Group Climate, Cohesion, and Curative Climate: A Study on the Common Factors in the Group Process and Their Relation with Members' Attachment Dimensions

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Abstract. This study examined the relationships among the group process measured by the Group Climate Questionnaire, the Cohesion to the Therapist Scale and Cohesion to the Group Scale, and the Curative Climate Instrument to explore higher order factors that explained the group relationship in a sample of 91 female university students attending six interpersonal growth groups. Furthermore, the study examined how group members' attachment dimensions, anxiety, and avoidance were associated to their perceptions of the group relationship. We found that a three-factor model consisting of positive bond, positive work, and negative relationship approached conventional standards of a model fit. Moreover, the results of the study also supported a model with three latent second-order constructs (bond, work, and negative relationship) and two structural perspectives as first-order factors (member-group and member-leader). Contrary to the hypothesis, the theoretical model on the associations between individuals' attachment dimensions and the group process did not fit well with the data. The results of the current study further supported the cross-cultural validation of a model with both quality and structure dimensions of the group relationship. Implications for group process research are discussed.

Keywords: group process, group climate, cohesion, attachment, confirmatory factor analysis

Although previous research has demonstrated the effectiveness of group psychotherapy, identifying the underlying mechanisms by which change is achieved still has several challenges (Burlingame, Strauss, & Joyce, 2013). In group treatment, the individual client is engaged with each member of the group. The individual also experiences the atmosphere of the whole group that results from the mix of all contributions (i.e., member-member, member-group, and member-leader interaction). The qualities specific to group processes create an interactional field that is considerably more complex than that in the individual therapy setting. Group members express numerous interpretations, ideas, suggestions, and common experiences. This provides each member with a wealth of feedback as they form their perceptions about important group processes (Yalom & Leszcz, 2005).

The group process generally refers to what happens in the group. Although there is consensus about the major ingredients of group process mechanisms, there are also a wide variety of conceptualisations of single process components that have resulted in a diversity of empirical approaches, leading to difficulties in summarizing the empirical support. Cohesion and group climate are central concepts in the understanding of group processes (Burlingame, MacKenzie, & Strauss, 2004). Cohesion was defined as the members' sense of belonging to a group and their belief that the group is important to their outcomes (Burlingame, McClendon, & Alonso, 2011; Yalom, 1995 a Yalom & Leszcz, 2005), whereas group climate (MacKenzie, 1983) is an indicator of the atmosphere in a group,

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and it was defined as a multidimensional construct that comprises a participant's perception of other members' engagement with the group, avoidance of important or difficult topics, and conflict among group members. Other constructs such as catharsis have been indicated as therapeutic factors in group interventions: catharsis was defined as a measure of the helpfulness of releasing emotional material that has been suppressed or controlled (Fuhriman et al., 1986).

The Johnson et al's three-factor Model of the Group Relationship

Previous research has explored interrelations between the group process concepts, such as cohesion, group climate, and alliance, which have consistently been linked to patient improvement (Burlingame, Fuhriman, & Johnson, 2001). Although there are important clinical differences between these concepts, recent research has shown that they are empirically interrelated in counselling and training groups (Johnson, Burlingame, Olsen, Davies, & Gleave, 2005). For instance, process studies have uncovered an empirical overlap between cohesion and alliance (see Gillaspy, Wright, Campbell, Stokes, & Adinoff, 2002; Marziali, Munroe-Blum, & McCleary, 1997; Joyce, Piper, & Ogrodniczuk, 2007), alliance and empathy (Horvath, 1994), and empathy and group climate (Phipps & Zastowny, 1988).

From a theoretical perspective, Burlingame, Fuhriman, and Johnson (2001) suggested that several group process concepts could be considered as parts of a high-order general factor, namely the group therapeutic relationship. To date, there are six international studies that have tested how well a general model of the group relationship might explain variance associated with measures that tap four group processes (cohesion, climate, empathy, and alliance), all of which have been separately linked to treatment effectiveness. In Johnson et al.'s (2005) study, some constructs (e.g., empathy and alliance) were so highly correlated (greater than r=.90) that they proposed three latent variables (positive bonding, positive working, and negative empathy) that best represented the relationship constructs in their data. The first component represents the *positive relational bonds* in the group: the individual member's emotional connection or attachment to the other members of the group, the therapist, and the group as a whole. The second component represents the *positive working relationships* in the group: the individual member's collaborative engagement in therapeutic work with the other members, the therapist, and the group as a whole for the purpose of progressing towards treatment goals. Finally, the third component represents the *negative relationship factors* that may be

operating in the group: those aspects of the group process that may adversely affect member attachments or impede the therapeutic work. Moreover, the results of the study suggested that these three relationship components are crossed with three latent structural variables that describe the main relationships that occur in group treatments, specifically member-member, member-leader, and member to group.

