Patient Characteristics as Predictors of Group Climate in Cognitive-Behavioral Group Therapy

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Abstract

Research indicates that the quality of the group climate is an important predictor of outcome in various types of group therapy. However, little attention has been given to patient characteristics that may have influence on the quality of the group climate. The aim of the present study was to examine patient characteristics that may be predictive of the group climate in cognitive behavioral group therapy, namely psychiatric symptoms, interpersonal functioning and cognitive traits (sociotropy and autonomy). Data from 30 patients, receiving 8 weeks of cognitive behavioral therapy, were analyzed using hierarchical multiple regression analyses. Self-report assessments of symptoms, interpersonal difficulties and cognitive traits were administered at pre-treatment, while the quality of the group climate was assessed the week before treatment termination. The results showed that neither levels of psychiatric symptoms, interpersonal functioning nor sociotropy were predictive of the quality of the group climate variables (engagement, avoidance and conflict). However, higher levels of autonomy predicted higher levels of engagement. The results suggest that is important to consider other variables beside patient characteristics as essential for the development of the group climate, such as other process variables. Possible explanations and implications of study findings are discussed.

Introduction

The therapeutic alliance has for a long time been recognized as an important factor contributing to both process and outcome in psychotherapy across a wide range of treatment modalities and patient populations. Meta-analyses have shown that the alliance is a robust predictor of outcome in individual psychotherapy across various diagnosis, with modest effect sizes ranging from .22 - .28 (Horvath, Del Re, Flückiger and Symonds, 2011; Horvath and Symonds, 1991; Martin, Garske and Davis, 2000). In individual therapy, where there is only one therapist and one patient, the therapeutic alliance can be described as consisting of an agreement upon the goals and tasks of the therapy, as well as an emotional bond between therapist and patient (Bordin, 1979). However, since group therapy involves a larger number of people, and offers a possibility for many different relationships (Burlingame, Fuhriman and Johnson, 2001), substantial modifications of the concept of the therapeutic alliance are needed for it to be applied in this context (MacKenzie, 1983).

A definition of group therapy relationship needs to capture all aspects of those different relationships that can occur (Burlingame et al., 2001). In group therapy, the leader can be seen as responsible for creating an interactional network through and by which positive therapeutic processes may occur. In many cases the therapist uses different strategies to initiate interactions between the group members, rather than between him- or herself and each patient (MacKenzie, 1983). This creates a multilevel set of interactions with member-leader, member-member and member-group levels (Burlingame, MacKenzie and Strauss, 2004).

Several definitions of the group relationships are in use, but no overall consensus has yet been reached as to the most appropriate definition. Constructs like group cohesion, working alliance, group climate, as well as empathy have all been used across different studies, and measured with a number of different instruments. This heterogeneity complicates

integration and interpretation of results in this research field. It has been suggested that the field could benefit from identifying more specific group processes that affect outcome in group therapy, rather than use comprehensive and vague constructs like group cohesion (Hornsey, Dwyer, Oei and Dingle, 2009).

The construct of group climate is one specific way of conceptualizing the relationship in group therapy, and describes a group according to a series of interactional dimensions (MacKenzie, 1983). Specifically, the group climate taps into patients' perception of the atmosphere within the group (Ogrodniczuk and Piper, 2003), and can be described as the environmental characteristics that facilitate a person to achieve a particular goal taking into account the behavior of all group members (MacKenzie, 1983). The group climate can be measured in various ways and from different perspectives, such as therapists', patients' and observers' perspective. The Group Climate Questionnaire short version (GCQ-S; MacKenzie, 1983) is one commonly used group climate measure, which is both brief (Ogrodniczuk and Piper, 2003) and trans-theoretical (MacKenzie, 1990; Ryum, Hagen, Nordahl, Vogel and Stiles, 2009) and thus applicable to most group treatment therapies. The GCQ-S consists of three subscales, namely engagement, avoidance and conflict. Engagement refers to constructive therapeutic work, sense of closeness between group members, and captures many elements of Yalom's (1995) original concept of cohesion. Avoidance measures the degree to which the group members take responsibility for their change process, and the conflict subscale reflects interpersonal problems, aggression and distrust among the group members (Johnson, Burlingame, Olsen, Davies and Gleave, 2005; MacKenzie, 1983). According to MacKenzie (1983), engagement and conflict are not necessarily negatively correlated, which implies that a group can be both engaged and in conflict at the same time.

Even though MacKenzie (1983) and others (Kivlighan and Tarrant, 2001, Ryum et al., 2009) have suggested that the quality of group climate may strongly impact treatment

outcome, empirical evidence still provides a mixed picture of the relationship between various therapeutic relationships qualities, such as group climate, and outcome in group therapy. This is particularly striking in light of research from individual therapy, where the association between the therapeutic alliance and outcome has been demonstrated much more conclusively (Ryum et al., 2009). Surprisingly few studies have specifically examined the effect of the quality of the group climate on group therapy outcome, and studies differ in how they represent and analyze group climate scores. Some studies report one single static score taken at one point in the group therapy process, whereas others examine how change in group climate scores throughout the treatment process correlates with outcome (Ogrodniczuk and Piper, 2003).

