
Measuring Group Dynamics: An Exploratory Trial

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ABSTRACT

This article reports on the development of a scale used to assess and measure group dynamics during group supervision counselling courses (practicum and internship). A 20-item Likert-type scale was administered to 200 counsellors-in-training master's students. Reliability and validity data are described. An exploratory factor analysis yielded three factors that accounted for 64.4% of the variance. The results of the study support the assessment of group dynamics using the *Group Dynamics Inventory*. Additionally, the study suggests the possible utility of the *Group Dynamics Inventory* as a teaching tool to help supervisors to monitor the dynamics in courses that involve group supervision in counsellor training settings such as practica, internships, and fieldwork placements.

RÉSUMÉ

Cette étude rend compte de l'élaboration d'une échelle utilisée pour évaluer et mesurer la dynamique de groupe pendant les cours supervisés de counseling de groupe (stages et travaux pratiques). Une échelle de type Likert à 20 points a été administrée à 200 stagiaires préparant la maîtrise. Les données de fiabilité et de validité sont décrites. Une analyse factorielle exploratoire a révélé trois facteurs qui rendent compte de 64,4 % de la variance. Les résultats de l'étude corroborent l'évaluation de la dynamique de groupe obtenue par l'Inventaire de la dynamique de groupe. En outre, l'étude donne à penser que l'Inventaire de la dynamique de groupe pourrait servir dans les cours qui impliquent de la supervision de groupe dans les milieux de la formation en counseling, tels que les travaux pratiques, les stages et les placements sur le terrain, pour aider les superviseurs à contrôler la dynamique en tant qu' instrument d' instruction dans ces cours de counseling essentiels.

There is little disagreement in the counselling field that group counselling and group therapy are successful approaches to modify behaviour, attitudes, values, and beliefs, to accomplish tasks, and to deal with other interpersonal and intrapersonal issues (DeLucia-Waack & Bridbord, 2004). Group dynamics are complex and powerful social processes that impact group members in a way that is unlike dyadic interplays (Forsyth, 1999). Thus, the power and effectiveness of

groups and particular components of groups, such as group dynamics, can be useful tools in the professional and personal development of counsellors. However, although a number of studies about group dynamics have been published (Marcus, 1998; Mullen, Driskell, & Salas, 1998; Wyatt Seal, Bogart, & Ehrhardt, 1998), there is also clear indication that more information is needed in order to gain a better understanding of group dynamics (Burlingame, Fuhriman, & Johnson, 2002; Fuhriman & Burlingame, 1994; MacNair-Semands, 2000).

The literature about group dynamics is not very clear on how variables such as altruism, universality, and group cohesiveness can be used in a teaching setting, particularly with teaching group counselling (MacNair-Semands, 2000). Additionally, a number of researchers in group work have suggested that the composition of the group has a direct impact on member outcome (Kivlighan & Tarrant, 2001). Interaction among members often determines the group dynamics and, in turn, the therapeutic factors that rise from these dynamics (Yalom, 1995). Therefore, it appears practical to develop an instrument that investigates group dynamics in general. A number of instruments have been created to assess outcomes and/or symptom reduction among group members and investigate group dynamics to some degree (DeLucia-Waack & Bridbord, 2004; Riva & Smith, 1997). Many of these instruments, however, were developed to be used specifically for these studies, which do not provide information about the group dynamics of relatively normal populations, such as counsellors-in-training. Alternatively, skills training instruments have been developed to assess skill development when teaching counsellors-in-training how to facilitate group counselling (Downing, Smaby, & Maddux, 2001; Smaby, Maddux, Torres-Rivera, & Zimmick, 1999). These types of instruments are unfortunately limited to assessing entry-level counselling skills, such as eye contact, summarizing, paraphrasing, and so on (Urbani et al., 2002).

