including its interaction with temporal congruence. The results of this analysis are provided as supplemental material. As can be seen in both tables, the results indicated that the interaction effect between session number and temporal congruence remained significant, indicating that the level of Im-TSD (for the client and for the therapist) did not affect results.

Discussion

The current study examined the existence of client-therapist temporal congruence in assessing Im-TSD

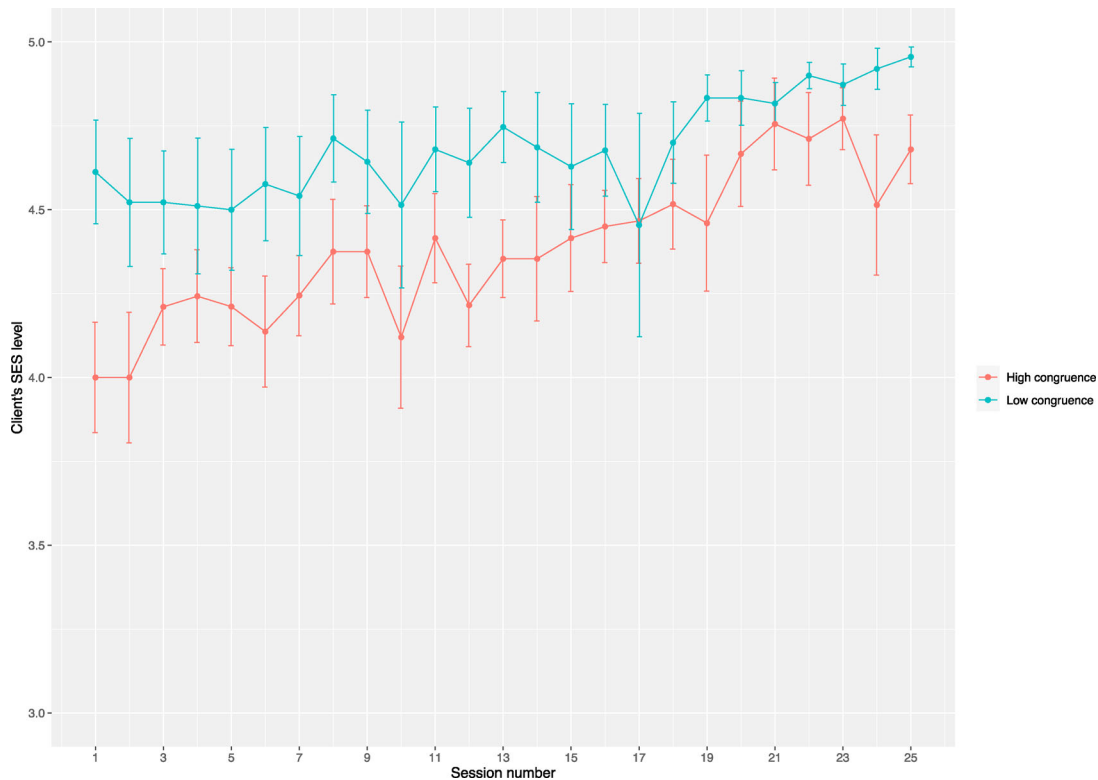


Figure 2. Clients' session quality evaluation as a function of temporal congruence.

and the association between congruence and treatment outcome in terms of perceived quality of session and functioning. Regarding the first hypothesis, we found that therapists' and clients' Im-TSD ratings would be temporally congruent. This finding expands previous research reporting a significant positive correlation between therapists' and clients' ratings of TSD (Ain & Gelso, 2011; Fuertes et al., 2019). However, whereas previous research has been based on single-session Im-TSD ratings, the current findings suggest that congruence also occurs on a session-by-session basis. This temporal congruence may indicate that when therapists think at the end of the session that they self-disclosed during the session, their clients also tend to perceive this in the same way. From a relational point of view, this temporal congruence may reflect the existence of a shared mental space in which clients and therapists interact and respond to each other, verbally and non-verbally, thus providing further evidence of the intimate and delicate communication within dyads (e.g., Chen et al., 2022; Keum et al., 2021).