In an early study by Braaten (1989), higher levels of engagement and lower levels of avoidance measured early in the course of treatment (session 4) were associated with better outcome in brief therapy. Another study conducted by Kivlighan and Lilly (1997) focused on examining MacKenzie's (1983) theory of appropriate stages of group development. The authors reported a high-low-high pattern of engagement, a low-high-low pattern of conflict and a cubic (high-low-high-low) pattern of avoidance to be related with therapeutic gain, which only partially support MacKenzie's theory. Another study found a linear pattern of increasing engagement to be related to positive outcome in 8 weeks youth support groups (Kivlighan and Tarrent, 2001). However, one important shortcoming in these studies is that none of them included psychiatric out- or inpatients, which makes generalization to routine clinical practice difficult (Ogrodniczuk and Piper, 2003).

A study by Ogrodniczuk and Piper (2003) found that higher levels of engagement after session 4, as well as averaged over all therapy sessions, were directly associated with improvement in both interpretive- and supportive psychodynamic therapy for complicated grief patients. On the other hand, neither levels of avoidance nor levels of conflict were found

to be significantly related to outcome. In accordance with these results, Ryum et al. (2009) examined perceived group climate as a predictor of long-term outcome (one year post treatment) in cognitive behavioral group therapy (CBGT), and found that higher levels of engagement were related to improved outcomes on all measures, except for anxiety symptoms. However, in contrast to the results of Ogrodniczuk and Piper (2003), higher levels of avoidance were related to lower anxiety symptoms. Scores on the conflict scale were unrelated to all outcome measures.

Tasca, Balfour, Ritchie and Bissada (2006) examined the group climate in groups of patients with binge eating disorder undergoing either cognitive behavioral group therapy (CBGT) or group psychodynamic-interpersonal psychotherapy (GPIP). Engagement demonstrated a linear increase in CBGT, but a more fluctuating pattern in GPIP. The linear increase of engagement played a partial mediating role between attachment anxiety and therapy outcome in GPIP, but not in CBGT. Another study examined group climate development in cognitive behavioral group therapy and interpersonal group therapy for inpatients with social phobia (Bonsaksen, Lerdal, Borge, Sexton and Hoffart, 2011). The results demonstrated that the mean level of engagement predicted change in social anxiety over the course of treatment in both treatment conditions, which supports the importance of engagement in group therapy process and outcome.

Several other studies have used different definitions of the group therapy relationship, and examined their relationship with therapy outcome. A study on a group CBT for cardiac patients demonstrated that the working alliance and the bond with group members predicted post treatment blood pressure and quality of life in this patient group (van Andel, Erdman, Karsdorp, Appel and Trijsburg, 2003). A positive relationship between the group relationships and therapy outcome has also been found in group therapy for anxiety and depression (Budman et al., 1989), burnout-related depression (Lindgren, Barber and Sandahl, 2008),

complicated grief (Joyce, Piper and Ogrodniczuk, 2007) and neurotic and personality disorders (Tschuschke and Dies, 1994). Negative results have been found in a study of a long-term analytic group, where only therapist ratings of the early alliance correlated with positive symptomatic outcome. Therapist and patients rating of early alliance, and early cohesion ratings did not predicted change (Lorentzen, Sexton and Høgeland, 2004). Woody and Adessky (2002) also found that the development of the alliance in cognitive behavioral group therapy for social anxiety disorder was not significantly related to treatment outcome. Negative findings were also reported in a treatment of alcohol abuse (Gillaspy, Wright, Campbell, Stokes and Adinoff, 2002) as well as borderline personality disorder (Marziali, Munroe-Blum and McCleary, 1997).

Taken together, these findings demonstrate a mixed picture in terms of the association between relationship qualities, such as group climate, and treatment outcome in group therapy. However, there is a trend toward a positive association between the qualities of group relationships and cognitive behavioral oriented group therapies. The use of diverse definitions of the alliance, measurements, patient populations and time of measurement, makes it challenging to generalize from research done so far, and more research is needed. As suggested by Hornsey et al. (2009) the field could benefit from more specificity in future research.

Since the therapeutic relationship (e. g. group climate) appears to be important for treatment outcome in group therapy, it is of interest to examine pretreatment variables that may predict the quality of the therapeutic relationship. Few studies have examined to what extent patient characteristics predict the quality of the therapeutic alliance in individual therapy, and even fewer studies have examined the relationship between patient characteristics and relationship qualities in group therapy. Overall psychiatric symptoms, which can be measured by more general or specific questionnaires such as the Symptom

Checklist 90-Revised, Beck Depression Inventory or Beck Anxiety Inventory, are one such patients' pretreatment characteristic. For example, one early study demonstrated that a stronger group alliance was predicted by a low rate of overall symptoms at baseline, as well as higher client self-esteem (Budman et al., 1989). Fewer baseline symptoms were also found to predict stronger group cohesion in a drug and alcohol abuse group treatment based on interactional group psychotherapy (Gillaspy et al., 2002). In an in-group treatment of individuals with treatment resistant auditory hallucinations, patients who were less cognitive disorganization and had lower social functioning reported stronger group alliance after 6 therapy sessions (Johnson, Penn, Bauer, Meyer and Evans, 2008).