Bakali, Baldwin, & Lorentzen (2009) in a study from Norway also reported a three-factor group process model. However, the findings of these studies are different than the model proposed by Johnson et al. (2005): the factorial structure proposed by Bakali et al. (2009) was a three-factor model but contained a member-leader alliance, a member-group cohesion, and a negative relationship factor. The first factor indicates that the concept of alliance is primary linked to the therapist, and that it contains both working and bonding processes. The second factor includes scales for bonding to the leader and bonding to the member group. The findings indicated that the role-based distinction, that is, the relation between member-member, member-leader, and member-group, failed to fit the data. There are several reasons Bakali et al.'s (2009) study may have produced different results from the Johnson et al.'s (2005) study. First, it did not use the same measures as Johnson et al. (2005), which is the most likely explanation for lack of replication. Second, a very different interaction pattern with the group leader preceded the group sessions. Because the treatment was group-analysis, the leader met individually with group members (1-5 sessions) (see McClendon & Burlingame, 2010), patients received more information about the group, and a treatment contract was negotiated. This individual contact with the group leader before the group began could explain why the therapist alliance was strong in the first part of the Norwegian analysis. However, four subsequent studies (Borman & Strauss, 2007; Bormann, Burlingame, & Strauss, 2011; Krogel, Burlingame, Chapman, Renshaw, Gleave, Beecher, & Macnair-Semands, 2013; Thayer, 2012) have supported the quality dimension of the therapeutic relationship replicating Johnson et al.'s (2005) three-factor model and also demonstrating that adding the relationship structure (member-member, member-leader, and member to group) improved the model's fit.

The current study aimed to provide a cross-cultural extension of these previous studies on the common group process to interpersonal growth groups with university students, in an Italian context. It is noteworthy that also in the Johnson et al. (2005) model, group data were recruited from a non-clinical population (336 participants) attending two-day training groups at the meeting of the American Group Psychotherapy Association.

Group Members' Interpersonal Style and Attachment Representations: Are They Linked to the Group Process?

Given these promising findings, it is also important to understand the precursors of the group process. In this regard, McClendon and Burlingame (2010) suggest that a group member's interpersonal style or presenting problem would be related to the member's perception of the group process. Dinger and Schauenburg (2010) showed that interpersonal style moderated the predictive relationship between cohesion and treatment outcome. Patients who described themselves as too cold in interpersonal relations reported greater improvement when group cohesion increased over the course of treatment. Closely related to interpersonal problems are patients' attachment representations. Several researchers have used attachment theory (Bowlby, 1969) to understand the schemas that group members use to perceive both themselves and other group members (Marmarosh, Markin, & Spiegel, 2013). For example, Harel, Shechtman, and Cutrona (2011) and Illing, Tasca, Balfour, and Bissada (2011) found that attachment dimensions were related to an individual group member's perception of group climate. Kivlighan, Lo Coco, and Gullo (2012) examined the relationship between a group member's own attachment dimensions and their own ratings of group climate by taking into account the attachment status of the other group members, with the actor-partner interdependence analysis. For example, are a group member's perceptions of the group climate also dependent on the aggregated attachment anxiety levels of his/her other group members? The results indicated that attachment anxiety and avoidance of the other group members were positively related to a member's perception of group conflict and negatively related a member's perception of group engagement, supporting the importance of studying group members in the context of the group and not to continue to conduct pseudo-unilateral research (Krasikova & LeBreton, 2012).