Though not part of the hypotheses, results also indicated that on average, therapists did not tend to rate TSD as higher or lower than their clients; however, some therapists tended on average to rate Im-TSD higher than their clients, while others tended to rate Im-TSD lower. Future studies

should examine possible moderators of the discrepancy between clients and therapists in Im-TSD perceptions. For example, it is possible that therapists with poor emotion regulation abilities tend to self-disclose without being aware of doing so. Alternatively, it is possible that clients who are more outward-looking, and pay attention to things the therapist says and does (e.g., clients who are high on attachment anxiety; Mikulincer & Shaver, 2007) may tend to interpret the relatively natural behavior of the therapist as disclosing and consequently rate Im-TSD higher than their therapists.

Regarding the second hypothesis, greater congruence in Im-TSD ratings was associated with a greater increase throughout treatment in session quality as experienced by the client. This finding echoes relational theories that view congruence between clients and therapists on different aspects of therapy as crucial to therapeutic progress (Aron, 2013; Aron & Harris, 2014; Maroda, 2013; Mitchell, 2009). This finding is also in line with previous studies that have highlighted the importance of temporal congruence between clients and therapists to the outcome of therapy (e.g., Chen et al., 2022; Keum et al., 2021; Kivlighan et al., 2017). However, the current study innovates by examining temporal congruence in the perception of therapists' interventions, and specifically Im-TSD.

It is possible that therapists who were more temporally congruent with their clients followed up on their Im-TSD (e.g., by asking the client “what does it feel like for you when I say that?”), which may have enabled the intervention to “sink in” and contributed to the client’s awareness of the TSD, thereby generating more congruence about the intervention that could have made it more effective. It is also possible that the temporal congruence observed for Im-TSD ratings may have been a manifestation of more general relational attunement or an established therapeutic alliance (e.g., Bordin, 1979; Rogers, 1951; 1957). Future studies should examine whether therapists who are more congruent with their clients in terms of the occurrence of Im-TSD during a session are also more congruent in terms of other process variables such as emotions and the therapeutic alliance.

Interestingly, the findings revealed that dyads with greater average temporal congruence tended to begin treatment with lower levels of session quality but also showed greater improvement in session quality throughout treatment. It is possible that when clients are not satisfied at the initial stages of therapy, therapists may respond by using Im-TSD and sharing the reason for doing so with their clients, which may lead to greater congruence and eventually to greater improvement in the clients’ experience of therapy. Alternatively, when the client is aware of the therapist’s self-disclosure at the initial phases of treatment, the Im-TSD may be experienced as threatening in some way, since the relationship has not yet been established, which is reflected in perceiving the sessions as less helpful. However, seeking to understand the client’s reaction and sharing this unpleasant experience together may generate more congruence regarding the intervention and may be manifested in an improvement in the experience of the session as more helpful in later stages of the treatment.

In addition, the findings show that although the improvement in session quality throughout treatment was greater in dyads with greater average temporal congruence, dyads with lower average temporal congruence still showed higher levels of satisfaction with the therapeutic session. High congruence may be important to promote satisfaction for clients who are not satisfied with the treatment at the initial stages of therapy. However, greater congruence in Im-TSD ratings may not necessarily be the most beneficial pattern. More studies are needed to examine whether there is a greater need to talk with clients who are not satisfied in the initial stages of treatment about Im-TSD in order to increase congruence.