Research has also reported that the subtype of social phobia, in this case either the generalized social phobia or public speaking phobia, is related to the development of therapeutic alliance in CBGT. Public speaking type of social phobia was associated with a stronger therapeutic alliance compared to generalized social phobia (Woody and Adessky, 2002). In another CBGT study for partner violent males, personality, interpersonal and motivational predictors of the working alliance were examined. Motivational readiness to change was the strongest predictor of the working alliance, whereas higher scores on psychopathic characteristics were negatively related to the quality of the working alliance. Higher levels of working alliance were also predicted by less interpersonal problems and lower levels of borderline personality characteristics, as well as self-referral, marital status and higher age and income (Taft et al., 2004). Increase in cohesion during therapy has also been found to be helpful for patients with dismissive interpersonal style, while slight decrease of cohesion is correlated with symptom improvement in affiliative patients (Dinger and Schauenburg, 2010). Research done so far implies that there are several different patients pretreatment characteristics that may influence the quality of therapeutic relationship in group therapy.

Because of the research on the patient characteristics and therapeutic relationship in group therapy is still somewhat limited, it can be of interest to examine findings from individual therapy research. Research in this field has also reported mixed results on the relationship between patients' pre-treatment symptom load and quality of the alliance (Horvath, 2001). Several studies have found a negative relationship between levels of psychiatric symptoms and the therapeutic alliance (Connors et al., 2000; Constantino, Arnow, Blasey and Agras, 2005; Eaton, Abeles and Gutfreund, 1988; Hersoug, Monsen, Havik and Høglend, 2002; Raue, Castonguay and Goldfried, 1993). However, there are also studies that have not found a significant negative relationship between symptom load and the quality of the alliance in individual therapy (Connolly Gibbons et al., 2003; Gaston, Marmar, Thompson and Gallagher, 1988; Klein et al., 2003). The association between symptom severity and the quality of the therapeutic relationship, both in individual and group therapy, is thus somewhat uncertain, and more research is needed.

Another such patient characteristic is an interpersonal behavior and problems. Previous research has shown that patients' interpersonal behavior can influence both therapy process and outcome in a variety of therapeutic approaches. However, results are somewhat limited and conflicting (Dinger and Schauenburg, 2010). In individual psychotherapy research, several studies have reported a negative association between levels of interpersonal problems and the alliance. Specifically, hostile-dominant interpersonal problems have been found to be related to a poorer alliance early (Muran, Segal, Samstag and Crawford, 1994) and midterm (Connolly Gibbons et al., 2003) in cognitive-, supportive-expressive- and psychodynamic therapies (Marmar, Weiss and Gaston, 1989). One study found that a strong alliance, as measured by clinician, was predicted by good interpersonal functioning, measured by clinician, while poor alliance was not predicted by poor interpersonal functioning (Moras and Strupp, 1982). Being too friendly, or too friendly and too submissive, was associated with

an increase in early alliance to the group as whole (Lindgren et al., 2008). One major

shortcoming with all these studies is that interpersonal functioning has been reported as

unidimensional phenomena. When examining interpersonal functioning as a multidimensional

construct, friendly–submissive interpersonal problems have been found to be positively

related to the development of the therapeutic relationship, whereas a hostile–dominant

interpersonal style has been found to be negatively related to the therapeutic relationship

(Muran et al., 1994).

Furthermore, lower levels of interpersonal problems in general (as measured with the

IIP), has been found to be associated with a positive working alliance (Taft et al., 2004), and

the group climate tends to be perceived as more avoidant and tense by group members who

perceive themselves as too dominant. Patients, who perceive themselves as too cold and as

not having problems with assertiveness, can perceive the group climate as less engaged,

conflictual and anxious (Kivlighan and Angelone, 1992). Thus, it appears that patients'

interpersonal functioning can have an impact therapeutic relationship in group therapy, as

well as in individual therapy.

In terms of more stable patient characteristics such as cognitive traits, it can be

assumed that more rigid personality traits will effect the alliance negatively for example

through a reduced ability to see the need for change (Taft et al., 2004). It has been found that

psychopathic personality characteristics can be strong negative predictor of the working

alliance in CBGT (Taft et al., 2004). Sociotropy and autonomy are two independent and

stabile cognitive traits that are hypothesized to precipitate and mediate the development of

depression (Zettle, Halfich and Reynolds, 1992). It is hypothesized that these characteristics

may have a significant impact on the relationship between patient and therapist. Patients with

high autonomy should be given the opportunity to set their own goals and collaborate with the

therapist, while patients high on sociotropy should be given more structured and guidance-

oriented therapy (Beck, 1983). A study by Zettle et al. (1992) found that group- and individual cognitive therapies were equally effective in reducing depression. At the same time, sociotropic patients in group therapy and autonomic patients in individual therapy showed greater improvement compared to the opposite predominate traits and type of treatment. To the best of our knowledge no research has examined to what extent patients' levels of autonomy and sociotropy may influence the quality of the group climate.

The randomized controlled trial examining the effect of cognitive behavioral group therapy versus waitlist condition for patients with the co-morbid psychiatric disorders provided the material in which the relationship between patient pretreatment characteristics and the group climate could be examined in the present study. The results showed that patients engaging in the 8 weeks program of cognitive behavioral group therapy (CBGT) had significantly more symptom relief than the waiting list controls post-treatment, especially in terms of anxiety and depression symptoms. At the same time, there was no significant difference between the CBGT patients and the waiting list controls after the finished treatment on inventories that measure interpersonal stress, level of dependency and sociotropy and maladaptive schemas. Interpersonal problems, maladaptive schemas and sociotropy were significantly lower at 6 months follow up compared to pre-treatment. Sociotropy also showed significant reduction at 12 months follow up, while therapy had lesser effect on autonomy (Hagen, Nordahl, Kristiansen and Morken, 2005).