Yalom's (1995) comprehensive literature review of therapeutic factors discussed the complex process of therapeutic change and how the interplay of human experiences occurred in a group setting. For the development of the Group Dynamics Inventory, three therapeutic factors were explored: (a) altruism, (b) universality, and (c) group cohesiveness. These factors were used because a number of studies link them with group environment or group climate (Frank-Saracini, Wilbur, Torres Rivera, & Roberts-Wilbur, 1998; Phan, 2001; Torres-Rivera, Phan, Maddux, Wilbur, & Garrett, 2001; Wilbur, Frank-Saracini, Roberts-Wilbur, & Torres Rivera, 1997b). Moreover, some researchers in the area of group supervision (Bernard & Goodyear, 2004; Phan; Werstlein & Borders, 1997; Wilbur, Frank-Saracini, Roberts-Wilbur, & Torres Rivera, 1997a) have indicated that the effectiveness of group supervision is contingent upon these factors. That is, group climate resembles therapeutic factors that promote change, membership satisfaction, and group development (Kivlighan & Tarrant, 2001; Lese & MacNair-Semands, 2000). In fact, Yalom ranks altruism, cohesiveness, and universality as the top three therapeutic factors in a working group. Thus, these three factors were chosen over other factors in the development

of the Group Dynamics Inventory. Each factor is described as a separate term, but in actuality all factors are interdependent. Altruism is an important factor that allows people to feel helpful and needed by others. Universality mixes with other therapeutic factors as group members become more connected with the sense of similarity of their deepest concerns and profound feelings of acceptance. Unlike altruism and universality, group cohesiveness is an essential precondition for other factors to operate optimally (Lese & MacNair-Semands). As a group becomes more cohesive, group members take necessary risks and experience catharsis, which may lead to intrapersonal and interpersonal exploration (Barlow, Burlingame, & Fuhriman, 2000). Although group cohesiveness occurs throughout the group process, it is only after the gradual and ongoing development of group cohesiveness that group members participate intensely and productively in self-disclosure, confrontation, and conflict, which are necessary for the process of interpersonal learning (Yalom).

Several studies (Kivlighan & Lilly, 1997; Lese & MacNair-Semands, 2000) have determined that group cohesiveness has a number of meaningful consequences relevant to the group process. These studies illustrated that members of a cohesive group, as compared to members of a noncohesive group, possessed the following characteristics: (a) made a greater effort to influence other group members, (b) were more open to the influence of other group members, (c) had a greater willingness to listen to and accept others, (d) expressed more self-disclosure, and (e) experienced a greater sense of security and relief from group tension.

DEFINITION OF TERMS

Because a great deal of confusion exists among counsellors-in-training about the definitions of group dynamics, group process, group climate, and therapeutic factors in group work, the following definitions are provided:

Group dynamics. Kurt Lewin, who is believed to have founded the movement to study groups scientifically, chose the term “dynamic” to describe the impact social processes have on group members. These social processes include “the interdependence of people in groups ... a group’s capacity to promote social interaction, create patterned interrelationships among its members, bind members together to form a single unit, and accomplish its goals” (Forsyth, 1999, p. 11). As group members shape their own microcosm, the dynamics that occur between the group environment and the group member form a social microcosm that evokes the core issues of all members. The spontaneity of interactions determines how fast the social microcosm will develop and how authentic the social microcosm will become.

Group process. Group process is concerned with the nature of the relationship between two individuals interacting with one another (Yalom, 1995). Group process does not necessarily focus on the verbal content of an interaction (what is being said), but rather on the individual’s way of communicating the content and the nature of the interaction (how and why the content is being said),

particularly the messages that are conveyed about the nature of the relationship among group members (Phan, 2001).

Group climate. This term refers to the environment of the group, in particular to three features of the therapeutic environment of a particular group. These features are identified by the Group Climate Questionnaire as: (a) engaged, (b) avoiding, and (c) conflict (MacKenzie, 1983).

