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Improving social functioning and life satisfaction among patients with personality dysfunction: Connectedness and engagement in integrative group treatment

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Abstract

Reduced social impairment and improved life satisfaction are important objectives in group treatment for patients with personality dysfunction. Knowledge regarding patient characteristics and group treatment processes that contribute to these outcomes, however, remains limited. Dispositional connectedness, the valuing of interpersonal connections, may be an important patient factor that influences patients' experience of group treatment in ways that facilitate therapeutic benefits. The present study investigated the roles of dispositional connectedness and group engagement in contributing to improvement in social functioning and life satisfaction through integrative group treatment for personality dysfunction. Seventy-nine patients who completed an integrative group treatment programme were assessed for dispositional connectedness at baseline and social functioning and life satisfaction at pretreatment and posttreatment; each also provided ratings of group engagement during treatment. Regression analyses using bootstrap confidence intervals found significant indirect effects for dispositional connectedness regarding improvement in both social functioning and life satisfaction, through the mediating effect of group engagement. Thus, patients who entered treatment with tendencies towards interpersonal connectedness perceived a higher level of engagement in the group environment. Group engagement in turn contributed to greater improvement in social functioning and to greater improvement in life satisfaction following treatment. The findings indicate dispositional connectedness as a salient characteristic in selecting patients for group treatment and highlight the role of an engaged interpersonal climate in facilitating improvement in social functioning and life satisfaction.

KEYWORDS

connectedness, engagement, group treatment, life satisfaction, social functioning

1 | INTRODUCTION

Most patients seek psychotherapy to improve their social functioning and feel more satisfied with life. The patient's sense of progress in performing social roles and life tasks—such as work, interpersonal relationships, and leisure activities—may be more personally meaningful than particular symptoms and may be experienced as leading to greater overall fulfilment and satisfaction. However, for patients with personality dysfunction—typically involving entrenched suffering, distorted self-concept, and maladaptive interpersonal patterns—better

social adjustment and greater satisfaction with life may seem like elusive goals.

Intensive personality-focused treatment offers a unique opportunity to address the various barriers that interfere with improved functioning and life satisfaction. Integrative and multicomponent group treatment may be particularly helpful for patients with personality disorder and subthreshold personality dysfunction (e.g., several personality disorder traits)[1] in developing capacities for better functioning and greater fulfilment in life. Understanding group processes—and the patient characteristics that influence them—that contribute to such outcomes can provide a focus for clinicians and highlight targets for intervention. One such patient characteristic is a disposition towards connectedness, defined as a valuing of interpersonal relationships that allows one to engage in, contribute to, benefit from, and make meaning from social relationships (Rude & Burnham, 1995). As a trait-like patient characteristic, connectedness may facilitate the harnessing of interpersonal work in group treatment. Such interpersonal work, reflected in patients' experiences of group process, is likely instrumental in addressing difficulties in social functioning and achieving greater satisfaction in life.

Key Practitioner Message

- Understanding facilitative patient characteristics and group processes can help clinicians provide responsive group treatment that improves social functioning and life satisfaction among patients with personality dysfunction.
- Patients with higher dispositional connectedness—an openness to and valuing of interpersonal relationships—experienced more engagement among group members within an integrative group treatment programme.
- Group engagement was associated with improvement in social functioning and life satisfaction, mediated their link with dispositional connectedness, and indirectly influenced life satisfaction through improved social functioning.
- Connectedness may be an important characteristic for clinicians to consider when selecting patients and forming therapy groups for patients with personality dysfunction.
- Promotion of group engagement is an important therapeutic task, allowing patients to utilize interpersonal learning, corrective experiences, and insight work for the benefit of better social functioning and, ultimately, greater satisfaction with life.

1.1 | Connectedness and interpersonal relations

Affiliation needs lie at the very foundation of human existence and have important implications for emotional, psychological, and physical health (Baumeister & Leary, 1995; Cacioppo & Patrick, 2008). Although the achievement of affiliation is a fundamental human motivation (Horowitz, 2004), people differ in their orientation towards connecting with others. As an individual difference, connectedness refers to the capacity to seek, attend to, and "make use of" interpersonal relationships (Lee, Draper, & Lee, 2001; Rude & Burnham, 1995). People high in dispositional connectedness tend to perceive others as friendly and approachable and feel a sense of warmth towards and openness to forming attachments with others (Dunkley, Blankstein, Zuroff, Lecce, & Hui, 2006; Lee et al., 2001; Zuroff, Moskowitz, & Côté, 1999). Individuals with high dispositional connectedness value relationships and are concerned with emotional experiences and the needs of others (Dunkley et al., 2006). By contrast, people low in dispositional connectedness tend to feel interpersonally distant from others, often feel misunderstood by others, and experience discomfort in social situations. Perhaps unsurprisingly, given the importance of affiliative needs, lower levels of connectedness have been found to be associated with greater psychological distress, including anxiety and poor self-esteem (Lee & Robbins, 1998).

