

Group Climate Development in Cognitive and Interpersonal Group Therapy for Social Phobia

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## Abstract

This study was designed as a longitudinal study of 80 participants in cognitive group therapy (RCT, n = 40) and interpersonal group therapy (RIPT, n = 40) for social phobia during ten weeks residential therapy. The aim was to investigate the patterns of group climate development and its impact on treatment outcome. Data was collected using MacKenzie's Group Climate Questionnaire (GCQ) four times during treatment, and a multilevel (mixed) model approach was used in the analyses. Engagement in RCT groups showed a linear increase during treatment in contrast to a linear decline among patients in RIPT groups. This divergence might be explained by the focus on extragroup and intragroup relationships in RCT and RIPT respectively. Neither conflict nor avoidance followed the expected pattern nor did their mean levels influence outcome. However, when six extreme values of conflict were removed, there was support for a low-high-low pattern of conflict. In general, these results do not support MacKenzie's generic model of group climate development but suggest that sample characteristics, the treatment models and setting can play major roles in determining the group climate. Of the group climate variables, only the mean level of engagement predicted a change in social anxiety over the course of treatment.

*Keywords:* group development, group therapy, cognitive therapy, interpersonal therapy

## Group Climate Development in Cognitive and Interpersonal Group Therapy for Social Phobia

The interpersonal process in therapy groups is both complex and continuously evolving. MacKenzie (1983) has addressed important aspects of the group therapy process and its development by introducing the concept of the *group climate*. This concept extends Yalom's original concept of cohesion in that it describes not only the degree to which the group represents a sense of warmth, acceptance, support, and belongingness to the members (Yalom, 2005). It also describes the group process along two other interactional dimensions, namely conflict and avoidance. Study of the group climate over the course of treatment enables the outlining of the interplay between various aspects of the group and how these evolve over time.

MacKenzie (1983) adopted the social psychology concept of group development and argued its significance to the field of group therapy. This viewpoint (elaborated in MacKenzie, 1990) emphasizes that the psychotherapy group, like all kinds of groups, is a social system that develops in stages with certain interactional tasks related. In the first developmental stage of *engagement*, the group members' task is to engage in therapy and in the relationships with the other members of the group (MacKenzie, 1990). This is a time to carefully share thoughts and feelings with others and to experience that the group members have important issues in common to work on. The first stage of therapy tends to establish a sense of togetherness in the group. At this time, the therapist is vital to the group, representing a hope and a strategy for change. In the second stage, the *differentiation* stage, the group members more easily feel their own distinctness in the group and present themselves as individuals, separate from one another and from the therapist. This makes the group more laden with conflict, and integrating the diversity of the group must be both acknowledged and balanced with the group's need for structure and norms for relating in the group. In the third developmental stage of *individuation*, the group characteristically shifts its focus from

interpersonal differentiation and conflict to each member's issues to work on. This shift in group attention contributes to strengthened cohesion in the group, resulting in mutual responsibility, active participation, warmth, empathy, and trust between the group members. In later stages of the group's development, interpersonal themes are more flexibly interwoven. Hence, subsequent stages are less distinct as the group members often discuss topics introduced in earlier stages in more sophisticated ways. The *termination* stage is a time for mourning the loss of the group and for reorienting towards the outside world.

The group climate can be viewed as comprised of engagement, conflict, and avoidance (MacKenzie, 1983). According to the theoretical description of group development<sup>1</sup> (MacKenzie, 1990), engagement in a therapy group was initially expected to be high (engagement stage). It was expected to drop after a few weeks (due to conflict in the differentiation stage) before it rose throughout treatment (individuation stage and later). Conflict was expected to follow a course from an initial low level (engagement stage), followed by a rise after a few weeks (differentiation stage) before it decreased throughout the remainder of treatment. MacKenzie did not view engagement and conflict as necessarily correlating negatively with each other, meaning that the group may be simultaneously engaged and in conflict (MacKenzie, 1983). Still, in terms of developmental stages, the dimensions were expected to develop in opposite directions. Avoidance was initially expected to be high, reducing over the course of treatment. Nevertheless, increasing levels of anxiety as group conflict emerges, was expected to lead to group avoidance in the differentiation stage. The impending termination also was expected to increase group avoidance in the termination stage. Otherwise, group avoidance is generally expected to decrease, but with fluctuations throughout the course of treatment. Figure 1 shows the courses of engagement, conflict, and avoidance as they are expected to occur on the basis of the presented theory<sup>2</sup>.

Findings from empirical studies of groups have been ambiguous in relation to the group development model. Kivlighan and Jauquet (1990) showed that engagement rose linearly over time in a longitudinal study of 36 participants in six personal growth groups. Trend analysis revealed no significant quadratic effect (high-low-high pattern), as would be expected from MacKenzie's model. With regard to conflict, there was a significant quadratic effect and no significant linear effect, as the groups all had a course of conflict from low to high to low levels, in consort with the theory. Avoidance declined linearly across time for all groups, and the theoretical quadratic effect was not noted, supporting the prediction of lessening avoidance in the group, but did not demonstrate the predicted fluctuations resulting from any stage specific challenges. The authors concluded that the group climate developed similarly for all groups, suggesting the notion of a general developmental process for all groups.

In a large study of students enrolled in group process education, there was substantial between-group variation in the group climate dimensions (i.e. engagement, conflict and avoidance) at mid-session (Kivlighan & Lilly 1997). Furthermore, there were no systematic patterns among the groups on the three dimensions. These findings did not support MacKenzie's model. However, improved function on three individually defined treatment goals was best explained by high-low-high engagement ratings and low-high-low conflict ratings (both quadratic patterns). For avoidance, a high-low-high-low (cubic) pattern explained gain equally well as did the mid-session outcome measure.

Tasca, Balfour, Ritchie, and Bissada (2006) examined the group climate in groups of patients with binge eating disorder undergoing either cognitive behavioral therapy (GCBT) or psychodynamic-interpersonal psychotherapy (GPIP). Increasing engagement was a linear process during treatment in the GCBT groups, whereas a pattern of fluctuating engagement appeared in the GPIP groups. Conflict among patients decreased linearly during treatment in

both groups. Avoidance was stable throughout treatment for GPIP patients, whereas it decreased linearly for GCBT patients. These results may suggest that the group climate in interpersonal group treatment developed along MacKenzie's theoretical trajectory – or at least more so than in cognitive group treatment.

Studies to date have shown inconsistent patterns of group climate measures during treatment. Some important methodological differences between the studies require mentioning. First, the structure of the group climate scales differs between the studies. Kivlighan and Lilly (1997) and Kivlighan and Jauquet (1990) used the scales as originally developed (MacKenzie, 1983), while Tasca et al (2006) used a revised factor structure (described in MacKenzie, 1990). Second, the studies conceptualized the group climate in different ways, i.e. as a group level characteristic in which the group was the study unit (Kivlighan & Lilly, 1997), or as a characteristic of the individuals within the group (Tasca et al, 2006).