Research on adult attachment measures shows two dimensions: avoidance and anxiety that characterize an individual's schemas of self in relationship to others (Brennan, Clark, & Shaver, 1998; Collins & Feeney, 2004). Individuals high on attachment anxiety constantly seek approval from others while simultaneously fearing others' rejection and abandonment. This is because individuals with high attachment anxiety have a positive view of others combined with a negative view of self. People high on the avoidance attachment dimension are afraid of depending on others and therefore tend to be hyper self-reliant. By contrast to individuals high in attachment anxiety, those high on avoidance anxiety view other people negatively. In the current study, we examined these two attachment dimensions as characteristics that are related to group members' perceptions of the group process. To our knowledge, no previous studies examined the association between individuals' attachment dimensions and the common factors of the group process.
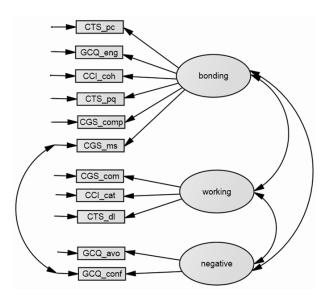

Figure 1. The first model fit statistics. Chi-squared: 44.31, df = 41. Comparative fit index: .976. RMSEA: .017. *p* for test of close fit: .788.

CGS = Cohesion Group Scale; GCQ = Group Climate Questionnaire; CCI = Curative Climate Inventory; CTS = Cohesion Therapist Scale; ms = mutual stimulation; eng = engagement, coh = cohesion, pq = positive qualities; comp = compatibility; pc = personal compatibility; com = commitment, cat = catharsis; dl = dissatisfaction role leader; conf = conflict.

Based on the previous group counseling research and on attachment theory, the current study had two purposes: first, we estimated the interrelations between the process measures of the Group Climate Questionnaire (GCQ; MacKenzie, 1983), the Cohesion to the Therapist Scale (CTS) and Cohesion to the Group Scale (CGS; Piper, Marrache, Lacroix, Richardsen, & Jones, 1983), and the Curative Climate Instrument (CCI; Fuhriman et al., 1986) in order to test if higher order factors might explain the therapeutic relationship in a group in a manner that replicated past research. Figure 1 displays a diagram of the theoretical model we tested in the current study. In this model, however, only one measure (GCQ) replicates measures used to create the Johnson et al.'s (2005) factor model. In the current study, the CTS and CGS were used because there was preliminary evidence of their good psychometric properties with Italian samples (Gullo et al., 2012), whereas the Cohesion Subscale of the Therapeutic Factors Inventory (TFI, Lese & MacNair-Semands, 2000) was not tested yet in Italian group settings; however, it shows high correlation with the Piper et al.'s (1983) cohesion scale. Finally, we adopted the CCI in order to extend Johnson et al.'s (2005) model, according to results of a previous

study of Johnson, Pulsipher, Ferrin, Burlingame, Davies, and Gleave (2006), which showed that the CCI was interrelated with the GCQ, providing evidence that the subscales of both instruments could be grouped into two higher orders that represent positive and negative group processes.

In the current study, we evaluated the degree to which the theoretical model we have hypothesized provides a useful description of the group process by examining the fit of a three first-order factor model that represented a combination of the quality/content-based model. This model included the positive bonding, positive working, and negative relationship factors (see Figure 1). We expected that the positive bonding subscales (CCI-Cohesion, GCQ-Engagement, CGS-Mutual Stimulation and Effect, CGS-Compatibility of the Group, CTS-Positive Qualities, and CTS-Personal Compatibility) would be loaded on the first factor; the positive working subscales (CGS-Commitment to the Group, CTS- Dissatisfaction with the Therapist Role, and CCI-Catharsis) would be loaded on the second factor; and the two negative subscales of GCQ (Avoidance and Conflict) would be loaded on the third factor.

In addition, accordingly with the aforementioned literature that examined the Johnson et al. (2005) model, we added to the first model the structure of relationships dimension as a second-order factor. In the second-order model, the positive bond factor was distinguished as whole group bonding and a bonding towards leader, as well as the positive work factor was distinguished as whole group working and a leader working, in line with the Burlingame et al. (2004) model, which highlighted distinctions among a group-level (member-group) and an individual level (member-leader) relationship construct. Member-group and member-leader relationships were most emphasized in psychodynamic models such as Foulkes' (1975).

The second goal of the study was to explore how a group member's attachment dimensions, anxiety and avoidance, were associated to his/her perception of relationship in the group. Based on the attachment and group treatment literature, we hypothesized a different pattern of relation between an individual's attachment dimensions and group relationship. For the first-order factors model, we predicted that both attachment anxiety and avoidance dimensions would be negatively related to the positive bond and work factors and positively related to the negative relationship factor.