Relationally oriented theories of personality development—such as interpersonal theory, attachment theory, and self-psychology—conceptualize individual differences in connectedness as emerging largely in the context of early relationships with caregivers (Greenberg & Mitchell, 1983). Although adverse parent–child relationships are overall associated with adult personality pathology (Kealy, Sierra-Hernandez, & Ogrodniczuk, 2016; Waxman, Fenton, Skodol, Grant, & Hasin, 2014), individual differences in connectedness may emerge based on the child's experience of other caregivers and peers who model interpersonal relatedness. Even under inimical circumstances, attachment and identification with responsive figures may instill tendencies towards connectedness. Indeed, connectedness has been associated with histories of good peer attachments even when maternal care was poor (Kopala-Sibley, Zuroff, Leybman, & Hope, 2012).

1.2 | Connectedness and interpersonal work in psychosocial treatment

Dispositional connectedness may be an advantage for patients in group-oriented settings, by allowing patients to forge stronger therapeutic relationships and remain open to feedback from therapists and other patients. Intensive interpersonal work—the use of therapeutic relationships (with peers and clinicians), the examination of interpersonal patterns, and the practice of new interpersonal behaviours—is often a feature of integrative group treatment aimed at helping

[1]We consider the broader term "personality dysfunction" to encompass personality disorder and subthreshold personality dysfunction indicated by several personality disorder traits and significant impairment and distress.

patients develop insight and enhance their social skills. Patients with higher dispositional connectedness might be better equipped for these tasks, perceiving the interpersonal milieu in a more positive light and establishing more constructive working relationships with other patients and with group therapists. Connectedness may contribute to a greater appreciation for the interpersonal engagement—the self-disclosures, efforts to understand one another, and tactful confrontation—essential to group therapy in the psychodynamic and interpersonal/experiential traditions (Rutan, Stone, & Shay, 2014; Yalom & Leszcz, 2005). Given its association with positive group therapy outcomes (Illing, Tasca, Balfour, & Bissada, 2011; Ogrodniczuk & Piper, 2003; Ryum, Hagen, Nordahl, Vogel, & Stiles, 2009), engagement in the interactive work of group therapy may well contribute to gains in social functioning and life satisfaction following treatment. Examining these factors together in group therapy can help to disentangle trait-like versus state-like contributions to outcome, as currently discussed in the context of the alliance–outcome correlation in individual psychotherapy (Zilcha-Mano, 2017).

1.3 | Improving social functioning through interpersonal engagement in group therapy

By bringing together multiple types of intervention, integrative group treatment offers a fertile environment in which patients may address social functioning difficulties (Chiesa, Cirasola, & Fonagy, 2017). Indeed, intensive day treatment has been found to promote improvement in social role and health-related quality of life among patients with personality dysfunction (Horn et al., 2015). Such programming not only targets the reduction of symptoms that impede optimal functioning, but specific modules can also focus directly on skill development in areas such as communication, stress management, and vocation and leisure planning. Groups focused on insight and interpersonal work can help patients learn about maladaptive self-states and relational patterns that may hinder their adjustment to various social roles. Programmes with groups targeting reflective abilities (e.g., regarding underlying mental states and relational dynamics) have been found to produce positive effects for improved social functioning (Popolo et al., 2019), including at long-term follow-up (Antonsen et al., 2017).

Anchoring integrative group treatment is a supportive milieu in which collaborative working relationships among participants are encouraged. The daily exposure to this warm and accepting—yet work-oriented and challenging—interpersonal environment may reduce isolation and loneliness, which are linked with social dysfunction in personality disorders (Liebke et al., 2017). Immersion in an affectively charged, supportive interpersonal milieu may provide corrective experiences (Goldfried, 2012) that modify dysfunctional attitudes regarding social roles and motivate behavioural changes. Patients who value interpersonal connections may be particularly open to using intragroup interactions in this way, potentially experiencing group interaction as a model for renewed trust and social learning (Fonagy, Campbell, & Bateman, 2017). In this way, other group members—and even the group overall—may be experienced as enhancing relational security and strengthening the individual's sense of self, as in the attachment and self-psychological concepts of the secure base (Mikulincer & Shaver, 2007) and self-object (Rutan et al., 2014), respectively. A secure base experience affords a sense of safety associated with the reliability of responses from important others, allowing for disclosure of vulnerability and exploration of psychological and interpersonal difficulties (Mikulincer & Shaver, 2007). The self-object refers to the subjective experience of another (or a group) that evokes and strengthens one's sense of self, including the capacity for personal flexibility and creativity (Kohut, 1984). A highly engaged group atmosphere may facilitate the experiencing of group members' (and therapists') responsiveness as providing self-object functions (Rutan et al., 2014), particularly among individuals high in connectedness, that help one to feel more resilient and to think constructively in the face of life challenges. The experience of vibrant and engaged group interaction may thus be an important source of change in the way group members experience themselves and their responses to social demands, contributing to enhanced social functioning. These gains may in turn lead to a greater sense of overall satisfaction with life.

1.4 | The present study

Given the importance of social functioning and life satisfaction as treatment objectives and the need to inform clinicians about salient patient features and treatment process, the present study was developed to investigate connectedness and interpersonal engagement in relation to such outcomes. Understanding whether connectedness influences patients' experience of group engagement can help clinicians make appropriate decisions about patient selection and group composition. Knowledge about group engagement can inform efforts to optimally target interventions to patient characteristics and facilitate group processes aimed at enhancing social functioning and, ultimately, greater life satisfaction. Thus, the present study investigated dispositional connectedness and experiences of group engagement as potential contributing factors to improving social functioning and life satisfaction through treatment. Mediation models were proposed, examining whether connectedness would be indirectly linked with outcome through patients' experience of group engagement, which was hypothesized to contribute to improved social functioning and life satisfaction.