### **The Group Climate in Relation to Diagnosis, Treatment, and Level of Analysis**

This is, to our knowledge, the first study of group climate that a) exclusively uses a clinical sample of inpatients, and where b) all have a social phobia diagnosis. Therefore, we have limited opportunity to compare our results with other studies in the field. Theoretically, we will propose that the social phobia diagnosis, where the patients are characterized by low self-esteem, fear of scrutiny and, consequently, high levels of social avoidance, will lead to lower levels of engagement and higher levels of avoidance in the group when compared to groups targeted at other mental disorders. We also propose that the process in social phobia groups will progress more slowly than in other types of diagnostically targeted groups. As patients with social phobia tend to be very careful in social interaction as not to provoke others' negative reactions towards them, the levels of expressed disagreement and conflict may be particularly low in these groups. We will also assume that more chronic and severe

social phobia, which was abundant in the present sample, will lead in the direction of a relatively less engaged and more avoiding group climate.

MacKenzie's concept of group climate implies that it represents an actual feature of the common social world of the group members. Thus, the members' scorings should be considered a group level variable. To address this group level, we used patient nested within treatment group (as different from group sessions) as unit in our multilevel analyses of the course of group climate over time. In this way, the individual patients' scores were corrected for the average level in their respective treatment groups. There may be good reason to investigate also how outcome from group therapy may be associated to an aggregated group level measure of the group climate, as advocated by several authors (Budman, Soldz, Demby, Feldstein, Springer, & Davis, 1989; Burlingame, Kivlighan & Lilly, 1997; MacKenzie & Strauss, 2004). Given our limited sample size, however, we decided here to link the individual's group experiences to his or her outcome. Thus, we treated the group climate as a group-level variable in describing the course of the group climate, and as an individual-level variable in predicting outcome. However, to evaluate to what extent these two different approaches were justified, we computed the intraclass correlations of the ratings. To the extent that the ratings reflect the actual group climate, they will vary considerably more between sessions than between members within the same session. To the extent that the ratings are subjective and random in relation to the actual group climate, they will vary between members in the same sessions as much as they vary between sessions (Hoyle, Georges, & Webster, 2001).

The study by Tasca et al (2006) is so far the only empirical study that has compared the group climate in two different treatments (i.e. cognitive vs. psychodynamic-interpersonal therapy). Based on their findings for engagement, they suggested, "the courses of the therapeutic interactions within GCBT and GPIP are quite different in nature" (p. 509). It was

suggested that psychodynamic and interpersonal therapies are relationship focused and therefore challenging to the therapeutic bond, so that the therapeutic alliance and, similarly, group engagement in group therapy, will occur in rupture and repair-sequences throughout treatment (Safran, Muran, Samstag, & Stevens, 2001). On the other hand, the cognitive therapy process is empirically described as leading a smoother course with a maintained collaborative therapeutic relationship as a means to develop cognitive skills throughout the treatment (Raue, Goldfried, & Barkham, 1997), in accordance with the cognitive therapy outline (Beck, 1995).

As the RIPT treatment in our study was much based on the developing, understanding, and changing relationships as the therapeutic mechanism of change, the group climate in RIPT treatment groups may also tend to progress in a similar fashion as the GPIP groups did (i.e. in a non-linear rising slope). On the other hand, the RCT treatment with its focus on well-structured patient-therapist collaboration in problem formulation, goal setting, and implementation of new action strategies where the patients increasingly take the lead in their own therapeutic process, may show a gradually increasing group engagement more similar to the development shown in the GCBT groups.

The present study is a sub-study of a randomized clinical trial conducted by Borge, Hoffart, Sexton, Clark, Markowitz, and McManus (2008), where the purpose was to compare the effects from residential cognitive therapy (RCT) and residential interpersonal therapy (RIPT) in relation to social phobia symptoms. This study examined MacKenzie's group development hypotheses in our sample of patients with social phobia (Figure 1). The theory posits that (a) a rising slope with also high-low-high quadratic pattern would characterize engagement, (b) a rising slope with also low-high-low quadratic pattern would characterize conflict, but that (c) a decreasing slope with also low-high-low quadratic pattern would best describe avoidance.



## Method

### Participants

Participants in the study were selected from applicants for treatment at Modum Bad, a national Norwegian clinic providing residential treatments for a diversity of non-psychotic disorders. An extensive list of criteria was used to determine participant inclusion in the study, most importantly 1) DSM-IV diagnosis of social phobia (American Psychiatric Association, 1994; First, Spitzer, Gibbon, & Williams, 1995). In addition, inclusion was based on 2) both the assessor and the patient considered social phobia as the main current problem, and that the patient had no immediate need for additional treatment; 3) no current psychotic disorder or substance abuse; 4) no organic mental disorder; 5) willingness to suspend use of psychotropic medication, alcohol and other substances; 6) acceptance of random allocation; 7) not previously treated with similar models; 8) ability to speak Norwegian; 9) age 18-65 years. Personality disorder was not considered a reason for exclusion. Those with a history of recurrent major depression currently successfully in remission after treatment with antidepressant medications were excluded. Ultimately, 80 candidates entered. The included patients were randomized for either RIPT or RCT treatment, while stratifying for gender (Borge et al, 2008). Altogether, there were five consequent treatment groups in both treatment conditions, each treatment group consisting of eight members.

The mean age for the total sample was 37.5 years ( $SD = 11.4$  years). The age distribution was the same in the two conditions (RIPT  $M_{age} = 37.2$  years,  $SD = 11.6$ ; RCT  $M_{age} = 37.7$  years,  $SD = 11.3$ ). At the time of admission (baseline), the RIPT condition had 18 out of 40 patients in employment, compared to 11 out of 40 patients in the RCT condition. The difference was not statistically significant ( $\chi^2 = 2.65$ ,  $p = 0.10$ ).

Mean admission score on the Social Phobia and Anxiety Inventory, Social Phobia subscale (SPAI-SP; Turner, Beidel, Dancu, & Stanley, 1989) was 134.8 ( $SD = 25.4$ ) for the total sample. This score was not significantly different for the patients in the two conditions (RIPT  $M_{SPAI-SP} = 137.6$ ,  $SD = 27.3$ ; RCT  $M_{SPAI-SP} = 132.2$ ,  $SD = 23.4$ ). For the total sample, the mean duration of social phobia was 19.7 years ( $SD = 12.3$  years), and there was no significant difference between the treatments (RIPT  $M_{duration} = 19.8$  years,  $SD = 12.3$ ; RCT  $M_{duration} = 19.8$  years,  $SD = 13.2$ ). Also, there were no significant differences between the treatments with regard to other clinical variables (depression, other anxiety disorders, substance related disorders and personality disorders). In the sample, 60% had a personality disorder, avoidant personality disorder being the most frequent (55%).