Contrary to expectations, greater congruence was not shown to be associated with changes in clients’

functioning. The finding that temporal congruence of Im-TSD was associated with an increase in the experience of the session as helpful but not with the clients’ functioning is consistent with previous studies reporting that Im-TSD tends to be more associated with clients’ positive experiences of the treatment or with the therapeutic relationship rather than with reduced symptoms or functioning (Audet, 2011; Henretty et al., 2014; Hill et al., 2018). Hill and Knox’s (2002) explanation for these findings is that TSDs tend to lead clients to insights and make them feel that their therapists are more real and human, which in turn leads to clients’ experience of the session as more helpful. This explanation also makes sense with regard to congruence between clients and therapists in Im-TSD perception and its relationship to different outcomes. Given that congruence in Im-TSD is a relational variable, it may be more strongly related to clients’ experience of the session as helpful rather than with clients’ functioning. It remains to be seen whether temporal congruence of Im-TSD is related to other outcomes or has a more complex association with outcome (e.g., mediated by session quality and therapeutic alliance).

Overall, the findings align with other works which suggest that there is no specific technique that leads to improvement in all outcome measures. Although some processes, such as the therapeutic alliance, demonstrate consistent associations with many different types of outcomes (e.g., Flückiger et al., 2020), other processes may lead to improvement in specific outcomes and not in others (Barber, 2009; Hill, 2005). As shown in the findings here, when therapists and clients were more congruent in their sense that they shared their thoughts and feelings, this may have helped the clients become more engaged and in touch with their own vulnerabilities which could have led to the perception of the session as more helpful. Future studies could explore client-therapist congruence in a wider range of therapeutic techniques. This may also help reveal the mechanisms underlying the association between congruence in specific interventions and specific outcomes. For example, it is possible that congruence between clients and therapists in other interventions which are more directive and less relational than TSD may be more strongly associated with clients’ functioning or symptoms.

Consistent with current trends in studying TSD, this study focused exclusively on Im-TSD due to its relational context. Im-TSD reveals therapists’ here-and-now reactions to what is going on in therapy as it occurs. It made sense to focus on Im-TSD when examining congruence in TSD perceptions, since both Im-TSD and congruence bring the interactional

processes between client and therapist to light (e.g., the therapeutic relationship) (Knox & Hill, 2003). Future studies should examine congruence in TSD perceptions in other types of TSD, to gain a fuller picture of congruence with regard to clients' and therapists' ratings of TSD and its association with treatment process and outcome.

The current study extends previous work addressing the impact of client-therapist congruence on therapeutic processes and its association with treatment outcomes, and constitutes the first study to address temporal congruence in terms of the application of therapeutic techniques, and specifically Im-TSD. However, several limitations of this study should be noted. One limitation is that the small number of clients treated by each therapist made it impossible to examine the extent to which the variance of congruence in Im-TSD perceptions and the effect of congruence on treatment outcome were products of individual differences between therapists. Previous studies have shown that therapists' characteristics are associated with client-therapist temporal congruence (e.g., Kivlighan & Marmarosh, 2018; Chen et al., 2018). Future studies would benefit from examining the moderating role of therapists' characteristics on client-therapist congruence in Im-TSD perceptions.

In addition, the issue of effect sizes in the context of multilevel modeling is complex, since currently there is no consensus as to the optimal way to compute effect sizes. In the current study, effect sizes were calculated as the semi-partial r (Jaeger et al., 2017; Nakagawa & Schielzeth, 2013) using the 'r2glmm' package in R (Jaeger, 2017). This yielded small effect sizes, which suggests that more studies with larger samples are needed to arrive at more robust conclusions regarding the role of im-TSD congruence in psychotherapy.

Moreover, the reliance on trainee therapists can be considered a limitation as well and may limit the generalizability of the findings to processes in therapies implemented by more experienced clinicians.

An additional limitation is that the TSDQ (Ain & Gelso, 2011) used to measure the therapists' Im-TSD use was developed for a dissertation, and relatively little psychometric data have been published on it. The temporal congruence between the client and the therapist in assessing the Im-TSD may serve as support for the reliability of the measure. However, as suggested by the original authors of the TSDQ, more research is needed to establish the validity and reliability of this measure.

In addition, we used the estimates of dyad level congruence as predictors in the outcome prediction models by drawing them from the truth and bias model. These estimates, often referred to as empirical

Bayes (EB) estimates, have been shown to underestimate ("shrink") the true variability in the population (Liu et al., 2021). This could potentially bias models that use these estimates. However, because this bias tends to shrink the variance, it is likely to result in overly conservative assessments of the findings, thus decreasing the likelihood of a Type I error.