Because achieving greater fulfilment in life may be based on enhanced responsiveness to social roles—acquired through the interpersonal work of group treatment—a second objective was to examine improvement in life satisfaction as a function of group engagement—influenced by connectedness—and improvement in social functioning. Hence, we explored the potential pathway from connectedness to group engagement and improved social functioning, as sequential mediators, to improved life satisfaction. To accomplish these objectives, we used data from a naturalistic study of integrative group treatment for personality

dysfunction, delivered in an intensive, multicomponent evening treatment programme.

2 | METHODS

2.1 | Participants and setting

Participants were 79 consecutively admitted psychiatric outpatients (from an intent-to-treat sample of 138) who completed participation in the Evening Treatment Programme (ETP) of the Department of Psychiatry at the University of Alberta Hospital in Edmonton, Canada. The ETP is an intensive outpatient group therapy programme that aims to facilitate the improved well-being and social functioning for individuals suffering from personality dysfunction, ranging from clinically significant personality difficulty (several personality disorder traits) to diffuse personality disorder (two or more diagnosed personality disorders; Tyrer & Johnson, 1996). The ETP provides five evenings per week of group psychotherapy, over an 18-week period, in order that patients can engage in intensive treatment while preserving important daytime activities such as employment, education, or childcare. Admission criteria to the programme were (a) the presence of significant personality dysfunction that either met criteria for a particular personality disorder diagnosis or constituted significant traits that did not qualify for a full diagnosis yet represented considerable dysfunction; (b) engagement in a meaningful daily activity, such as employment, education, parenting, or volunteering; (c) a capacity for group participation, demonstrated by interest in group work and availability to attend the programme; and (d) a minimum age of 18 years. Clinical intake interviews by programme staff evaluated such criteria, including the degree of suspected personality disorder or presence of problematic personality traits. Exclusion criteria consisted of psychotic disorders (e.g., schizophrenia) with active symptoms of psychosis, organic mental disorder, acute suicidality, active substance abuse in need of primary attention, significant intellectual impairment, or active treatment at another mental health service.

Ethics approval for the study was granted by the Health Research Ethics Board at the University of Alberta. All patients who participated in the study provided written informed consent prior to participation. Participants were patients who completed the ETP and provided complete assessment data. Of the 138 patients who registered, four did not commence treatment and 30 did not complete treatment (24 patients dropped out and six patients were administratively discharged). Between completers and noncompleters, there were no significant differences on demographic or baseline clinical variables except for impaired social functioning; Social Adjustment Scale–Self-report (SAS-SR; described below) scores were higher among noncompleters, $t(134) = 2.30$, $p = .02$. Of the 104 completers, 79 patients provided pretreatment and posttreatment data; there were no significant baseline differences between those who did and did not provide complete data.

The majority of the 79 patients in the present study identified as Caucasian (95%; $n = 75$) and female (71%; $n = 56$), with an average age of 38 ± 10 years. Forty-three per cent ($n = 34$) were living with a partner. Most participants (68%; $n = 54$) reported having obtained some form of postsecondary education, and 72% ($n = 57$) were employed at the time of admission to the ETP. Based on Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders*, *4th edition* (DSM-IV) assessment (First, Gibbon, Williams, & Spitzer, 1998; First, Spitzer, Gibbon, & Williams, 1997; described below), nearly two thirds of patients (65%; $n = 52$) met DSM-IV criteria for at least one personality disorder, and 30% ($n = 24$) met criteria for two or more personality disorders, the most common being avoidant (37%; $n = 29$), obsessive–compulsive (25%; $n = 20$), and borderline (23%; $n = 18$) personality disorders. The most common DSM-IV Axis I disorders were major depressive disorder (49%; $n = 39$), obsessive–compulsive disorder (48%; $n = 38$), and agoraphobia (44%; $n = 35$). Nearly all patients (91%; $n = 72$) reported having received previous mental health treatment.

2.2 | Treatment

Treatment in the ETP is exclusively group oriented, involving various groups through which patients progress while attending five evenings per week, 4 hr per evening, over an 18-week period. Patients enter the programme on a rolling admission basis, with one or two patients beginning each week and a similar number being discharged each week; there are typically 25 patients in the programme at any given time. Treatment is integrative, involving a modular approach that targets various aspects of dysfunction (Livesley, Dimaggio, & Clarkin, 2015) using a staged sequence of group treatment experiences. Thus, multiple areas of clinical focus—including symptom management, emotion regulation, interpersonal skills, and the development of insight—are encompassed within an overall psychodynamic-relational orientation, in a manner similar to that outlined in Piper, Rosie, Joyce, and Azim (1996). Three 6-week "phases" progressively address (a) therapeutic skill acquisition, as in the management of symptoms and emotion regulation; (b) focused therapeutic work, as in the exploration of interpersonal conflicts around intimacy and dependency; and (c) consolidation of gains and therapeutic termination.