### **Therapists**

The RCT staff consisted of two individual therapists (psychologists) and four milieu therapists (psychiatric nurses). The RIPT staff similarly consisted of two individual therapists (one clinical social worker and one resident physician) and four milieu therapists (three psychiatric nurses and one occupational therapist). The group therapy was in both conditions delivered as co-therapy, lead by one individual therapist and one milieu therapist. In both treatment conditions, the staff was trained prior to the study to carry out the therapies by international experts. Both therapies were also supervised by local professionals.

### **Treatments**

The treatments were based on the manuals for individual social phobia treatment of Clark (1997) and Lipsitz and Markowitz (1997), after modifications for use in a residential setting. The RCT team further developed a treatment protocol for the residential modification of cognitive therapy based on the Clark model (Hoffart, Borge, Myklebust, Nore, & Langehaug, 2003). This RCT modification emphasized the application of a personalized cognitive model, including the patients' thoughts, images, anxiety symptoms, safety

behaviors, and attentional strategies. The patients were encouraged to let go of safety behaviors, redirect focus onto the situation and away from themselves, and to try this shift of strategy in social situations in real life. Through this experiential technique, the patients were able to explore how this change would affect their level of anxiety and their own performance in fear-eliciting social situations (Borge et al, 2008).

The RIPT team developed a modified treatment protocol of interpersonal therapy based on a combination of the model developed by Lipsitz and Markowitz (1997) and a group model of IPT (Wilfley, MacKenzie, Welch, Ayres, & Weissman, 2000), further elaborated at a later stage in the process (Hoffart et al, 2007). The modification emphasized socialization to a medical model, implying that the patients view of themselves as socially incompetent was untrue, and rather that their problems in social situations were imposed by their illness. The patients were helped to establish an interpersonal focus for treatment. The focus could be for instance, becoming open about personal matters, expressing anger, assert one's interests, or chatting with others. Throughout therapy, these themes would be guiding the patients' interaction with others and anchor their reflections upon their social experiences within the group. Stimulating interaction among the group members, and reflection-on-action in the group, were basic therapeutic techniques employed in this work. The group format also made possible the in-vivo exploration of important events in the group that were related to the patients' interpersonal focus (Borge et al, 2008; Hoffart et al, 2007).

In order to assess adherence to treatment protocol, 23 randomly selected videotaped group sessions (RCT = 12, RIPT = 11) were rated according to a modified version of the Collaborative Study Psychotherapy Rating Scale – Form 6 (Hollon, 1984), a scale which incorporated items from both cognitive (12 items) and interpersonal (12 items) therapy. The ratings were performed by two psychology undergraduates. Interrater reliability was satisfactory, as the intraclass correlations (ICC) were .85 and .94 for the mean of RCT and

RIPT items, respectively (Borge et al, 2008). There were model-consistent differences between the two treatments, as the RCT sessions were rated higher than the RIPT sessions on the cognitive therapy items, and lower on the interpersonal therapy items (Hoffart, Borge, Sexton, & Clark, 2009).

Both treatments were delivered in a closed group format. There were eight persons in each group. There were four group sessions weekly, lasting for one hour and a quarter. The weekly individual sessions had duration of 45 minutes. In addition to individual therapy sessions and group therapy sessions, all patients participated in the general program on the ward, mainly consisting of physical training sessions (twice weekly) and ward community meetings (once weekly). The relative time spent in individual therapy and group therapy during the week was calculated, and showed that the largest part of the therapy was conducted in group settings (88 %) as opposed to the individual format (12 %). Patients usually went home for the weekends. Towards the end of the program, a person close to the patient (spouse, parent or close friend) took part in a modified program for five days.

### **Measures and Procedure**

We measured MacKenzie's group climate dimensions with a Norwegian version of the Group Climate Questionnaire (GCQ) (MacKenzie, 1983). The GCQ, a 12 items self-administered questionnaire assessing the group atmosphere, was given for all patients in both conditions. The GCQ items are statements, with which the patients rated their level of agreement on a 7-point Likert type scale (0 = *not at all*, 6 = *extremely*). The GCQ is a short form of an original 32-item questionnaire (MacKenzie, 1981), in which previous factor analysis demonstrated the three dimensions of the group climate: Engagement, conflict, and avoidance (MacKenzie, 1983). The back-translated measure used in this study was identical in meaning with the original.

Engagement in the group reflects the aspects of liking and caring in the group and collaborative, problem solving efforts in the group. This dimension also reflects participation, constructive confrontations, and self-disclosure. The conflict dimension refers to a sense of friction and anger. It also captures distrust and rejection in the group. The avoidance dimension refers to the members being dependent on the leader, experiencing remoteness from other group members and being unwilling to take responsibility for bringing up important material to the group discussion. Avoidance also refers to a group more concerned with conformity than therapeutic work, and captures tension and anxiety in the group. In MacKenzie's original article (1983), the latter aspect was apart from the established scales. In every other respect, the GCQ scale structure used in this study is in line with the structure as originally established.

Because different factor structures of the GCQ have been found in previous studies, we checked the structure in our sample using Principal Component Analysis (PCA) with varimax rotation based on the scores from the first measurement. The KMO value was .78, which indicates that the patterns of correlation are relatively compact, displaying relatively distinct and reliable factors (Field, 2005). The Bartlett's test was statistically significant ( $p < 0.001$ ), indicating that the matrix was adequate (Tabachnick & Fidell, 2007).

Three factors had Eigenvalues above 1. These factors explained 26.2 %, 20.0 %, and 11.0 % of the variance, respectively, with a cumulative 57.2 % explained variance. The result was in accordance (apart from item 12, which in this study was included in the avoidance factor) with MacKenzie's original solution and this was selected for our study. All items loaded  $> .40$  on one of the three factors. Item 8, an engagement item in MacKenzie's work (MacKenzie, 1983), had "split loading", i.e. loaded  $> .40$  on both the engagement and the conflict factor, but had the highest loading on the engagement factor.

Earlier studies have shown satisfactory reliability of the GCQ measure, Cronbach's  $\alpha$  ranging from .72 - .95 (Kivlighan & Goldfine, 1991; Kivlighan & Lilly, 1997; Tasca et al, 2006). In this study, Cronbach's  $\alpha$  was .76 for the engagement items, .60 for the avoidance items, and .77 for the conflict items.