Finally, the findings were based on correlational data, which preclude any strong inference of causal associations between Im-TSD congruence and improved outcome. Our thinking was guided by the belief that higher congruence between clients and therapists in Im-TSD perceptions would be predictive of improved treatment outcome pre- to post-treatment. At the same time, the possibility of reverse causation must be considered. For example, it is possible that when clients tend to improve more in treatment, therapists and clients tend to discuss the therapists' feelings more openly, which leads to higher congruence.

Despite these limitations, the current study provides empirical evidence pointing to the importance of taking a dyadic perspective on therapy processes in general, and Im-TSD in particular. The findings suggest that clients and therapists tend to be temporally congruent in perceiving Im-TSD throughout treatment. Moreover, greater temporal congruence was associated with greater improvement in the experience of treatment as helpful. These findings are consistent with relational approaches which highlight the importance of congruence between clients and therapists in Im-TSD perceptions (Knight, 2009).

These findings have several possible clinical implications. They advance the idea that therapists should be aware of their disclosures and at the same time encourage their clients' awareness of them. Therapists may attempt to sensitive their clients to Im-TSD by encouraging them to notice that it has occurred, and checking in with them to see how they feel about the sharing. In addition, therapists should pay attention and seek to understand their clients' reactions to their sharing. Given that Im-TSD can have a powerful negative effect on some clients and may not always lead to progress in therapy (Gutheil & Gabbard, 1993), it is especially important for therapists to reflect on their intervention and how they formulate their decisions, in order to increase the likelihood of using Im-TSD in an ethical and effective manner (e.g., Henretty & Levitt, 2010; Wilkinson & Gabbard, 1993).

By enhancing both sides' awareness of Im-TSD, therapists can increase their responsiveness to their clients' interpersonal needs and shape their Im-TSD accordingly. This process may allow a corrective emotional experience for the client in which they can gain access to another person's experience

of them and at the same time can shape this experience in mutual feedback loops, which may lead to better therapeutic outcomes.

Notes

- ¹ The following DSM-IV diagnoses were assessed in the affective disorders cluster: major depressive disorder (17.65%), dysthymia (13.51%) and bipolar disorder (1.20%). The following DSM-IV diagnoses were subsumed under the anxiety disorders cluster: generalized anxiety disorder (16.67%), social anxiety disorder (11.76%), panic disorder (3.90%) and agoraphobia (1.98%).
- ² One coefficient represents the expected between-person reliability on one fixed session; it can be thought of as a proxy for the average session-specific alpha-coefficients across all sessions. The other coefficient assesses the precision of the measurement of systematic change of therapists over sessions. It represents the within-person reliability of session-to-session change on the scale.
- ³ When attempting to estimate three-level models (i.e., taking into account therapist effects), the models did not converge. This is likely the result of the low average number of clients treated by the same therapist in the sample (in which most therapists treated only one client); this limits the extent to which therapist effects could be examined. All the analyses were re-run with one client per therapist (the one who provided the most session-by-session reports; $N_{clients} = 60$). The pattern of results was almost identical to the one obtained for the entire sample of clients, suggesting that consistent with recent simulations (Schiefele et al., 2017), therapists' effects, if they existed, were unlikely to have biased the within-dyad effects. These results are available upon request.
- ⁴ In order to determine whether the findings could be influenced by a general increase or decrease in Im-TSD over time, we fitted a Truth-and-Bias model which included both time, as a separate parameter in the model, and the interaction between time and truth. There was no interaction between temporal congruence and time, and hence no changes in congruence over time, implying that the findings cannot be ascribed to linear trends in the therapists' and clients' ratings. We found that the directional bias decreased over time, although we had formulated no a priori question related to this issue.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

ORCID

Yogev Kivity  <http://orcid.org/0000-0002-8293-8910>

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