Each evening begins with a large psychodynamic group (attended by all patients) that uses an interpretive focus to address here-and-now issues and programme-related concerns. This is followed by a series of insight-oriented, rehabilitative, and skills-oriented groups, as well as art, vocational, and physical exercise group interventions (see Figure 1). Patients participate in one small psychodynamic group (6–10 patients) throughout the ETP while rotating through all other groups. This "home group" anchors patients' progress through the programme by focusing on their treatment goals in relation to the various aspects of the programme and in relation to their intrapersonal and interpersonal dynamics. An interdisciplinary team of programme staff—a psychiatrist and five therapists from the disciplines of occupational therapy, psychology, and psychiatric nursing—communicate with one another about patients' progress to ensure coordinated treatment.

	Monday	Tuesday	Wednesday	Thursday	Friday
Group 1	Large group	Large group	Large group	Large group	Large group
Group 2	Small dynamic group	Psychodrama	Social outing	Projective techniques (phase 1) Small dynamic group (phase 2) Dynamic group with video replay (phase 3)	Life skills (phase 1) Communication skills (phase 2) Re-entry to community (phase 3)
Group 3	Personal development group	Sports activity	Social outing	Leisure planning and program government	

FIGURE 1 Daily programming structure of the Evening Treatment Programme integrative group treatment for personality dysfunction

2.3 | Assessment

2.3.1 | Connectedness

Dispositional connectedness was assessed at baseline using the Connectedness factor of the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976; Rude & Burnham, 1995; Zuroff et al., 1999). This domain, composed of 10 items from the DEQ Dependency scale, reflects an adaptive relational orientation in which connections with others are valued and prioritized, with behaviours reflecting motives to maintain and enhance social bonds. DEQ Connectedness items (sample item: "after a fight with a friend, I must make amends as soon as possible") are scored using a 7-point scale; internal consistency is usually satisfactory, with a reported coefficient of .73 (Kopala-Sibley et al., 2012). Higher Connectedness scores indicate a greater valuing of and orientation towards interpersonal relationships and are associated with warmth, openness to feelings, altruism, and tender-mindedness (Dunkley et al., 2006).

2.3.2 | Engagement

The Engagement subscale of the Group Climate Questionnaire (MacKenzie, 1983) was used to assess patients' perspectives on the group's level of engagement. The Group Climate Questionnaire Engagement scale is composed of five items rated on a 7-point scale, reflecting the patient's perception of an atmosphere of interaction and therapeutic work within the group, including members' efforts to interact with one another and to understand and address their concerns (e.g., "Group members tried to understand why they do the things they do, tried to reason it out"); internal consistency of the scale is usually excellent, with a reported coefficient of .94 (Kivlighan & Goldfine, 1991). Engagement ratings were provided at Week 5 of the programme—to assess engagement relatively early in patients' treatment—in reference to their "home group," which provided a continuous basis for reviewing their experiences and progress in the programme. We thus considered these ratings as proxy estimates of their experiences of early group engagement in the ETP in general.

2.3.3 | Social functioning

Social functioning was assessed using the SAS-SR (Weissman & Bothwell, 1976), a 54-item measure that assesses functioning in various social roles. The SAS-SR evaluates difficulties in fulfilling role responsibilities in six areas of functioning (e.g., at work, with partners, and as a parent) over the preceding 2-week period (sample item: "Have you been able to do your work well in the last two weeks?"). An overall composite score using the mean of scale items, referred to as the global adjustment score (GAS), represents overall social adjustment and was used in the present study to reflect patients' social role functioning; higher GAS scores indicate a greater degree of social role dysfunction. The internal consistency of the SAS-SR has been well established, with a coefficient of .74 reported (Edwards, Yarvis, Mueller, Zingale, & Wagman, 1978). The SAS-SR was administered at pretreatment and posttreatment.

2.3.4 | Life satisfaction

Patients used a 7-point Likert scale to provide ratings of life satisfaction, with higher scores indicating greater general satisfaction with life: "All things considered, how satisfied or dissatisfied are you with your life as a whole these days? Circle one number on the line that you feel best represents your level of satisfaction with your present life" (1 = *completely dissatisfied*; 7 = *completely satisfied*). Higher scores indicate greater overall satisfaction with life. Life satisfaction ratings were obtained prior to commencement of treatment and at termination. Similar single-item ratings have been found to perform almost identically with multiple-item assessments of life satisfaction (Cheung & Lucas, 2014). Using latent modelling with longitudinal data (separating true-score variance from occasion-specific variance), reliability estimates for single-item life satisfaction measures have been found to range

from .68 to .74 across four large multiwave samples (Lucas & Donnellan, 2012).

2.3.5 | DSM-IV diagnoses

Psychiatric diagnoses were based on administration of the Structured Clinical Interview for DSM-IV Personality Questionnaire and the Structured Clinical Interview for DSM-IV Personality Disorders (First, Gibbon, Williams, & Spitzer, 1998) and the computer-assisted Structured Clinical Interview for DSM-IV (First et al., 1997), administered by trained bachelor-level research assistants. Diagnoses were independently validated by an ETP therapist and psychiatrist, both of whom saw the patient for the initial programme intake and who jointly assigned a clinical diagnosis. We used the number of diagnosed DSM-IV personality disorders as a proxy for overall severity of personality dysfunction (Ogrodniczuk, Piper, Joyce, & McCallum, 2001), which we considered a potential confounding variable.