The GCQ was completed four times, immediately after a group therapy session in the second (T1), fourth (T2), sixth (T3), and eighth (T4) week during the ten week treatment. Presumably the scores from T1 would then indicate the group climate in the engagement stage while the scores from T2, T3, and T4 would indicate the group climate later in the group's development. We suspected that the theoretically proposed stages of MacKenzie (1983; 1990) would not be readily identified from the data, but we still let them serve as our interpretation guide. Unfortunately we did not have measurement for a time that could indicate the group climate in the termination stage of treatment, as the last time of measurement (T4) was two weeks before treatment termination.

The self-report Social Phobia and Anxiety Inventory (SPAI; Turner et al, 1989) consists of a social phobia subscale and an agoraphobia subscale. The social phobia subscale consists of 32 items, where 11 of these relate to the level of anxiety in specific social situations. Two items relate to anticipatory and in vivo thoughts when in the company of others. Three items relate to commonly experienced somatic symptoms. The scores on the social phobia subscale range from 0 to 192. Scores on the social phobia subscale of the SPAI from admission, midtreatment and discharge are presented in this article.

### **Statistical Analysis**

Our longitudinal data are multilevel, where the patients are lower level units nested within groups, who are upper level units. Therefore we used mixed (fixed and random effects) models (Fitzmaurice, Laird, & Ware, 2004) to analyze our data. Unlike traditional models for repeated measures, multilevel models can effectively manage unequal number of observations

and missing data in the repeated measure. Multilevel models also take account of and adjust for any bias in standard errors and statistical tests resulting from the interdependence (autocorrelation) of repeated observations that is typical in such data. This interdependency is accounted for by introducing individual-specific random effects and by modeling the covariance of the residuals. In our analyses, a first-order autoregressive covariance structure gave the best fit (Akaike's Information Criterion). The additional interdependence between members of a treatment group was modeled by using individual patient nested within treatment group and treatment group as random factors. This led to an improvement of fit for all the tested models. Hence, by applying these models with individuals nested within treatment group and with the treatment group treated as random effects, there is a decreased probability of making Type I error (Baldwin, Murray, & Shadish, 2005).

The first model consisted of (1)  $GCQ\ Scale = Intercept + Condition + Time$ . Group was included as a random factor in all models. The Condition + Time analysis examined whether the overall levels on the GCQ dimensions differed in the two treatments (Condition), and whether the GCQ scores changed linearly over time (Time). The Condition  $\times$  Time interaction term was added in the second model, which thus consisted of (2)  $GCQ\ Scale = Intercept + Condition + Time + (Condition \times Time)$ . The interaction term indicates whether the GCQ scores changed differently in the two treatments. In cases of significant interaction (Condition  $\times$  Time), analyses were then performed separately for each condition. Quadratic development was added in the third model: (3)  $GCQ\ Scale = Intercept + Condition + Time + (Condition \times Time) + Time^2$ . This analysis added the quadratic term ( $Time^2$ ) to the model in order to investigate non-linear development. Then, interaction between treatment and quadratic development (Condition  $\times$   $Time^2$ ) was added in the fourth model: (4)  $GCQ\ Scale = Intercept + Condition + Time + (Condition \times Time) + Time^2 + (Condition \times Time^2)$ . This latter term would indicate whether the quadratic development differs in the two treatments.

Follow-up analyses were performed separately for each condition in cases of significant interactions.

Intraclass correlations [ICC (1, 1)] (Shrout & Fleiss, 1979) were derived from one-way analysis of variance, where the GCQ scales were treated as dependent variables and the treatment group as the factor variable. This analysis was repeated for all four times of assessment; first for the total sample, and then for the two treatment conditions separately.

Multiple regression analysis was performed to investigate the impact of the group climate on change in social phobia symptoms during treatment. The analyses were performed separately for each GCQ scale. The dependent variable was SPAI-SP scores at the end of treatment. SPAI-SP scores at admission were included as predictor in the first block. In the second block, the individuals' GCQ scale mean score across the four assessments were included. In the third block, a condition and condition with the GCQ scale interaction terms were included.

## Results

### Effectiveness of the treatments

The treatments were equally effective (Table 1). Patients in both RCT and RIPT improved significantly during treatment (sample mean Cohen's  $d = .76$ , change from pre- to posttreatment) in their social phobic symptoms as measured by the Social Phobia and Anxiety Inventory, social phobia subscale (SPAI-SP; Turner et al, 1989). Drop out from treatment was minor (RIPT  $n = 3$ , RCT  $n = 8$ ; Fisher's Exact test;  $p = 0.193$ , *ns*) (Borge et al., 2008).

### The Levels of the Group Climate Variables

The mean group climate scores in this study were for engagement 2.82 ( $SD = .85$ ) and 3.12 ( $SD = .54$ ), for conflict .63 ( $SD = .65$ ) and .76 ( $SD = .68$ ), and for avoidance 2.50 ( $SD = .74$ ) and 2.44 ( $SD = .58$ ) for patients in RCT and RIPT treatments, respectively. According to the scale criteria, these results indicate that the patients on the average viewed the group in



which they were part as about moderately (3) engaged, less than a little (1) in conflict, and somewhat (2) to moderately (3) avoiding.

### **The Course of the Group Climate**

Table 2, Table 3, and Table 4 show the results for the tested models of engagement, conflict, and avoidance, respectively, whereas Figure 1 presents the theoretical and Figure 2 presents the observed development of these factors graphically. The overall sample showed no significant linear or quadratic trend in engagement. When testing for interactions, we found that treatment condition significantly moderated linear trends in the sample ( $t = 6.14, p < 0.001, df = 88$ ). The RCT subset of the sample had a significant linear increase in engagement throughout treatment ( $t = 4.80, p < 0.001, df = 46$ ). The RIPT subset of the sample had a significant linear decrease in engagement development during treatment ( $t = -3.74, p = 0.001, df = 35$ ) (Table 2).

For the sample as a whole there was no significant change in conflict during treatment. There was no interaction between treatment condition and the linear and quadratic terms, indicating that there were no differences in terms of conflict development between the patients in the two treatments (Table 3). However, when the six extreme observations were removed (identified from Box plots of each condition at each time point and consisting of two observations from RIPT and four from RCT) from the dataset and the analysis repeated there was a quadratic time effect ( $t = -2.10, p = 0.037, df = 201$ ), indicating a low-high-low pattern of conflict across time. The interaction between quadratic time and treatment condition was not statistically significant. Avoidance did not change significantly over the course of the treatment in either treatment nor was there an interaction by treatment condition (Table 4).

### **Intraclass Correlations**

Table 5 shows the intraclass correlations [ICC (1, 1)] for the group climate scales on the four measurement occasions. Amongst the patients in the RCT groups, there was

moderate agreement within the treatment groups with respect to the levels of both engagement and avoidance on most measurement occasions. Amongst the patients in the RIPT groups, there was strong agreement within the treatment groups with respect to the levels of conflict.