In addition, higher levels of engagement as measured with the GCQ-S were associated with reduced scores on all outcome measures at follow-up. Moreover, higher avoidance ratings were associated with lower anxiety symptoms, while there was no association between ratings of conflict and follow up scores. Only partial evidence for use of GCQ-S as a predictor of long- term follow up in CBGT were provided. Perceived engagement was the most important dimension on GCQ-S in relationship with outcome scores (Ryum et al., 2009).

The aim of the present study is to examine patient pre-treatment characteristics that may be predictive of the quality of the group climate in cognitive behavioral group therapy. Based on previous research, it is proposed that a) higher levels of psychiatric symptoms would be associated with lower levels of engagement and higher levels of both avoidance and conflict, b) higher levels of interpersonal problems, especially cold submissive / dominating interpersonal problems, would be associated with lower levels of engagement and higher levels of conflict and avoidance, c) higher levels of sociotropy would be associated with especially higher levels of engagement and lower levels of avoidance and conflict and d) higher levels of autonomy would be associated with lower levels of engagement and higher levels of avoidance and conflict.

Method

Participants

Psychologists and psychiatrics in psychiatric in- and outpatient clinics at a university hospital in Trondheim referred a total of 49 patients to the study by Hagen et al. (2005). All patients were assessed with the Structured Clinical Interview for DSM-IV on both axis I (First, Spitzer, Gibbon and Williams, 1995) and axis II (First, Spitzer, Gibbon, Williams and Benjamin, 1994). Patients with psychosis, suicidal behavior, substance abuse and cluster A and/or B personality disorder were excluded, leaving a total of 46 patients. These patients were randomized to either cognitive behavioral group therapy or a waiting list, by drawing lots. There were a maximum of 8 participants in each group, and a total of 6 groups with 5-8 patients. 32 patients completed 8 weeks of cognitive behavioral therapy. Two participants were excluded from the present study due to missing group climate data, leaving a sample of *n = 30* for further analysis. One of those patients did not complete the conflict scale on the process measure, and one did not complete IIP-64C pre-treatment.

Insert Table 1 about here

There were 24 females and 6 males in the patient sample, with a range in age from 20 to 55 ($M = 37,3$, $SD = 9,7$). The sample fulfilled the criteria of 69 diagnosis based on the SCID I and II interviews, 61 diagnosis on Axis I and 8 on Axis II. The most common diagnoses were anxiety disorders, followed by depressive disorders and Cluster C personality disorders (see Table 1). 18 participants were on psychopharmacological medication during treatment, but did not change either type or dosage of the medication during the cognitive behavioral group treatment.

Outcome and process measures

Only outcome scores (symptoms, interpersonal problems and cognitive traits) taken at baseline were used in present study, not post- and/or follow-up scores.

The Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1983) was used to assess patients' symptom load. This is a self-report inventory consisting of 90 items with a five-point Likert scale of distress ranging from 0 (not at all) to 4 (extremely). The scale was developed to capture a wide range of psychological problems and distress during one week prior to administration, with higher scores representing higher levels of symptom distress. The instrument shows good psychometric properties (Bech et al., 1992). The global severity index, representing mean general symptom distress, was used in the present study.

The Beck Depression Inventory (BDI; Beck, Rush, Shaw and Emery, 1979) was used to measure patients' levels of depression. It consists of 21 self-report items and assesses levels of depression during the last week. The scale has been shown to be a reliable and valid measure of depression severity in different patient populations (Beck, Steer and Garbin, 1988).

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown and Steer, 1988) is an instrument consisting of 21 self-report items measuring anxiety severity during the past week, including the day of completion. The BAI is recommended as a companion instrument to the BDI, especially in populations with co-morbid anxiety and depression. It is established as a reliable and valid instrument and measure of anxiety (Beck and Steer, 1993; Osman, Kopper, Barrios, Osman and Wade, 1997).

The Inventory of Interpersonal Problems 64-Circumplex (IIP-64C; Alden, Wiggins and Pincus, 1990) was used to assess interpersonal problems along the axes of control and affiliation. IIP-64C consists of two types of items. 39 items refer to interpersonal behavior "that are hard for you to do", while the remaining 25 items refer to interpersonal behavior that "you do too much". Each item is rated on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). This self-report inventory consists of eight subscales that form octants within a two-dimensional circumplex model. Subscales are Domineering (PA), Vindictive (BC), Cold (DE), Socially Avoidant (FG), Nonassertive (HI), Exploitable (JK), Overly Nurturant (LM), and Intrusive (NO). They form four subtypes, namely cold dominating, cold submissive, warm submissive and warm dominating interpersonal problems. The instrument has strong test-retest reliability and acceptable to good validity (alpha coefficients .72-.85) (Horowitz, Rosenberg, Baer, Ureno and Villasenor, 1988). The four subtypes were used in present study.

The Sociotropy-Autonomy Scale (SAS; Beck, Epstein, Harrison and Emery, 1983) consists of 60 self report items. It measures two stable and independent cognitive traits named sociotropy and autonomy. Each subscale consists of 30 items. Sociotropy measures investment in positive interactions with others, and people high on this trait tend to value interpersonal relationships and find it important to be loved and accepted by others. The autonomy scale measures investment in preserving independence and freedom from others, as well as excessive personal demand for accomplishments. Good overall test-retest reliability has been reported for both scales (Robins and Block, 1988).