Method

Participants

Participants were 116 Italian graduate students, 94 of them women (81%) and 22 men (19%), enrolled in a class on group processes. Students' ages ranged from 21 to 26 (M=22.3, SD=1.5). Participants took part in six groups (group size ranged from 12 to 20) led by six experienced group leaders (four men and two women, ages ranging from 40 to 56 years). The group leaders were psychologists with an average postdoctoral experience of 14.5 years (range=7–22 years) in conducting group counseling with an interpersonal orientation. Group leaders met biweekly with a separate senior supervisor who was an experienced PhD-level psychologist and expert in group counselling. All group members signed statements of informed consent to participate in this study.

Group process

Groups met weekly for 8 weeks for a total of 8 sessions. Sessions lasted 2 hours and 30 minutes. The theoretical approach taken in leading these groups was psychodynamic, with a focus on members' interpersonal themes in the here-and-now experience of the group. The group leaders facilitated the communication between members by exploring the implicit references to the counsellor or other group members to create a here-and-now experience. Group members dealt with interpersonal issues related to the dynamics within the group or outside of it. Individuals explored their concerns at both a cognitive and emotional level, and the group members helped the process by reflecting on their own feelings, providing feedback, and sharing their own experiences.

Measures

The Group Climate Questionnaire-Short Form (GCQ; MacKenzie, 1983) is a 12-item self-report measure of the group members' perceptions of the group atmosphere. Participants rate items on a 7-point Likert scale ranging from "not at all" to "extremely." The GCQ has three subscales: Engagement, which is composed of items pertaining to self-disclosure, cognitive understanding, and confrontation; Avoidance, with items measuring the extent that group members avoid responsibility for their change processes; and Conflict, which measures interpersonal conflict and distrust (MacKenzie, 1983). According to McClendon and Burlingame (2010), the GCQ is the most commonly used measure of group climate and there are a large number of studies supporting its validity. The Italian version of the GCQ showed good psychometric properties (Costantini, Picardi, Podrasky, Lunetta, Ferraresi & Balbi, 2002). The Cronbach's alphas in this study were .72 for Engagement, .59 for Avoidance, and .74 for Conflict. These Cronbach's alphas are similar to those reported by Johnson et al. (2005) for clients from the United States. In two previous studies with

Italian samples, the Cronbach's alphas for the GCQ Avoidance and Conflict subscales were .54 (Prestano, Lo Coco, Gullo, & Lo Verso, 2008) and .48 (Kivlighan, Lo Coco, & Gullo, 2012), respectively. Although several studies on group process found the GCQ Avoidance subscale to be psychometrically problematic, the GCQ remains one of the most commonly used measures in group research (Burlingame et al., 2004).

The Cohesion to the Therapist Scale (CTS) and Cohesion to the Group Scale (CGS) (Piper et al., 1983) self-report scales are composed by two questionnaires (of 9 items each, assessed with a 6-point Likert scale) that measure the cohesion to the therapist and to the group as a whole. The form that evaluates the cohesion compared to the therapist provides scores on three areas: the Positive Qualities subscale reflects the member's perceptions of the therapist's trustworthiness and likeability. The Personal Compatibility subscale reflects the member's perceptions of the therapist's similarity, familiarity, and friendship potential. The Dissatisfaction with the Therapist's Role subscale reflects the member's perception of the therapist's activity, attentiveness, or expressiveness. Higher scores on the dissatisfaction with therapist role scale mean greater satisfaction with the therapist's work. The Cronbach's alphas in this study were .69 for Positive Qualities, .74 for Personal Compatibility, and .71 for Dissatisfaction.

The form that evaluates the cohesion to the group takes into account the three areas of "Mutual stimulation and effect" that examines engagement, inclusion, and influence; "Commitment to the group" that describes attending the group and desire for the group to continue; and "Compatibility of the group" examines fit and attractiveness to the group. The Cronbach's alphas in this study were .50 for Mutual stimulation, .69 for Commitment, and .73 for Compatibility. Because of the low reliability of the Mutual stimulation subscale in our sample, we decided to analyze only the Commitment and Compatibility subscales.

The Curative Climate Instrument (CCI) (Fuhriman, Drescher, Hanson, Henrie, & Rybicki, 1986) is a measure of the helpfulness of therapeutic factors present in the group therapy, which is derived from Yalom's 12-factor theory of curative influences in groups. The self-report instrument consists of 14 items on a 5-point Likert scale, indicating the degree of concurrence ranging from "not helpful" to "extremely helpful" and it is proposed as a measure of three of the 12 factors identified by Yalom: Catharsis, which measures the helpfulness of the release of emotionally loaded material that has been suppressed or controlled (Fuhriman et al., 1986); Insight, designed to measure the helpfulness of experience and understand oneself in a new way; and Cohesion, which measures the helpfulness of the force holding the group together. The Cronbach's alphas

in this study were .70 for Catharsis, .34 for Insight, and .79 for Cohesion. Because of the low reliability of the Insight subscale in our sample, we decided to remove this subscale from the study.