### **The Group Climate Variables' Impact on Outcome**

The pretreatment SPAI-SP score accounted for 27 % of the variance in outcome (SPAI-SP at posttreatment) in the total sample (Table 6). The mean level of engagement across assessments explained an additional 5 % of the variance in outcome. Engagement was the only GCQ subscale that contributed as a significant predictor of outcome change when controlling for pretreatment SPAI-SP score ( $\beta = -.24, p < 0.05$ ). There were no significant interactions between treatment condition and the GCQ subscales.

## **Discussion**

### **Summary of Findings**

The hypothesis that engagement would follow a quadratic course with a linear rise during treatment was not supported. Neither the total sample nor either of the two treatment conditions showed quadratic effects in engagement. Instead, there were opposite linear trends for RCT and RIPT groups, where patients in the RCT condition showed a linearly increasing engagement during treatment, while those in the RIPT condition showed a linearly decreasing pattern of engagement. The main analysis did not support the hypothesis that conflict would follow a quadratic course with a linear rise during treatment, although this type of development was supported from the additional analysis after six extreme observations (outliers) had been removed. The hypothesis that avoidance would decrease linearly and with a quadratic low-high-low effect was not supported. The mean level of engagement predicted a decrease in anxiety over the course of treatment.

### **GCQ Factor Structure**

The factor structure of the GCQ here generally followed the originally established structure (MacKenzie, 1983). The one exception is item 12, which loaded on the avoidance scale here, whereas it was apart from the three scales in MacKenzie's work. This may be a consequence of the sample. It is possible that patients with social phobia relate the process captured in item 12, "the members appeared tense and anxious", to avoidance more easily than other groups of patients. For social phobia patients, anxiety often leads to their silence and interpersonal withdrawal, which may well be interpreted as a defensive attempt to appear normal and acceptable to others. Also, when group members become silent and distance themselves from one another, the group depends upon external leadership to progress. Therefore, it seems likely that the targeted issue of social phobia may lead to the association of tension and anxiety (item 12) with other aspects of avoidance [not talking about important issues (item 3), a tendency towards dependency (item 5), interpersonal remoteness (item 7), and conformity (item 9)].

### **The Levels of Engagement, Conflict, and Avoidance**

The mean group climate scores from this study showed that the level of engagement (RCT = 2.82, RIPT = 3.12) differed from those in the previous studies. The groups in the Tasca et al study (2006) had mean engagement ratings of 4.09 (GCBT) and 4.24 (GPIP), whereas Kivlighan and Lilly's (1997) groups of students showed 2.57 as the mean score<sup>3</sup> for engagement at midtreatment. This is interesting as it confirms our initial belief that engagement may be lower in social phobia groups compared to groups for other psychological disorders. On the other hand, this also indicates that the engagement levels in a non-diagnosed sample of students (as in Kivlighan & Lilly, 1997) may even be lower than that in a clinical sample with social phobia, like ours. This may be interpreted as a function of treatment motivation: Even if a sample of social phobia patients share some disorder characteristics that can reduce group engagement, they also share a motivation to do

something about their problems that works in the direction of a more engaged group climate. The motivation to make the most of their group experience may not be as high in groups of students.

The mean conflict level among the patients in our study (RCT = .63, RIPT = .76) was lower than what has been found in earlier studies. The GCBT groups had a mean level of 1.03 and the GPIP groups, 1.33 in the study by Tasca et al (2006). The student group (Kivlighan & Lilly, 1997) had 1.70 as their midtreatment mean level of conflict. Although the differences are small, this supports our initial prediction that there may be low levels of conflict in groups with social phobia patients, in comparison to other types of groups.

The levels of avoidance among the patients in our study (RCT = 2.50, RIPT = 2.44) are fairly equal to the results from earlier studies, as Tasca et al (2006) found mean levels of 2.60 (GCBT) and 2.35 (GPIP) and Kivlighan and Lilly (1997) found mean midtreatment levels of 2.36 in groups of students. This comparison shows that our initial belief that avoidance among patients in social phobia groups would be especially high was unwarranted.

### **Homogeneity of Group Climate Scores Within Groups**

The ICCs varied across scales, time, and treatment type in this study. Particularly high ICCs were found related to conflict in the RIPT groups, and especially so in the first half of the treatment. Here, the group members were much united in their perception of conflict. Our interpretation of this finding is that obvious conflict in the RIPT groups was a powerful dimension of the group experience, which enabled the group members to “speak with one voice”. Otherwise, the individual’s subjective perception of the group with respect to engagement and avoidance was less related to the other group members’ perception of these dimensions. We believe that the relationship focus in RIPT is the primary cause for this to be the case in RIPT groups, whereas the structured sessions with less focus on intragroup

relationships can cause the patients in the RCT groups to experience a lesser degree of homogeneity related to group conflict.

There were also moderate ICCs on most measurement occasions related to engagement and avoidance for the patients in the RCT groups. Again, the more structured sessions and the more directive leadership style in cognitive therapy may more easily establish common grounds in the group with respect to mutual feelings of friendliness and trust; a trust which may be based on a common feeling that therapy unfolds in a predictable way. The strong relationship focus in the RIPT groups, focusing on learning from the processes going on within the group, may make therapy a more unpredictable experience for these patients, and may cause patients in RIPT groups to have a more individualized perception of the group's engagement.

The results of this study show that the levels of conflict and avoidance were fairly equal across the treatments. Thus, it is interesting to notice the variance amongst the participants within each group with respect to the perception of these factors (Table 5). Whereas the members in the RIPT groups were much united in their perception of conflict, the members in the RCT groups rather shared a perception of avoidance in the group. Group conflict may be one of the themes that have been avoided in the RCT groups. If this is the case, it can contribute to explain these differences between the treatments: Whereas the members in the RIPT groups may have spoken openly about their conflicts in the group, and thus have perceived conflict with much agreement, the members in the RCT groups may have experienced some tension in the group that was not talked about. This may have led to higher agreement on avoidance amongst the RCT members.

### **The Course of the Group Climate**

The scores from the RCT groups also displayed the increasing engagement found in earlier studies (Kivlighan & Jauquet, 1990, Tasca et al, 2006). The rising, quadratic pattern of

engagement development hypothesized by MacKenzie (1990) and in earlier studies (Kivlighan & Lilly, 1997; Tasca et al, 2006) did not occur within the groups in this study. Significantly, among the RIPT patients, there was a linear decrease in engagement – opposite of the predicted direction. There was no quadratic high-low-high pattern of engagement development.