Therapeutic factors in group work. The three therapeutic factors relevant to this study are altruism, universality, and group cohesiveness. According to Yalom (1995), altruism in a group setting is the therapeutic factor that fulfils the need of group members to feel that they have something to offer other people and that they are needed by others. Universality gives group members a feeling that they are not alone in their experiences and life issues. The disproving of group members' beliefs in the uniqueness of their problems results in an extraordinary sense of relief that leads to a feeling of validation and acceptance by others.

Yalom (1995) described group cohesiveness as complex and difficult to understand because it encompasses and overlaps with so many other things. Group cohesiveness can encompass the phenomenon of a group that unites individuals into a whole and also the attraction an individual has to the group based on respect, liking, or trust (Forsyth, 1999). Frank-Saracini et al. (1998) referred to group cohesiveness as "emotional closeness among members; members' caring and empathy toward each other; and members' positive regard for what others feel, think, and do" (p. 9). Yalom offers a similar definition of group cohesiveness by telling us that cohesiveness is what keeps group members in the group, meaning that group members feel a sense of warmth, comfort, acceptance, support, and belongingness in a cohesive group.

METHOD

Construction of the Scale

Sixty statements were extracted from a number of measures of group dynamics as presented in several research studies dealing with group supervision and group dynamics (Frank-Saracini et al., 1998; Hurley & Brooks, 1987; Kivlighan, Multon, & Brossart, 1996; Lese & MacNair-Semands, 2000; Marcus, 1998; Mullen et al., 1998; Phan, 2001; Wilbur et al., 1997a, 1997b). Particular attention was placed on Yalom's (1995) therapeutic factors Q-sort statements for each of the three chosen factors (altruism, universality, and cohesiveness). The 60 items were selected because, in the authors' judgement, they were applicable to the three therapeutic factors mentioned earlier. The items were then presented to a panel of six counsellor educators determined to be experts in group counselling. The judges were identified through their publication records in group counselling in scientific academic journals (i.e., having at least 10 research articles in group work), as recommended by Gable and Wolf (1993). The judges were asked to classify the 60 statements into the three therapeutic factor categories. Items were retained if at least five of the judges agreed on what category the item fit.

Consequently, the scale was composed of the 20 items that had been categorized as usable by the panel of experts.

Participants

Two hundred counsellors-in-training from a program accredited by the Council for the Accreditation of Counselling and Related Programs (CACREP) at a mid-sized western university in the United States agreed to participate in this study. Of the 17 males and 183 females, 8 were Asian Americans, 7 were Latino/as, 2 participants identified themselves as biracial (one participant was Asian and African American and the other Filipina and Caucasian), and 183 identified themselves as Caucasian. The mean age for the participants was 31 years (range = 23–54). These participants were in the final stage of their master's degree program with at least 48 credit hours of their program completed. The selection of the participants for this study occurred in practicum and internship courses during group supervision throughout a four-year period. To meet the factor analysis guidelines provided by Gable and Wolf (1993), a 10:1 ratio of participants-to-items was established. The Group Dynamics Inventory mean scores as well as the standard deviations are presented in Table 1.

Description of the Group Dynamics Inventory

As stated earlier, the Group Dynamics Inventory (GDI) was developed using the literature regarding group dynamics, particularly Yalom's (1995) account of the therapeutic existential factors that help groups to reach a therapeutic level (Carroll, Bates, & Johnson, 1997; Corey, 1995; Corey & Corey, 1997; Forsyth, 1999; Gladding, 1999; Posthuma, 1996). The GDI consists of 20 items, with each item containing a statement about the counsellor trainees' feelings and/or behaviours during the group supervision session. The GDI measures group dynamics for each item following a Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). The higher scores indicate a higher level of group dynamics. In other words, a mean score of three in the altruism subscale indicates the existence of more altruism than a mean score of two. This is also the case for universality and cohesiveness. Consequently, a mean score of four in the total scale indicates a presence of more group dynamics than a lower number such as one, two, or three.