The Attachment Style Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994) is a self-report questionnaire used to assess individual differences in the quality of attachment. The instrument, which consists of 40 items assessed on a 6-point Likert scale (from "strongly disagree" to "totally agree") identifies five dimensions: Confidence in Relationships (related to secure attachment); Discomfort with Closeness (linked to avoidant attachment); Need for Approval (detectable as fearful/worried), Preoccupation with Relationships (characterizing the attachment anxiety/ambivalence); and Relationships as Secondary (connected with the dismissing attachment style). Two dimensions (relationship anxiety and avoidance of closeness) have consistently been identified using this measure (Stein et al., 2002). The relationship anxiety dimension consisted of 15 items (from the Need for Approval and Preoccupation with Relationships subscales), whereas the avoidance dimension comprised 25 items (from the Discomfort with Closeness, Relationships as Secondary, and [low] Confidence subscales). In the present study, the Italian version of the ASQ was used (Fossati et al., 2003), and the two dimensions had good internal consistency of .80 for anxiety and .79 for avoidance.

Procedure

The 116 members were randomly assigned to six groups, each containing from 12 to 20 members. No participants discontinued the group. Prior to the beginning of the groups, all participants filled out the ASQ and a demographic information form. The CTS, CGS, the GCQ, and the CCI were completed following the 3rd session, in order to get an early group relationship assessment, according to previous literature on the group process (Johnson et al., 2005).

Data screening showed 14 subjects with missing data: 4 cases with two or more missing items for a subscale were deleted, and 10 cases with one missing item were treated by replacing the missing value with the average of that subscale. After these procedures, the sample comprised 112 subjects: 91 females and 21 males. Given the low number, the male group was excluded from the analyses and focus was on the female group. All the analyses and the models tested in the study were performed on the final sample consisting of 91 females (Mage=23.4 years, SD=1.8), and no substantial violation of normality was found regarding the data distribution (Skewness <1, Kurtosis <1).

Data Analysis

The proposed models were tested with Confirma-

Table 1. Descriptives and correlations among study variables (*N*= 91 females)

	Mean	SD	Skewn	Kurt	1	2	3	4	5	6	7	8	9	10	11	12
1 ASQ_anx	47,19	8,79	0,36	-0,25	-											
2 ASQ_avo	18,21	12,30	0,18	-0,36	0,562	-										
3 GCQ_eng	4,28	1,01	-0,12	-0,48	-0,079	-0,160	-									
4 GCQ_avo	2,87	1,05	0,75	0,78	0,067	,220*	-0,010	-								
5 GCQ_conf	2,92	1,13	0,70	0,58	0,117	0,204	-,256*	,563**	-							
6 CTS_pq	14,62	2,17	-0,27	0,10	-0,132	0,123	-0,048	0,174	0,182	-						
7 CTS_dl	11,62	2,83	-0,11	0,13	-0,116	0,015	0,205	0,055	-0,066	0,062	-					
8 CTS_pc	9,55	2,19	0,24	0,34	-0,143	-0,081	0,025	0,000	0,062	,234*	0,017	-				
9 CGS_ms	10,11	2,77	-0,17	0,06	-0,168	-0,013	,324**	-0,130	-0,017	0,142	0,088	,326**	-			
10 CGS_com	13,21	2,03	0,02	-0,22	-0,170	0,013	0,002	-0,145	-0,109	0,091	-0,057	,257*	,241*	-		
11 CGS_comp	12,85	2,04	-0,11	0,62	-0,173	-0,034	,596**	-0,169	-,376**	0,157	0,203	0,146	,540**	,300**	-	
12 CCI_cat	11,37	3,89	-0,05	-0,84	-0,185	-0,062	,256*	-0,094	-0,012	0,163	-0,006	,263*	,430**	0,188	,341**	-
13 CCI_coh	17,35	5,40	0,00	-0,59	-0,164	-0,054	,562**	-0,140	-,344**	0,103	0,087	0,193	,546**	,244*	,760**	,471**