The Group Climate Questionnaire – Short Form (GCQ-S; MacKenzie, 1983) is a 12-item self-report measure that assesses individual group members' perception of the group's climate. Items are constructed as statements that are rated by degree of agreement on a seven-point Likert scale ranging from 0 (Not at all) to 6 (Extremely). There are three factor-analytically derived subscales of the GCQ-S. Engagement consists of five statements that reflect liking and caring in the group, problem-solving in the group, self-disclosure, but also challenge and confrontation that promote interpersonal learning. Avoidance is measured by three items that reflect group members' avoidance of responsibility for their change process. The conflict subscale measures interpersonal problems, distrust and withdrawal between the group members, and is measured with four items. Satisfactory reliability of the GCQ has been found, with alpha coefficient ranging from .60 to .95 (Bonsaksen et al., 2011; Kivlighan and Goldfine, 1991). The validity of the instrument has also been established in a number of studies, with different group treatments and patient populations (Daroff, 1996; Joyce, Azim and Morin, 1988). Participants completed the GCQ-S the week before the treatment termination.

Treatment

The therapy period lasted over 8 weeks, with two sessions each week. The participants received a maximum of 16 sessions of 90 minutes duration. There were six groups consisting of 5-8 patients. The treatment manual was based on Free´s treatment manual (1999), modified by one of the principal investigators (Hagen et al., 2005). The treatment was a mix of psycho-education about depression and anxiety, group exercises and homework task. Socialization to cognitive therapy, use of the ABC-model and automatic thoughts records, use of self-monitoring outside of therapy, challenging core beliefs, in vivo exposure, role play and learning coping strategies were all essential parts of the treatment package. The treatment model emphasizes the importance of structured therapeutic tasks as curative components of treatment, and places less importance on therapeutic relationship.

Therapists

Two experienced female cognitive therapist were used as group therapist, and they received supervision on a weekly basis. The competence of the therapists was rated with the Cognitive Therapy Scale (Young and Beck, 1980), using video-recordings of a third and tenth treatment session. Competency ratings were done by one of the authors in the original study. Moderate to high inter-rater reliability have been found for Cognitive Therapy Scale and the discriminant validity scores suggest that the scale measures levels of cognitive therapy competence (Vallis, Shaw and Dobson, 1986). On the Likert scale, ranging from 0 = low competence to 6 = high competence, the two therapists in the original study received an overall mean score of 4.18 (SD = 0.32) and 4.05 (SD = 0.29). These scores are considered as acceptable levels of therapist competence in cognitive therapy (Vallis et al., 1986).

Approach to statistical analysis

Ryum et al. (2009) computed one-way analysis of variance (ANOVA) to investigate potential statistical significant difference between the treatment groups in terms of quality of the group

climate, and reported non significant results. No statistical significant differences were found in terms of levels of Engagement (F = 2.69, p = .06), Conflict (F = .25, p = .91) or Avoidance (F = 2.39, p = .08) between groups. Since the same patient sample was used in this study as in study by Ryum et al. (2009) it was thus judged appropriate to analyze the whole sample, not controlling for group condition. Descriptive analysis of each subscale on GCQ-S revealed the following scores: Engagement (*n* = 30, M = 4.0, *SD* = 0.8), Avoidance (*n* = 30, M = 3.5, *SD* = 1.1) and Conflict (*n* = 29, M = 0.5, *SD* = 0.3). According to the scale criteria for the GCQ-S, the results indicate that the patients on average viewed the group climate as moderately engaged, moderately avoiding and less than little in conflict.

Identifying of predictor variables that predicted group climate variables engagement, avoidance and conflict was done by computing hierarchical multiple regression. Dependant variables were engagement, avoidance and conflict. There was developed a separate regression equation for all possible predictor variables.

Results

Descriptive statistics

Table 2 presents means and standard deviations for the predictor variables, namely psychiatric symptoms, autonomy, sociotropy and interpersonal problems.

Insert Table 2 about here

SCL-90-R results show that patients in this study had severe psychological symptoms at the start phase of the therapy. BDI results indicate mild depressive problems and BAI indicate moderate anxiety severity, also at the start phase of the therapy. IIP-64C results indicate that patients were least cold-dominant and most warm-submissive.

Hierarchal multiple regression

In order to assess the relationship between pre-treatment patient characteristics and ratings of the group climate, a series of hierarchical multiple regression analyses were computed with group climate ratings (engagement, avoidance, conflict) as dependent variables in separate analyses. In each regression model, sex and age were entered in the first two steps to control for potentially confounding effects. In step three, pre-treatment ratings of the predictor variables (SCL-90, BDI, BAI, IIP-64C quadrant scores and SAS) were entered separately for each dependent variable. Group climate variables (engagement, avoidance and conflict) were all used individually as dependent variables. An α of $p < .05$ was used in the analyses. The results from the hierarchal multiple regressions analyses are presented in tables 3-5.

Insert Table 3 about here

Results demonstrated that patients' levels of psychiatric symptoms, as measured by SCL-90-R, BDI and BAI, were not significantly predictive of levels of engagement, avoidance or conflict scales of GCQ-S, after controlling for sex and age (see Table 3).