2.3.6 | Psychiatric symptom severity

General psychiatric symptom severity was assessed at baseline using the Brief Symptom Inventory-53 (Derogatis, 1993), a frequently used 53-item self-report measure of nine domains of psychiatric symptoms. The Brief Symptom Inventory-53 has good internal consistency, with subscale coefficients ranging from .71 to .85 (Derogatis & Fitzpatrick, 2004). An overall composite score, the global severity index, reflects overall psychiatric symptom severity; the global severity index was used in the present study as a covariate to account for the potential confounding effect of baseline symptom severity.

2.4 | Approach to analyses

Analyses were conducted using SPSS version 25, including the PROCESS macro 3.0 (Hayes, 2018). As a preliminary analysis, paired samples *t* tests were conducted to evaluate pretreatment to posttreatment changes in social functioning and life satisfaction. Residual change scores were created for social functioning and life satisfaction by regressing each pretreatment score on the posttreatment score. Lower residual change score values (i.e., greater negative values) for the GAS would indicate greater improvement in social functioning, whereas higher residual change score values (i.e., greater positive values) for life satisfaction ratings would reflect greater improvement in overall satisfaction with life. Zero-order correlations were conducted to examine bivariate associations among study variables and to examine the potential confounding effects of severity of personality dysfunction (i.e., number of personality disorders) and psychiatric symptoms.

To examine our main hypothesis, linear regression analyses were conducted to test simple mediation models (PROCESS model 4; Figure 2), composed of dispositional connectedness as the independent variable, ratings of group engagement as the mediator variable, and improvement in social functioning and life satisfaction as separate dependent variables. Covariates consisted of number of personality disorder diagnoses, psychiatric symptom severity, age, and gender. Regarding our second question, regression analyses were conducted with connectedness as the independent variable, group engagement as the first mediator variable, and improvement in social functioning as the second mediator; improvement in life satisfaction was the dependent variable. Parallel (i.e., testing each mediator with the other held constant) and sequential models were tested (PROCESS model 6; Figure 3), following a preliminary test of improved social functioning as mediator between group engagement and improvement in life satisfaction (i.e., simple mediation).

In keeping with the contemporary approach to mediation (Hayes, 2018), significant total or direct effects between independent and dependent variables were not required to satisfy criteria for significant mediation. Indirect effects were tested using bootstrap 95% confidence intervals (CIs) sampled 10,000 times, with significance indicated by the absence of zero in the CI. Completely standardized indirect effects were computed to estimate effect size.

3 | RESULTS

3.1 | Preliminary analyses

Overall improvement in social functioning from pretreatment, $M = 2.32$, $SD = 0.40$, to posttreatment, $M = 1.92$, $SD = 0.45$, was significant, $t(78) = 7.99$, $p < .001$, indicating a large effect, $d = -0.93$, 95% CI [−1.32, −.66]. Similarly, overall improvement in life satisfaction from pretreatment, $M = 3.08$, $SD = 1.39$, to posttreatment, $M = 4.78$, $SD = 1.16$, was significant, $t(78) = -10.40$, $p < .001$, with a large effect size, $d = 1.17$, 95% CI [.75, 1.42]. As shown in Table 1, at the bivariate level, connectedness, $M = -0.11$, $SD = 0.77$, was not directly associated with improvement in either social functioning or life satisfaction but was significantly positively associated with group engagement, $M = 4.39$, $SD = 0.72$. Group engagement was associated with improvement in both social functioning and life satisfaction. No significant associations were observed between the number of

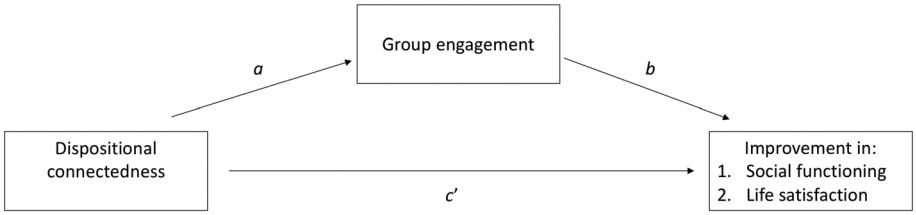

FIGURE 2 Illustration of mediation models regarding the indirect effect of dispositional connectedness on improvement in social functioning and life satisfaction (as separate dependent variables), through group engagement (at Week 5) as a mediator