An explanation for the unexpected linear decline in engagement for the patients in the RIPT groups may be that this treatment focuses strongly on the interpersonal issues in the group through the early stages of treatment. Later in the course of treatment, RIPT focuses more on how changes that occur in the treatment situation can be translated to the outside world of the individual group members. This is a strategy that may lead to less interpersonal engagement within the treatment group. In light of the positive outcome results for RIPT patients, we consider this decrease in group engagement as likely resulting from a shift in focus from the intragroup processes in the early stages of treatment to real world relationships in the later stages. For RCT, on the other hand, the rising slope of group engagement may result from patients' positive intrapersonal changes affecting the interplay within the group. These changes may lead to a stronger sense of the possibilities inherent in the relationships with others in the group.

Based on the many discrepancies between this study and other studies on one hand and theory on the other, we believe that the theory of group development (MacKenzie, 1990) that we have applied in this study should be modified. In particular, it needs to be more precisely attuned to specific sample characteristics as well as to specific treatments and treatment formats. There is reason to believe that heterogeneously composed groups (as in the studies by Kivlighan & Lilly, 1997, and MacKenzie, 1983) and groups targeted at binge eating disorder (as in Tasca et al, 2006) will develop differently than groups composed of socially phobic individuals. These groups will often progress slowly, as the members need time to

express themselves in the group. This is often quite different in groups for other disorders, such as those for binge eating disorder, because strong affects are much more openly experienced and displayed in such groups. The theory may also be better suited to describe development in outpatient groups, in which patients meet for therapy once weekly, than groups within residential settings with participants that encounter each other frequently and in a variety of settings.

Others (Kivlighan & Jauquet, 1990; Kivlighan & Lilly, 1997; Tasca et al, 2006) have described conflict development in different ways based on their empirical data, but all seem to differ from the quadratic development that was proposed by MacKenzie (1983). In this study there was no significant time trend or interaction with treatment when all the observations were in the model. However, the results from the additional analysis after removing six outliers showed low-high-low patterns of conflict for both treatments, in accordance with MacKenzie's model for conflict development (MacKenzie, 1983; 1990).

Our hypothesis of reduced avoidance over the course of treatment was not confirmed. It is possible that sample characteristics play an important role. As social phobia would imply problems with social behaviors such as assertiveness, connectedness, and openness, these may be less enhanced during treatment than in groups dealing with other central issues.

Another factor that may be important in the interpretation of our results is that of culture. The impact of culture on group therapy processes is an underdeveloped area of research, and Norwegian culture is yet to be studied in this respect. However, Norwegians in general may be characterized as somewhat socially withdrawn, avoidant of interpersonal conflict, careful not to be too open about themselves, and avoid prying or leading other people in the direction of a potentially embarrassing intimacy. In other words, the stereotype Norwegian may have more in common to social phobia patients than people from countries like the United States. This may contribute to explain the relatively low levels of engagement

and conflict found in our study sample. A high level of avoidance would also be consistent with an explanation emphasizing cultural differences, but this was not found in our study.

### **The Impact of the Group Climate on Outcome**

The individuals' mean level across the time points of engagement, which incorporates many aspects of the concept of cohesion, predicted a positive outcome (decreased anxiety). This further strengthens the empirical relationship between these variables. The same result has been shown in several process-outcome studies of group therapy (Burlingame, Fuhriman, & Johnson, 2001; MacKenzie & Tschuschke, 1994; Marziali, Munroe-Blum, & McCleary, 1997; Taube-Schiff, Suvak, Antony, Bieling, & McCabe, 2007).

### **Methodology and Study Limitations**

The present study of group climate during the course of an inpatient treatment differs from earlier work that examined outpatient treatment or group educational programs. We also only had access to group climate data at four points in time, i.e. every other week, while others collected data after each weekly group session as well as being somewhat longer (14-16 weeks vs. 10 weeks here). These differences may limit comparisons with earlier ones.

The longer the period between measurements, the further the group could develop between measurements. As for the inpatient groups, the members will have had numerous encounters with each other during the period between measurements, both formally in group settings, but also informally. A period of two weeks between measurements is probably not sufficient to capture the fluctuations of the group climate within that period. Nevertheless, we regard the patients' scores as valid expressions about their perceptions of the group climate at these four time points.

This study produced a factor structure (for conflict and avoidance) for the GCQ which was different from what was used in the Tasca et al study (2006), but very similar to the factor structure used in other studies (Kivlighan & Jauquet, 1990; Kivlighan & Lilly, 1997).



This also may limit comparisons between these two studies. Also, as described earlier, the varying magnitude of the intraclass correlations indicate limited validity of findings based on group-level analyses of the group climate. Furthermore, in this study the internal consistency of Avoidance was lower (0.60) than is generally considered optimal.

A reservation must also be made concerning the great number of statistical tests performed in this study. As the number of statistical tests increases, so does the danger of making Type II errors.

### **Conclusion**

The study has described and explored the development of engagement, conflict, and avoidance in a ten-week cognitive and interpersonal group therapy as part of the residential treatment of social phobia. Measurements of the group climate were performed relatively infrequently (four times in 10 weeks) - a fact that should be kept in mind when considering the results. However, the study indicates that there were differences in group climate development between cognitive and interpersonal group therapy in the pattern of engagement. The mean level of engagement also predicted change in social anxiety over the course of treatment. It seems probable that sample characteristics, the treatment models and setting contribute to determining both the levels and the patterns of development of the group climate. Thus, many factors may impact group climate such that one generic model does not seem to fit all groups. MacKenzie's theoretical model of group climate development was not supported by the results of this study. It appears that group development needs to be viewed much more specifically, i.e., in terms of participants, context, content, and culture.

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## Footnotes

<sup>1</sup>Minor fluctuations in the group climate, as described by MacKenzie (1983) we disregarded, as we studied the overall patterns of group climate development.

<sup>2</sup>The group climate in the termination stage was not assessed in this study (see Measures and Procedure chapter). Thus, we expected avoidance to develop as stated in hypothesis (c) and as shown in figure 1.

<sup>3</sup>Kivlighan and Lilly's (1997) mean scores from midtreatment are provided as gamma estimates.

Table 1

*Mean scores of the Social Phobia and Anxiety Inventory (social phobia subscale) at pretreatment, midtreatment and posttreatment, and effect sizes*

Condition	<u>Pretreatment</u>		<u>Midtreatment</u>		<u>Posttreatment</u>		ES
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
RCT	132.17	23.41	119.26	27.98	108.91	35.25	0.76
RIPT	137.55	27.28	122.14	29.01	113.95	33.21	0.77
Total sample	134.86	25.40	120.70	28.35	111.42	34.11	0.76

*Note:* Effect size is computed by the formula,  $d = t_c [2(1-r)/n]^{1/2}$  based on the mean of change from pre- to posttreatment.