Insert Table 4 about here

Patients' levels of interpersonal problems, as measured by IIP-64C subscales, were not significantly predictive of neither levels of engagement, avoidance or conflict scales of GCQ-S, after controlling for sex and age. Thus, neither cold-dominating, cold-submissive, warm-submissive nor warm-dominating interpersonal style/problems predicted engagement, avoidance or conflict beyond sex and age. There was however a trend toward significant interaction between higher levels of cold submissive interpersonal problems and lower levels of engagement (see Table 4).

Insert Table 5 about here

Results indicated that patients' scores on the SAS-Autonomy, after controlling for sex and age, explained a significant proportion of the variance in engagement as measured with the GCQ-S, implying that higher levels of autonomy were related to higher levels of engagement. However, SAS-Autonomy scores were not significantly predictive of GCQ-S

avoidance and conflict. Patients' scores on SAS-Sociotropy were not significantly predictive

of any of the GCQ-S scales, after controlling for sex and age (see Table 5).

Discussion

Several recent studies have demonstrated that a positive group climate is related to positive

treatment outcomes in a variety of treatment modalities and patient populations (Braaten,

1989; Kivlighan and Lilly, 1997; Kivlighan and Tarrent, 2001; Ogrodniczuk and Piper, 2003;

Ryum et al., 2009). The aim of the present study was to examine several pre-treatment patient

characteristics as predictors of the group climate in cognitive behavioral group therapy. Based

on previous research, it was proposed that a) higher levels of psychiatric symptoms would be

associated with lower levels of engagement and higher levels of both avoidance and conflict,

b) higher levels of interpersonal problems, especially cold submissive / dominating

interpersonal problems, would be associated with lower levels of engagement and higher

levels of conflict and avoidance, c) higher levels of sociotropy would be associated with

especially higher levels of engagement and lower levels of avoidance and conflict and d)

higher levels of autonomy would be associated with lower levels of engagement and higher

levels of avoidance and conflict. However, over all, we found little support for the hypothesis

that certain pre-treatment patient characteristics may be associated with the quality of the

group climate. Contrary to our hypotheses, neither patients' psychiatric symptoms,

interpersonal functioning nor levels of sociotropy were significantly associated with the group

climate variables (engagement, avoidance, conflict). The only significant finding emerging

was that higher levels of autonomy were associated with higher levels of engagement,

although unrelated to both levels of avoidance and conflict. The findings are discussed in

more detail in the following.

Contrary to several previous studies (Budman et al., 1989; Dinger and Schauenburg, 2010; Gillaspy et al., 2002; Johnson et al., 2008; Kivlighan and Angelone, 1992; Lindgren et al., 2008; Taft et al., 2004; Woody and Adessky, 2002;), neither psychiatric symptoms (as measured on SCL-90-R, BAI and BDI) nor interpersonal problems (as measured on IIP-64C) pre-treatment were found to significantly predict levels of engagement, avoidance and/or conflict at treatment termination. There are several possible interpretations for missing effect concerning psychiatric symptoms and interpersonal problems. At the more general level it may be that small sample size did not provide enough statistical power for significant results to be found. Also while patient characteristics were measured pre-treatment start, group climate was assed one week before the treatment termination. This increases the possibility for other variables to effect patients' perceiving of the group climate. Patients' symptom load, interpersonal problems and cognitive traits were targeted for change in the CBGT, thus theirs levels one week before the therapy termination may have had better predictive power of the perceived group climate measured at the same time.

Contrary to the hypothesis, levels of sociotropy, which captures social dependency, did not significantly predict engagement. Also here, one possible explanation for this finding can be the small patient sample size in this study. With only 30 patients, it is difficult to obtain significant result due to lower power. As pointed out earlier, this can be seen as a general limitation to the study. Another explanation can lie in the treatment modality. Even though it has been shown that cognitive behavioral group therapy can be more suitable for depressive patients high on sociotropy, while individual cognitive behavioral therapy fits more individuals high on autonomy (Zettle et al., 1992), it can be argued that the treatment modality used in this study puts more emphasize on concrete problem-solving and coping strategies, rather than on the supportive and helping relationship qualities as important for treatment outcome. It has been suggested by Beck (1983) that the type of focus for therapy

may explain different responsiveness of individuals high or low on sociotropy and autonomy. A collaborative relationship is believed to be more important for autonomic individuals, while structured and guided therapy is more suited for sociotropic individuals (Beck, 1983). It is also worth noting that patients in this study were relatively high on both sociotropy and autonomy, indicating that the need for social acceptance and independence are not mutually exclusive, as proposed by Beck (1983).

In contrast to sociotropy, autonomy refers to the person's investment in independence, mobility and attendance of meaningful goals (Beck, 1983). Highly autonomous individuals are orientated toward achievements and maximization of control over the environment in order to prevent failure. The patients in this trail scored relatively high on the autonomy scale (M=61.90, *SD*=14.80), which was the only predictor that had a statistical significant association with the engagement scale on the GCQ-S (MacKenzie, 1983). More specifically, higher levels of autonomy predicted higher levels of engagement, while there was no significant association between autonomy en avoidance and conflict scales, contrary to the hypothesis. Engagement, as described by MacKenzie (1983), is related to the construct of cohesion, which has been identified as an important factor for successful therapy outcome. In addition to cohesion, engagement captures the degree of self-disclosure among group members and cognitive understanding of the meaning of behavior, which both are regarded as important factors for obtaining and maintaining change. Engagement also captures challenges and confrontation that promote interpersonal learning. The fact that autonomy was the only significant predictor in the present study can be explained by the treatment modality used in this trail. Cognitive behavioral therapies are highly structured and places more focus on specific techniques and patients' responsibility for participating in the treatment process and doing necessary task (Meyer at al., 2002). Autonomy can be seen as a cognitive structure that is important for successful outcome of cognitive behavioral therapy, which is again reflected