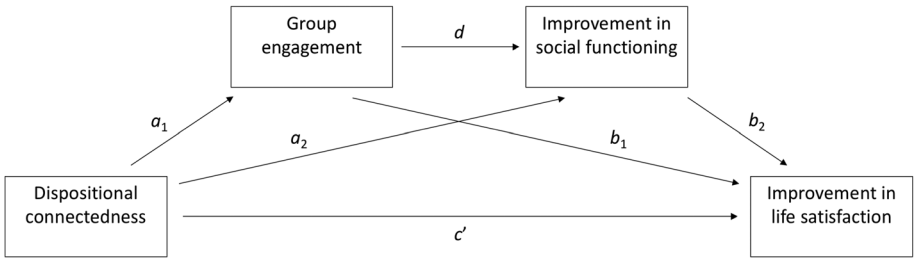

FIGURE 3 Illustration of parallel and sequential mediation models regarding the indirect effect of dispositional connectedness on improvement in life satisfaction, through group engagement (at Week 5) and improvement in social functioning (from pretreatment to posttreatment) as mediators

TABLE 1 Zero-order correlations for dispositional connectedness, group engagement, and residual change scores for social functioning and life satisfaction among patients in integrative group treatment for personality dysfunction (N = 79)

	1	2	3	4	5
1. Dispositional connectedness					
2. Group engagement, Week 5	.28*				
3. Improvement in social functioning	−.07	−.32**			
4. Improvement in life satisfaction	.07	.28*	−.59**		
5. Number of personality disorders	.01	−.11	.03	.09	
6. General psychiatric symptoms	.38**	.09	.16	−.10	.23*

*p < .05.
**p < .01.

TABLE 2 Unstandardized coefficients for regression analyses examining indirect effects of dispositional connectedness on improvement in social functioning and life satisfaction through group engagement

	Coeff.	*SE*	*t*	*p*	R^2
Predicting group engagement, Week 5					0.08
Dispositional connectedness (path *a*)	.26	0.10	2.58	**.01**	
Predicting improvement in social functioning					0.11
Group engagement (path *b*)	−.18	0.06	−2.90	**.01**	
Dispositional connectedness (path *c*′)	.01	0.06	0.16	.87	
Predicting improvement in life satisfaction					0.08
Group engagement (path *b*)	.42	0.17	2.42	**.02**	
Dispositional connectedness (path *c*′)	−.01	0.16	−0.07	.94	
	Effect	*SE*	Lower CI	Upper CI	
Indirect effect of dispositional connectedness					
To improvement in social functioning through group engagement	−.05	0.02	**−.10**	**−.01**	
To improvement in life satisfaction through group engagement	.11	0.06	**.01**	**.25**	

Note. Boldface indicates statistical significance.
Abbreviations: CI, 95% bootstrap confidence interval; Coeff., coefficient.

diagnosed personality disorders or psychiatric symptom severity and improvement in either social functioning or life satisfaction.

3.2 | Mediation models: Improvement in social functioning and life satisfaction

Table 2 presents the results from regression analyses examining the simple mediation model (Figure 2) of indirect effects of dispositional connectedness on improvement in social functioning and life satisfaction through group engagement. Models were run with number of personality disorders, baseline symptom severity, age, and sex as covariates; their inclusion had negligible influence on output (and were nonsignificant in final regression models), and hence, they were dropped from final models. The indirect effect predicting each outcome was significant, as indicated by the absence of zero within the lower and upper bounds of the bootstrap 95% CI. Thus, as shown in Table 2, greater dispositional connectedness predicted stronger group engagement, which in turn was predictive of greater improvement in both social functioning and life satisfaction following completion of

the ETP. As indicated by the completely standardized indirect effect predicting social functioning, $B = -.09$, $SE = 0.05$, 95% CI [−.20, −.02], a 1 *SD* increase in dispositional connectedness corresponded to a reduction in social dysfunction by 0.09 *SD* units through group engagement as a mediator. The completely standardized indirect effect predicting life satisfaction, $B = .08$, $SE = 0.04$, 95% CI [.01, .18], indicated that a 1 *SD* increase in dispositional connectedness increased life satisfaction at posttreatment by 0.08 *SD* units through group engagement.

3.3 | Sequential mediation to improvement in life satisfaction

Our second question pertained to improvement in life satisfaction as the ultimate outcome of the connectedness–engagement–improved social functioning sequence. As shown in Table 1, social functioning and life satisfaction were moderately correlated. Although scores for these outcomes were obtained at the same time point, our exploratory model considered changes in social functioning as antecedent to life satisfaction ratings. Prior to testing the sequential model, a preliminary simple model was tested using engagement as the independent variable, improvement in social functioning as the mediator, and improvement in life satisfaction as the dependent variable. Because the indirect effect of group engagement through improved social functioning was found to be significant, $B = .17$, $SE = 0.06$, 95% CI [.06, .28], subsequent regression analyses tested both parallel and sequential models with connectedness as the independent variable (Figure 3). Bootstrap CIs for the parallel model, however, were nonsignificant. Thus, neither group engagement nor improved social functioning was a significant mediator with the other held constant. As shown in Table 3, however, there was a significant sequential mediation effect for connectedness through engagement and improvement in social functioning. In other words, higher connectedness contributed to increased group engagement, which subsequently predicted improved social functioning, which in turn was linked with improvement in life satisfaction following treatment completion. The completely standardized indirect effect, $B = .05$, $SE = 0.02$, 95% CI [.01, .10], indicated that a 1 *SD* increase in dispositional connectedness corresponded to 0.05 *SD* units higher satisfaction with life through group engagement and improved social functioning as sequential mediators.