Table 2

*Fixed Effect Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of Engagement*

Parameter	Model 1	Model 2	Model 3	Model 4
Fixed effects				
Intercept	3.12* (0.20)	3.11* (0.19)	3.04* (0.20)	3.04* (0.21)
Condition	-0.31 (0.29)	-0.27 (0.27)	-0.27 (0.28)	-0.27 (0.29)
Time	0.03 (0.04)	-0.18* (0.05)	-0.18* (0.05)	-0.18* (0.05)
Condition × Time		0.44* (0.07)	0.44* (0.07)	0.44* (0.07)
Time <sup>2</sup>			0.05 (0.04)	0.05 (0.06)
Condition × Time <sup>2</sup>				-0.00 (0.08)
Random parameters				
Intercept	0.13 (0.09)	0.24* (0.07)	0.24* (0.07)	0.24* (0.07)
Treatment group	0.16 (0.10)	0.14 (0.09)	0.14 (0.09)	0.14 (0.10)
Time <sub>j</sub> /time <sub>j</sub>	0.60* (0.09)	0.44* (0.05)	0.44* (0.05)	0.44* (0.05)
Time <sub>j</sub> /time <sub>j+1</sub>	0.20 (0.13)	-0.02 (0.12)	-0.03 (0.12)	-0.03 (0.12)

*Note:* Hierarchical stepwise analysis showing fixed and random effects, with corresponding standard errors in parentheses, indicating linear (time) and quadratic (time<sup>2</sup>) patterns of engagement. Significant interactions between pattern and condition indicate different developmental patterns for the two treatments. The random parameters are variance of intercept for patient nested within treatment group (intercept), variance of intercept for treatment group (treatment group), variance of scores at each time point (time<sub>j</sub>/time<sub>j</sub>), and covariance between scores at adjacent time points (time<sub>j</sub>/time<sub>j+1</sub>). \*  $p < .05$ .



Table 3

*Fixed Effect Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of Conflict*

Parameter	Model 1	Model 2	Model 3	Model 4
Fixed effects				
Intercept	0.77* (0.20)	0.77* (0.20)	0.78* (0.22)	0.90* (0.23)
Condition	-0.09 (0.29)	-0.08 (0.29)	-0.08 (0.29)	-0.32 (0.32)
Time	0.09 (0.05)	0.02 (0.07)	0.02 (0.07)	0.02 (0.07)
Condition × Time		0.16 (0.10)	0.16 (0.10)	0.16 (0.10)
Time <sup>2</sup>			-0.01 (0.06)	-0.10 (0.08)
Condition × Time <sup>2</sup>				0.18 (0.11)
Random parameters				
Intercept	0.04 (0.08)	0.05 (0.08)	0.05 (0.08)	0.05 (0.07)
Treatment group	0.16 (0.10)	0.16 (0.10)	0.16 (0.10)	0.16 (0.10)
Time <sub>j</sub> /time <sub>j</sub>	0.89* (0.11)	0.87* (0.10)	0.88* (0.10)	0.87* (0.10)
Time <sub>j</sub> /time <sub>j+1</sub>	0.09 (0.11)	0.07 (0.11)	0.07 (0.11)	0.07 (0.11)

*Note:* Hierarchical stepwise analysis showing fixed and random effects, with corresponding standard errors in parentheses, indicating linear (time) and quadratic (time<sup>2</sup>) patterns of conflict. Significant interactions between pattern and condition indicate different developmental patterns for the two treatments. The random parameters are variance of intercept for patient nested within treatment group (intercept), variance of intercept for treatment group (treatment group), variance of scores at each time point (time<sub>j</sub>/time<sub>j</sub>), and covariance between scores at adjacent time points (time<sub>j</sub>/time<sub>j+1</sub>). \*  $p < .05$ .

Table 4

*Fixed Effect Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of Avoidance*

Parameter	Model 1	Model 2	Model 3	Model 4
Fixed effects				
Intercept	2.45* (0.14)	2.45* (0.14)	2.35* (0.15)	2.37* (0.16)
Condition	0.05 (0.20)	0.04 (0.20)	0.04 (0.20)	-0.00 (0.22)
Time	-0.06 (0.04)	-0.02 (0.05)	-0.02 (0.05)	-0.02 (0.05)
Condition × Time		-0.08 (0.07)	-0.07 (0.07)	-0.07 (0.07)
Time <sup>2</sup>			0.07 (0.04)	0.06 (0.05)
Condition × Time <sup>2</sup>				0.03 (0.08)
Random parameters				
Intercept	0.25* (0.08)	0.25* (0.08)	0.25* (0.08)	0.25* (0.08)
Treatment group	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)
Time <sub>j</sub> /time <sub>j</sub>	0.44* (0.06)	0.44* (0.06)	0.43* (0.06)	0.44* (0.06)
Time <sub>j</sub> /time <sub>j+1</sub>	0.12 (0.12)	0.13 (0.12)	0.13 (0.12)	0.13 (0.12)

*Note:* Hierarchical stepwise analysis showing fixed and random effects, with corresponding standard errors in parentheses, indicating linear (time) and quadratic (time<sup>2</sup>) patterns of avoidance. Significant interactions between pattern and condition indicate different developmental patterns for the two treatments. The random parameters are variance of intercept for patient nested within treatment group (intercept), variance of intercept for treatment group (treatment group), variance of scores at each time point (time<sub>j</sub>/time<sub>j</sub>), and covariance between scores at adjacent time points (time<sub>j</sub>/time<sub>j+1</sub>). \*  $p < .05$ .

Table 5

*Intraclass Correlations (ICC) for the Group Climate Scales*

Measurement	GCQ Scale	RCT	RIPT	Total
1	Engagement	0.28	0.21	0.41
	Conflict	0.08	0.73	0.40
	Avoidance	0.05	0.02	0.03
2	Engagement	0.35	-0.03	0.22
	Conflict	0.25	0.73	0.66
	Avoidance	0.42	-0.09	0.19
3	Engagement	0.00	0.05	0.01
	Conflict	0.01	0.41	0.11
	Avoidance	0.15	0.06	0.10
4	Engagement	0.45	-0.03	0.33
	Conflict	0.06	0.33	0.09
	Avoidance	0.24	0.01	0.14

*Note:* The intraclass correlations indicating homogeneity of scores are derived from one-way analysis of variance (ANOVA), where the independent variable was treatment group. The intraclass correlations were computed by the formula:  $ICC = (BMS - WMS) / BMS + (k - 1)$

WMS, where BMS is the between groups mean square, WHS is the within group mean square, and  $k$  is the number of participants in the group.