Note. CGS = Cohesion Group Scale; GCQ = Group Climate Questionnaire; CCI = Curative Climate Inventory; CTS = Cohesion Therapist Scale; ms = mutual stimulation; eng = engagement; coh = cohesion; pq = positive qualities; comp = compatibility; pc = personal compatibility; com = commitment; cat = catharsis; dl = dissatisfaction role leader; avo = avoiding; conf = conflict; anx = anxiety.

tory Factor Analysis, using maximum likelihood estimation in AMOS 18.0. Several indices were used to evaluate the goodness-of-fit between the models and the data: the model chi-square (χ^2; non-significant values indicate good fit), the comparative fit index (CFI) (values close to 1 indicate good fit), the Tucker Lewis fit index (TLI), and the root-mean-square error of approximation (RMSEA) (values less than or equal to .05 indicate good fit). Modification indices were used in order to improve model fit, only correlate errors for which there was a theoretical rationale correlation between them were added in order to improve fit.

Results

Descriptives and correlations among the study variables are presented in Table 1. Since participants are nested in different groups, the intraclass coefficient (ICC) was preliminarily calculated. The ICC values ranged from .005 to .05 for CTS and CCI subscales and from .003 to .07 for GCQ and CGS subscales, showing a moderate effect of dependency among observations due to nested nature of data. Regarding the first aim of the study, the goodness of fit indices for the first model tested are presented in Table 2. Results from the CFA provided a good fit: χ^2 was not significant (*p* = .39), χ^2/df was less than 2, the values for the CFI, GFI, and TLI were 0.961, 0.915, and 0.927, respectively, and the RMSEA was 0.023, while p for test of close fit 0.788. Modification indices suggested the opportunity to add a correlation between CCI catharsis and GCS personal compatibility errors, which indicated the

items are more highly associated with one another. The results indicated that the relationships among cohesion, group climate, and curative climate are accounted for by the proposed three-factor model based on content/quality. Consistent with our hypothesis, all correlations and regression weights for this model were significantly correlated (see Figure 1). The positive Bonding factor showed high to low factor loadings on the six scales (.87 to .17). The Negative Relationship factor showed moderate factor loadings in both the two scales (.46 and .53), whereas the positive Working factor showed a moderate loading on one predicted subscale (Catharsis, .52) and lower loadings on the remaining two (Commitment and Dissatisfaction with Leader Role, .33 and .18, respectively). Furthermore, as expected, the correlation between Bonding and Working factors was positive and statistically significant. The negative correlation between the Negative Relationship and the positive Working factor was statistically significant, as well as the association between the Negative Relationship and the positive Bonding factor (see Figure 1).

In the second step, we added the structure of relationships dimension to the model (member-leader and member-whole group). Therefore, we tested a model that held the three second-order latent constructs and two first-order structural perspectives (member-leader and member-group) (see Figure 2). The fit indices for the model showed that χ^2 was not significant (*p* = .30), and χ^2/df was less than 2, the CFI was 0.905, GFI was 0.925, and TLI was 0.910 (see Table 1). The Akaike information criterion (AIC) for the first and second model was 93.94

and 96.12, respectively. Although AIC do not test whether one model is "significantly" better than another model, lower AIC value indicates that the first model was better than the second (Schermelleh-Engel, Moosbrugger, & Müller, 2003).
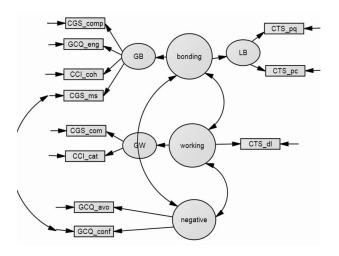

Figure 2. The second model fit statistics. Chi-squared 45.09; df = 39; comparative fit index: .954, RMSEA: .039, *p* for test of close fit: .364.
CGS = Cohesion Group Scale; GCQ = Group Climate Questionnaire; CCI = Curative Climate Inventory; CTS = Cohesion Therapist Scale; ms = mutual stimulation; eng = engagement, coh = cohesion, pq = positive qualities; comp = compatibility; pc = personal compatibility; com = commitment, cat = catharsis; dl = dissatisfaction role leader; conf = conflict.