in perceived engagement. Patients´ autonomy levels predict to some degree patients´

perceived engagement levels, which in turn may have an impact on treatment outcome. This

finding is contradictory to previous research (Zettle et al., 1992), when taking into account

that cognitive behavioral group therapy was used in this trial. However, more recent research

on the Sociotropy-Autonomy Scales has reported a two-factor instead of a three-factor

solution for autonomy, with Sensitivity to Other's Control and Independent Goal Attainment

as those two factors (Bieling, Beck and Brown, 2000). Independent Goal Attainment is

negatively associated with psychopathology and may be associated with better adjustment,

thus promote therapy engagement and outcome. Based on those premises autonomy can

function as a predictor of positive engagement, while the relationship between autonomy and

avoidance and conflict is still somewhat ambiguous. Implications of this study's findings can

be that cognitive behavioral group therapy, treatment modality, can also be well suited for

individuals high on autonomy. Personal responsibility and achievement should also be

promoted in patients entering CBGT, thus promoting group engagement and in return positive

therapy outcome.

Other patient characteristic than those assessed in the present trial could also have an

impact on the quality of the group climate. Motivational readiness to change has been shown

to predict both patient- and therapist ratings of the working alliance (Taft et al., 2004).

Patients' expectations of improvement have also been found to be associated with better

alliance across treatment modalities (Constantino et al., 2005). Low motivation to change and

low expectations of improvement can possibly be seen in dropouts and explain a significant

difference between individuals who leave treatment and those who stay and perceive the

group climate as engaged, as well between them who benefit positively from treatment and

those who not. In this study, only completers were analyzed, which probably limits the patient

sample to those who that profited the most from treatment, and experienced relatively higher

levels of engagement and lower levels of conflict and avoidance. Moreover, as demonstrated in previous research, it appears that patient characteristics that can influence group therapy relationship, like more psychiatric symptoms and type of interpersonal functioning, can also predict group therapy dropout (MacNair and Corazzini, 1994). This was not analyzed in present study, but should be of interest for future research. Thus, putting more focus on those patient characteristics in CBGT may improve both group climate, especially engagement, and therapy outcome.

Research also suggests that there are several therapist characteristics and behaviors that may have an impact on the therapeutic relationship besides patient characteristics (Ackerman and Hilsenroth, 2003; Hilsenroth, Cromer and Ackerman, 2012). Being flexible, honest, respectful, trustworthy, confident, warm, interested and open were found to be positively related to the quality of the alliance, as well as therapeutic techniques such as exploration, reflection, noting past therapy success, accurate interpretation, facilitating the expression of affect, and attending to patient's experience. Such therapist-delivered factors (e.g., therapist competence) could have had a significant positive impact on the tasks and goals of therapy (e.g., constructive therapeutic work), which again may be reflected in patients' perceiving the group climate as positive. Therapists' can also be seen as responsible for initiating interaction between group members by using multiple strategies, thus having more obligations for creating positive group climate (MacKenzie, 1983). Thus therapist contribution to the group climate formation and levels can be of interest for future research to investigate.

Also, having participated in therapy earlier shows tendency to interact with the type of group format to predict outcome. It appears that previous therapy facilitates patient use of less structured groups or desensitized them to discuses themselves (Follette, Alexander and Follette, 1991). Being clear about and able to talk about your problems is important part of

cognitive behavioral therapy, especially in group treatment, where there is exposure to more people than in individual treatment.

In the field of group psychotherapy, little emphasis has been paid to patient pre-treatment characteristics that may influence the quality of the therapeutic relationship, both positively and negatively. In terms of future research, it can also be of interest to examine other patient characteristics, such as for example personality and motivation to change, so that therapists' can adjust to promote greater treatment effectiveness. There is a need for lager samples to be analyzed, as well as different patient populations. Therapy dropouts characteristics, experiences and explanations would be of great interest for future researcher also, giving practitioners greater understanding of those unsuccessful in therapy. Greater understanding of different therapeutic approaches and their association with group climate, patient and therapist characteristics needs to be addressed in more sophisticated explanation models that can give therapists tools to use in practice.

Limitations

There are several limitations in the present study. First, the quality of the group climate was measured only once, the week before treatment termination, and the present study did not examine its development and course throughout the treatment process. It is known that group climate variables may vary during the treatment course (MacKenzie, 1983). Consequently, the association between patient characteristics and the group climate may potentially wax and wane at different time points, and this should be examined further. Second, the small sample size in this study may have resulted in a low statistical power, making it difficult to obtain statistical significant results. However, a large number of analyses were computed, which also increases the likelihood for false positive results. Third, therapists' ratings of the working alliance, a similar construct to group climate, have been

found to be more closely associated with more predictor variables compared to client ratings (Taft et al., 2004). This can be seen in association to the findings that therapist alliance ratings can be more predictive of outcome than patients' ratings across different patient populations and treatment modalities (Neale and Rosenheck, 1995; Taft, Murphy, King, Musser and DeDeyn, 2003) Fourth, only patient characteristics where examined as predictors of the group climate, leaving the influence of therapists' factors and treatment modality unexamined.