4 | DISCUSSION

In examining group treatment for personality dysfunction, the present study found dispositional connectedness to be a salient patient characteristic that contributed to enhanced experience of interpersonal engagement in group treatment, which in turn predicted greater improvement in both social functioning and overall satisfaction with life. Specifically, though not directly associated with either outcome, connectedness was found to exert an indirect effect through the mediating effect of perceived group engagement. Moreover, exploration of greater life satisfaction as an ultimate outcome of this pathway—through engagement and subsequent social functioning improvement—revealed a significant effect and indicated an indirect effect for dispositional connectedness through this sequence. Although this suggests that improved social functioning may be a precursor to or component of posttreatment life satisfaction—at least in the context of stronger appraisals of group engagement—it is important to note the preliminary and tentative nature of this particular inference, because social functioning and life satisfaction scores were obtained at the same posttreatment assessment rather than different time points. Furthermore, expressed as a portion of *SD* unit change,

TABLE 3 Unstandardized coefficients for regression analyses examining parallel and sequential mediation models regarding the indirect effect of dispositional connectedness on improvement in life satisfaction through group engagement and improvement in social functioning

	Coeff.	*SE*	*t*	*p*	R^2
Predicting group engagement, Week 5					0.08
Dispositional connectedness (path a_1)	.26	0.10	2.58	**.01**	
Predicting improvement in social functioning					0.11
Group engagement (path *d*)	−.18	0.06	−2.90	**.01**	
Dispositional connectedness (path a_2)	.01	0.06	0.16	.87	
Predicting improvement in life satisfaction					0.35
Group engagement (path b_1)	.15	0.15	0.94	.35	
Improvement in social functioning (path b_2)	−1.49	0.27	−5.63	**<.001**	
Dispositional connectedness (path *c*′)	.01	0.14	0.02	.99	
	Effect	*SE*	Lower CI	Upper CI	
Indirect effect of connectedness on improvement in life satisfaction					
Through group engagement and improvement in social functioning	.07	0.04	**.01**	**.15**	

Note. Boldface indicates statistical significance; nonsequential indirect effects were nonsignificant and not reported.
Abbreviations: CI, 95% bootstrap confidence interval; Coeff., coefficient.

the size of indirect effects for connectedness in predicting social functioning and life satisfaction was relatively small. This may be at least partly explained by the breadth of these outcome domains, in that multiple patient factors, treatment events, and external life factors likely also contribute to changes in social function and overall satisfaction. Indeed, other processes not included in our models—such as specific intragroup interactions or occurrences subsequent to early engagement ratings—may intervene to reduce the effect size (i.e., exert a cancelling effect) of dispositional connectedness and account for its nonsignificant overall association with outcome.

It may be that patients who are more relationally oriented obtain a sense of inspiration through experiencing the group's interpersonal engagement. This may occur as a function of the group's ability to foster a safe atmosphere for interpersonal collaboration and learning that may counter the demoralization that often accompanies clinical distress, thereby providing a corrective experience (Goldfried, 2012). Indeed, social setbacks are common features associated with personality dysfunction, and the experience of group members' efforts at resolving complex psychosocial problems may be invigorating for the patient higher in dispositional connectedness. Experiencing the collaborative, responsive, and at times frustrating workings of the group—within a supportive milieu—may contribute to patients' expanded sense of efficacy to address their various life goals. On the other hand, patients who lack a sense of connectedness—and who fail to experience the group as engaged in meaningful work—may reinforce a bleak outlook on their own agency and the responsiveness of others, with the potential effect of treatment being less impactful.

Patients who place more value on connectedness may be better able to experience the group as an entity that invigorates their sense of self. Drawing from self-psychology theory, Rutan et al. (2014) note that groups offer potential self-object experiences (Kohut, 1984) whereby the empathic responses of other group members and therapists strengthen the patient's capacity for self-regulation and evoke and support their personal ambitions. Endorsement of higher levels of group engagement may reflect patients' sense of the group being "on their side" as they set about making changes in their social roles and responsibilities that may ultimately bring greater life satisfaction. In this way, the group may be experienced as a secure base that provides a sense of safety and strength (Mikulincer & Shaver, 2007). Such processes may help to restore epistemic trust—the sense that others' responses may be personally relevant and useful—in group therapy (Fonagy et al., 2017). It is possible that patients who are higher in connectedness may be less pathologically vigilant about feedback from others, which may partially account for their more positive appraisal of the interpersonal disclosures and confrontations that occur in group treatment. This may allow for greater insight into their own difficulties, which can in turn contribute to other positive outcomes (Jennissen, Huber, Ehrenthal, Schauenburg, & Dinger, 2018). By contrast, patients with lower connectedness may be less able to utilize the support and social learning opportunities offered in groups, perhaps remaining more vigilant regarding social interactions and reluctant to identify with others and draw support from an interpersonal milieu (Fonagy et al., 2017; Lee & Robbins, 1998). Indeed, patients who are interpersonally cold tend to experience the group climate in a negative light (Kivlighan & Angelone, 1992), thereby reducing their use of the group for social learning and support.