Regarding the second aim of our study, we tested the association among members' attachment dimensions and the three latent factors (Bonding, Working and Negative Relationship) of the group process by path analysis. The hypothesized model is shown in Figure 3. Goodness-of-fit indices (see Table 2) for the model indicated inadequate overall model fit, with χ^2 (57)=67.49, p=.16; χ^2/df=1.18; GFI=.885; CFI=.839; and RMSEA=.080.

Discussion

This study investigated a theoretical model of the interrelations among different measures of group process in order to find higher order factors that explained and represented the therapeutic relationship in group. We found support for the three-factor quality model (positive bonding , positive working, and negative relationship). The first factor includes the largest number of subscales: the GCQ-Engagement, CGS-Mutual stimulation and effect, CGS-Compatibility of the group, CCI-Cohesion, loaded into this factor, as well as CTS-Positive qualities and CTS-Personal compatibility subscales. Therefore, the positive relational bonding to the group consists of different aspects, i.e., the member's commitment to the group and the member's feeling of belonging to the group, as well as aspects related to the emotional attachment that connects members in the group, such as personal compatibility, trust, and confidence towards the other group members and the leader.
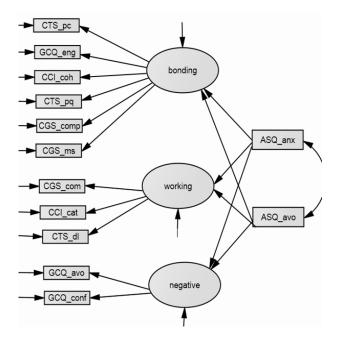

Figure 3. The hypothesized third model fit statistics.
CGS = Cohesion Group Scale; GCQ = Group Climate Questionnaire; CCI = Curative Climate Inventory; CTS = Cohesion Therapist Scale; ASQ = Attachment Styles Questionnaire, ms = mutual stimulation; eng = engagement, coh = cohesion, pq = positive qualities; comp = compatibility; pc = personal compatibility; com = commitment, cat = catharsis; dl = dissatisfaction role leader; conf = conflict; avo = avoiding, anx = anxiety.

Table 2. Fit Statistics for Confirmatory Factor Analyses (*N*=91 females)

Models	X^2 (df)	X^2/(*df*)	GFI	CFI	TLI	RMSEA	AIC
1st model (B,W, NR)	41.94 (40); *p* = .39	1.05	0.915	0.961	0.927	0.023	93.94
2nd model (B; W; NR; LB; WGB; LW; WGW; WGNR)	42.09 (38); *p* = .30	1.13	0.905	0.954	0.910	0.039	96.12
3rd model (B; W; NR; ANX; AVO)	67.49 (57); *p* = .16	1.18	0.885	0.839	0.779	0.080	135.49

Note. B = Bonding; W = Working; NR = Negative Relationship; LB = Leader Bonding; WGB = Whole Group Bonding; LW = Leader Working; WGW = Whole Group Working; WGNR = Whole Group Negative Relationship; ANX = ASQ Anxiety; AVO = ASQ Avoiding.

The positive working factor includes the CGS-Commitment to the group, CCI-catharsis subscales and CTS-Dissatisfaction with the therapist role. The working relationship can be defined by the member's working capacity to disclose his/her own emotional material in the group, by attending the group and desire for the group work to continue, and by a member's perception of a personal fit with the therapist's working activity. In the third factor, both GCQ Avoidance and Conflict had a positive loading onto the factor. The Negative Relationship reflected the members' tendency to avoid taking responsibility for the work of therapy, and the friction and distrust among group members. Moreover, the bonding has a positive correlation with working, suggesting that a group that is bonding well together is likely to be working well, consistent with the Krogel et al. (2013) study. The working factor was also negatively associated with the negative relationship, while the association between the positive bonding and the negative relationship factors did not approach statistical significance.

The three factors that accounted for the relationship in group we found in this study are consistent with previous literature (Johnson et al., 2005) that found evidence for a positive bonding, positive working and negative relationship, a quality dimension of group relationship. It is noteworthy that a three-factor model was found in the current study using different measures and different methods from the Johnson et al. study. This suggests that the three factor are important general group constructs that are bound to specific measures. On the other hand, given the substantial methodological differences between the two studies, we could not fully replicate the theoretically proposed model by Johnson et al. (2005). For example, the subscales that loaded on the positive working factor were quite different in the two studies; in the current study we measured working constructs other than tasks and goals of group counseling. Further research is needed to investigate which working concepts and aspects may represent the working relationship factor in different group settings.