Conclusion

The present study did not find any evidence that patient's pre-treatment levels of psychiatric symptoms, interpersonal problems and levels of sociotropy were predictive of the quality of the group climate (engagement, avoidance and conflict) the week before treatment termination in CBGT. Higher levels of autonomy were predictive of higher levels of engagement, which was somewhat surprising and inconsistent with previous research on treatment modalities and sociotropy and autonomy. Future research, with repeated and more measures of patient characteristics and group climate, is needed to fully access the nature of association between patient characteristics and their perception of the atmosphere within the group.

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Tables

Table 1. *Demographic and Diagnostic Variables for the Sample.*

Variable	($n = 30$)
Age (Mean, *SD*)	37,3 (9,7)
Females	24
Males	6
Diagnoses (*n*)	
Anxiety disorders	43
Depressive disorders	15
Eating disorders	3
Cluster C personality disorders	8
Total Axis I	61
Total Axis II	8
Total number of diagnosis	69

Table 2. *Mean Scores and Standard Deviations for the Predictor Variables (Pre-Treatment)*

Variables	Statistics		
	n	Mean	*SD*
SCL-90-R (pre)	30	1.17	0.53
SAS-A (pre)	30	61.90	14.80
SAS-S (pre)	30	70.50	16.40
BDI (pre)	30	17.47	9.16
BAI (pre)	30	23.73	13.69
IIP Cold-Dominant (pre)	29	0.62	0.58
IIP Cold-Submissive (pre)	29	1.27	0.85
IIP Warm-Submissive (pre)	29	1.77	0.92
IIP Warm-Dominant (pre)	29	1.28	0.74

Note.SCL-90-R= Symptom Checklist 90 Revised. SAS-A= Sociotropy-Autonomy Scale-Autonomy. SAS-S= Sociotropy-Autonomy Scale-Sociotropy BDI= Beck Depression Inventory. BAI= Beck Anxiety Inventory. IIP-64C= Inventory of Interpersonal Problems 64-Circumplex.

Table 3. *Prediction of Group Climate Scores with Symptom Scales Pre-Treatment (SCL-90-R, BDI, BAI)*

Step	Variable	B	*SE*	β	ΔR²	ΔF	Dependant Variable
3	SCL-90-R (pre)	-.57	1.51	-.08	.01	.14	Engagement
3	SCL-90-R (pre)	1.62	1.28	.25	.06	1.60	Avoidance
3	SCL-90-R (pre)	.35	.50	.14	.02	.48	Conflict
3	BDI (pre)	-.06	.08	-.15	.02	.58	Engagement
3	BDI (pre)	.01	.07	.04	.00	.03	Avoidance
3	BDI (pre)	.01	.03	.09	.01	.21	Conflict
3	BAI (pre)	.00	.06	.00	.00	.00	Engagement
3	BAI (pre)	.05	.05	.20	.03	.92	Avoidance
3	BAI (pre)	.00	.02	-.00	.00	.00	Conflict

Note. SCL-90-R= Symptom Checklist 90 Revised. BDI= Beck Depression Inventory. BAI= Beck Anxiety Inventory

Table 4. *Prediction of Group Climate Using the IIP-64C Quadrant Scores Pre-Treatment*

Step	Variable	B	*SE*	β	ΔR²	ΔF	Dependant Variable
3	IIP Cold-Dominant (pre)	-.12	.08	-.28	.08	2.33	Engagement
3	IIP Cold-Dominant (pre)	.02	.06	.08	.01	.14	Avoidance
3	IIP Cold-Dominant (pre)	-.02	.03	-.11	.01	.29	Conflict
3	IIP Cold-Submissive (pre)	-.10	.06	-.36	.11	3.51	Engagement
3	IIP Cold-Submissive (pre)	-.01	.05	-.02	.00	.01	Avoidance
3	IIP Cold-Submissive (pre)	.01	.02	.15	.02	.48	Conflict
3	IIP Warm-Submissive (pre)	-.03	.05	-.10	.01	.29	Engagement
3	IIP Warm-Submissive (pre)	.04	.04	.18	.03	.88	Avoidance
3	IIP Warm-Submissive (pre)	.01	.02	.15	.02	.57	Conflict
3	IIP Warm-Dominant (pre)	-.05	.06	-.16	.03	.70	Engagement
3	IIP Warm-Dominant (pre)	.05	.05	.20	.04	1.04	Avoidance
3	IIP Warm-Dominant (pre)	-.00	.02	-.03	.00	.02	Conflict

Note. IIP-64C= Inventory of Interpersonal Problems 64-Circumplex.

Table 5. *Prediction of Group Climate Using the SAS Pre-Treatment*

Step	Variable	B	*SE*	β	ΔR²	ΔF	Dependant Variable
3	SAS-A (pre)	.11	.05	.42	.14	4.36*	Engagement
3	SAS-A (pre)	.02	.05	.09	.01	.15	Avoidance
3	SAS-A (pre)	-.01	.02	-.08	.01	.15	Conflict
3	SAS-S (pre)	-.02	.05	-.06	.00	.10	Engagement
3	SAS-S (pre)	.02	.04	.11	.01	.30	Avoidance
3	SAS-S (pre)	.01	.02	.17	.03	.74	Conflict

Note. *p<.05 SAS-A= Sociotropy-Autonomy Scale-Autonomy. SAS-S= Sociotropy-Autonomy Scale-Sociotropy