4.1 | Clinical implications

Consideration of dispositional factors such as connectedness is ultimately in line with recent calls for greater personalization of treatment for patients with personality dysfunction (Ehrenthal & Benecke, 2019). Patients with personality difficulties who value interpersonal relationships may be particularly well positioned to take advantage of the interpersonal milieu of group treatment. Thus, connectedness is a promising candidate as a trait-like difference in the ability to engage in group treatment and the interactive learning processes it encompasses (see Zilcha-Mano, 2017). This has implications for patient selection and group composition, aspects of group therapy provision that are sometimes overlooked as opportunities to avoid treatment difficulties and optimize group functioning (Kealy, Ogrodniczuk, Piper, & Sierra-Hernandez, 2016). Group leaders may wish to ensure that groups include a sufficient proportion of patients high in connectedness, because their attitudes towards the interpersonal work of the group would likely contribute to constructive group dynamics. Although not investigated in our study, it is possible that their attention to interpersonal connections may help to strengthen bonds among members, potentially helping others to stay in treatment. Moreover, these individuals may function as role models for other patients regarding attitudes towards interpersonal relatedness, for example, by talking about their relational wishes and concerns and reflecting on the benefits of feeling connected to others. The progress they make in various social domains—described in the group in relational terms—may also inspire fellow group members. Indeed, previous research supports mixing patients with differing relational capacities in group composition (Piper, Ogrodniczuk, Joyce, Weideman, & Rosie, 2007).

Many patients with connectedness tendencies may seek treatment because problematic symptoms or behaviours have thwarted their efforts to sustain positive relationships with others, resulting in loneliness and despair. In working with these patients in group therapy, it may be especially important to draw upon their desire to connect with others, to empathize with their feelings about relational disappointments, and to engage the group in exploring the barriers (i.e., problematic beliefs and behaviours) to more fulfilling social role performance. Therapists should work to involve other group members in these therapeutic tasks to facilitate an engaged working climate within the group, thereby allowing for social learning, corrective experiences, and renewed epistemic trust as potential benefits for all patients (Fonagy et al., 2017).

4.2 | Limitations

The present study has a number of important limitations that must be noted. First, as in many psychiatric outpatient samples, our sample

was predominantly female and Caucasian, thereby limiting generalizability to other patient populations. The size of our sample was also relatively small; larger samples would have greater statistical power to detect small yet potentially meaningful effects of confounding or moderating variables, such as sex and age, or other interpersonal tendencies (e.g., Dinger & Schauenburg, 2010). Nevertheless, the unique nature of the sample—as a group of patients with personality dysfunction participating in evening treatment to preserve daytime social functioning—has value for informing similar programming efforts. Second, for feasibility reasons—given the time-intensive, multicomponent format—several of the measures employed to assess the constructs we examined were necessarily brief. It should be noted that although single-item life satisfaction measures perform as well as multi-item scales (Cheung & Lucas, 2014), we were not able to evaluate the reliability of our life satisfaction item. As well, due to measures scored prior to data entry, we could not evaluate reliabilities of other measures in the present sample. A related issue is that assessment was exclusively self-report and thus subject to bias. Perhaps the most important limitation is the absence of ratings for the various subcomponents of the ETP and the lack of accounting for group-level dependencies (i.e., individuals nested within groups) and therapist effects (i.e., reciprocal therapist–patient interactions) in the data and in our analyses. Due to these limitations, we stress that our findings be regarded as preliminary. Future research could extend these findings through more comprehensive measurement and with larger datasets that include the tracking of patients' rotating group participation, as well as characteristics and responses of group therapists, to allow for more sophisticated multilevel analyses.

4.3 | Future research considerations

Future attention to patients high in connectedness can inform clinical considerations regarding their influence on and experience of interpersonal processes in group therapy to effect changes in their social role performance outside treatment. Investigating the role of gender and connectedness would be a next step, given that women may be socialized towards nurturance and relatedness more than men. A particular priority for further research is the need to understand how group therapy can better help those patients who are not oriented towards interpersonal connections; these patients may benefit from different kinds of group processes (see Dinger & Schauenburg, 2010). Yet connectedness is only one among numerous trait-like dimensions that may have implications for group process and social functioning outcomes. Further research is needed to better understand the interplay between connectedness and other dispositional features—including their role in group composition—with patients' experiences of treatment processes and their effects on social functioning and life satisfaction outcomes. Considering the influence of patient characteristics as both primary influences (i.e., independent variables) and potentiating factors (i.e., moderators) would add nuance to further investigation in this area. Research is also needed regarding the wider array of group processes and intragroup interactions that contribute to the richness of group treatment, including the identification of specific mechanisms for particular social role outcomes.

4.4 | Conclusion

The present study offers a preliminary step in furthering our understanding of patient characteristics and treatment processes that facilitate improvement in social functioning and life satisfaction through group psychotherapy for personality dysfunction. The findings of our study indicate that patients with higher levels of dispositional connectedness experienced a greater degree of group engagement. In turn, group engagement contributed to greater benefit with regard to improved social functioning and, ultimately, improved life satisfaction through treatment. Thus, dispositional connectedness may be an important characteristic in helping patients with personality dysfunction to appreciate the interpersonal work of group therapy, the experience of which can promote gains in social functioning that foster greater satisfaction with life.

CONFLICT OF INTEREST

The authors have no conflicts to declare.

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