The results of the current study also supported a model with three latent second-order constructs (bond, work, and negative relationship) and two structural perspectives as first-order factors (member-group and member-leader). Consistent with the six studies following the Jonson et al.'s (2005) seminal paper, our findings also seem to support both quality and structure dimensions of group relationship, and the cross-cultural validation of this model may add strength to the empirical understanding of the therapeutic relationship in group. The main difference between our findings and those reported by the Krogel et al. (2013) study, is that in our study the comparison between the two models (quality vs quality/structure)

showed a small degree of variation in the goodness of fit indices, suggesting that both models may be empirically useful in representing the group process. However, the model that retained both the quality and structural dimensions of group relationship makes good theoretical sense and can empirically support important clinical differences among the structural aspects of relationships in groups.

From a clinical perspective, there are good reasons to keep the structure dimension: for example, if a low positive bond would emerge from the group members, it could be important to test whether it is across all the structural elements or if there is one component that is strong (member-leader) that can be used to address weaker elements. In the current study, we were only able to test two structural dimensions (member-group, and member-leader); thus the three structural dimensions of previous research, including also the member-member relationship, could not be replicated. However, our findings may be in line with the Burlingame et al. (2004) model, which highlighted distinctions between group-level (member-group) and individual level (member-leader) relationship constructs.

There are now seven studies that assessed the combined factor structure of group process measures and produced a 3-factor latent variable structure that explained results from both clinical and nonclinical groups (i.e., Bakali et al., 2009; Bormann & Strauss, 2007; Johnson et al., 2005; Krogel et al., 2013). These promising findings also led to the development of a composite measure of group relationship. The Group Questionnaire (GQ; Krogel et al., 2013) demonstrated good properties and was linked to patient's outcome (Burlingame et al., 2011). The GQ represents a clinically and empirically useful tool to conceptualize the group process, which can be used to track process change, and may provide valuable information to the leader about the therapeutic relationship in group treatment.

The current study was conducted with graduate students attending interpersonal growth groups, and this limits the generalizability of the findings. However, as previously mentioned, in the Johnson et al. study (2005), some data were used from a non clinical population attending two-day training groups at the meeting of the American Group Psychotherapy Association. Moreover, Yalom and Leszcz (2005) contend that whereas training groups are not therapy groups, they can be therapeutic because they provide the opportunity to do therapeutic work. In addition, reviews of therapeutic factors research conclude that outpatient therapy groups and training groups have a very similar rank ordering of the therapeutic factors.

The second aim of our study was to examine how a member's attachment dimensions, anxiety and avoidance, were related to his/her perception of relationship in group. Our results did not support the hypothesized relationships. Contrary to the hy-

pothesis, the test of the association among member's attachment dimensions and the three latent factors (bonding, working, and negative relationship) did not yield an adequate fit. We can argue that this result could be due to the high number of variables included in the path diagram, in contrast with the relatively small sample size.

These findings are also in sharp contrast to the previous literature (Illing et al., 2011; Harel et al., 2011) that found significant positive relationships between a group member's attachment anxiety and her or his ratings of the group's avoiding and conflict climate and a significant negative relationship between a group member's attachment anxiety and her or his engaged climate rating. However, these results are consistent with a previous group study with an Italian non clinical sample (Kivlighan et al., 2012), which showed that a group member's attachment pattern (anxiety and avoidance) was unrelated to her or his perceptions of group climate. The findings of the current study suggest that association between attachment dimension and perception of relationship in group could be less strong in nonclinical samples. However, further research need to be conducted in order to confirm this hypothesis.

Some important limitations must be considered when interpreting the results of this study. First, data were collected only from group members. Further research regarding the influence of the group leader's behaviors on members' perceptions of the group process is warranted. A second limitation arises from the fact that the study included a sample of graduate students in an Italian university and a small number of groups. Further research with larger and different types of samples from different countries and community-based patients would be useful. Third, it is important to note that given the relative small sample size in proportion to the number of study variables, and because measurement error associated with latent traits was not considered in the models, the results should be considered exploratory in nature. Moreover, analyses showed a moderate effect of dependency among observations; this violation of independence must be considered a limitation of the present study. Finally, our analyses are limited to associations among variables, and do not permit causal conclusions.

In summary, the results of the current study further supported the cross-cultural validation of a model with both quality and structure dimensions of group relationship. We believe that this model may help group leaders in conducting group therapies and to better understand how group relationship develops in group settings.

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