Table 6

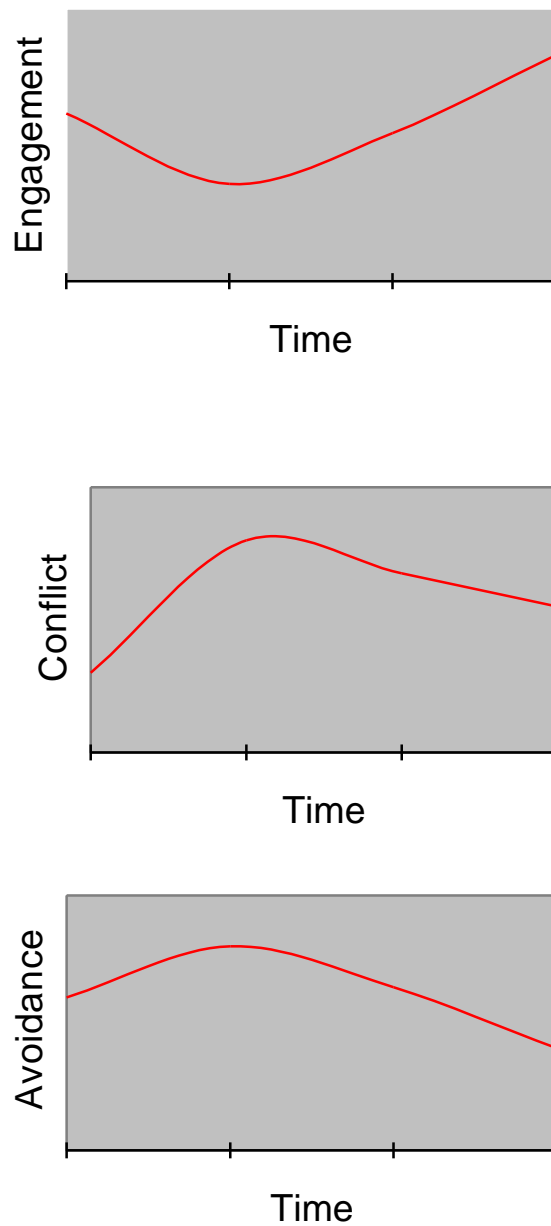
*Social Phobia and Anxiety Inventory Scores predicted by the Group Climate*

Predictor	Coefficient							
		Block 1			Block 2		Block 3	
	$r^2$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	
SPAI admission	.27	.52	5.24**	.53	5.52**	.52	5.41**	
Engagement	.32			-.24	-2.48*	-.00	-.01	
Condition	.34					.47	1.00	
Condition $\times$ Engagement						-.52	-.88	
SPAI admission	.27	.52	5.24**	.52	5.15**	.51	4.99**	
Conflict	.27			.02	.15	.21	.63	
Condition	.27					.08	.53	
Condition $\times$ Conflict						-.22	-.62	
SPAI admission	.27	.52	5.24**	.48	4.80**	.48	4.62**	
Avoidance	.29			.15	1.43	.24	.77	
Condition	.29					.14	.35	
Condition $\times$ Avoidance						-.15	-.31	

*Note:* Multiple regression analyses with the individuals' mean levels of engagement, conflict, and avoidance across the four time points used as predictors of change in anxiety (SPAI-SP scores) during treatment, controlling for pretreatment level of anxiety. The table presents variance in outcome explained by the models ( $r^2$ ), standardized beta weights ( $\beta$ ), and  $t$ -values.

\*\*  $p < 0.001$ , \*  $p < 0.05$ .

Figure 1. The hypothesized development of engagement, conflict, and avoidance during group therapy



*Figure 1.* Based on group development theory (MacKenzie, 1990) we expected engagement to increase in a high-low-high pattern, conflict to increase in a low-high-low pattern, and avoidance to decrease in a low-high-low pattern.

Figure 2. Group Climate Development in Group Therapy for Social Phobia

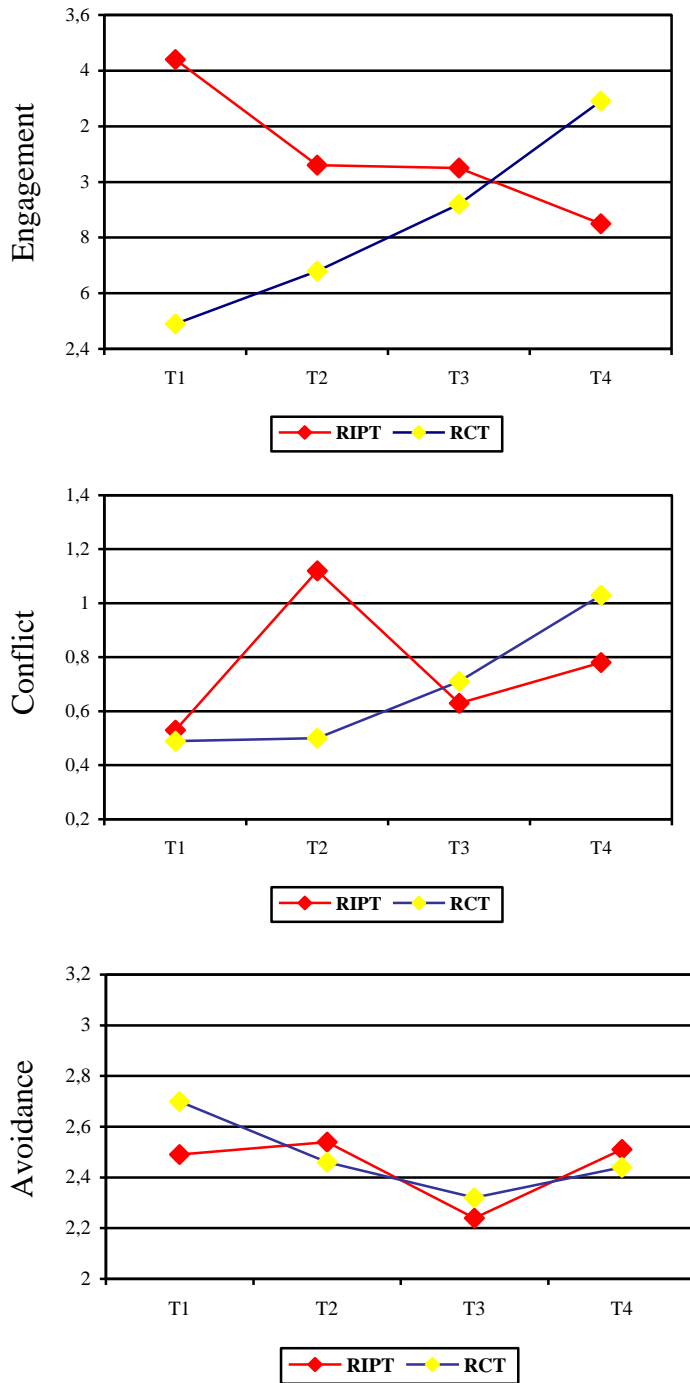


Figure 2. Engagement followed opposite linear patterns in RCT and RIPT. For both treatments, the additional analysis revealed a low-high-low pattern of conflict, whereas no pattern of avoidance was found.