Procedure

Following a modified version of the guidelines for group supervision developed by Wilbur, Roberts-Wilbur, Morris, Betz, and Hart (1991), counsellors-in-training evaluated the group dynamics during group supervision counselling courses (practicum and internship). The following phases were conducted:

Phase 1: The request for assistance statement. The supervisee states what assistance is being requested from the supervision group. The supervisee provides the group with summary information relating to the request for assistance.

Phase 2: The questioning period and identification of focus. Using a round-robin format, the supervision group members ask the supervisee questions about the information presented in Phase 1. This phase allows group members to obtain additional information or to clarify any misperceptions concerning the request-for-assistance statement and summary information.

Phase 3: The feedback statements. Again using a round-robin format, group supervision members respond to the information provided in Phases 1 and 2 by stating how they would handle the supervisee's issue/problem/situation. During this phase, the supervisee remains silent but may take notes regarding the comments or suggestions. The GDI is administered in this phase in conjunction with another instrument to assess counselling skill development.

Pause period. There is a 10–15 minute break between Phases 3 and 4. Group members should not converse with the supervisee during the break. This allows time for the supervisee to reflect on the group's feedback and prepare for Phase 4.

Phase 4: The supervisee response. The supervisee tells the group members individually which statements were helpful, which were not helpful or beneficial, and why, while the group members remain silent.

Optional discussion. Depending on time allocations and the desire of the group members and supervisor, a discussion of the four-phase process may be beneficial for closure or terminating the supervision session or process.

Reliability and Validity

Internal consistency of all 20 items of the GDI using a Cronbach's alpha coefficient (Cronbach, 1951) was .94. The split-half reliability coefficient was .87 and .92. Construct validity was determined by the judges' concurrence on the items and by the results of an exploratory factor analysis, which will be explained in the following section. Content validity was addressed by the researchers' review of the literature about group dynamics (Carroll et al., 1997; Corey, 1995; Corey & Corey, 1997; Forsyth, 1999; Frank-Saracini et al., 1998; Gladding, 1999; Posthuma, 1996; Yalom, 1995).

RESULTS

Means, standard deviations, internal consistency estimates (Cronbach's alpha coefficient), and intercorrelation for the GDI sub-scales and total scores are presented in Table 1. An exploratory factor analysis (EFA) was conducted to empirically examine the interrelationships among the GDI items and to verify clusters of items that share sufficient variation to justify their existence as group dynamics. The solution was subjected to an oblique (correlated) rotation. Based on the factor extraction, eigenvalues (≥ 1), scree plot, and variance ($\geq 5\%$), three factors were identified (see Table 2). The EFA yielded three factors before rotation with 49.6% of the variance accounted for in Factor 1, and 64.4% of the total variance was accounted for in a three-factor solution.

Table 1
Means, Standard Deviations, Internal Consistency Reliabilities, and Intercorrelations for the Group Dynamics Inventory Sub-scales and Total Score

Sub-scale	Cohesiveness	Altruism	Universality	M	SD	Alpha
Cohesiveness	—	.561*	.738*	2.78	.62	.93
Altruism		—	.476*	2.66	.50	.77
Universality			—	3.07	.69	.89
Total				11.14	2.188	.94

* $p < .05$

Table 2
Group Dynamics Inventory Factor Analysis

Factor	Eigenvalue	% Variance
1	9.93	49.64
2	1.68	8.43
3	1.26	6.32
Total explained variance		64.40

$N = 200$

The factor loadings for each item of the GDI with each of the three factors are shown in Tables 3, 4, and 5. All item loadings exceeded the acceptable loading of .40 (Gable & Wolf, 1993), ranging from .50 to .83. The three factors were consistent with the theoretical construction of the GDI and were labelled: (a) altruism, (b) universality, and (c) group cohesiveness. The scree test and percentage of variance indicated that the three factors were substantially above the chance levels and accounted for 64.4% of the variance.

Factor Structure

Factor 1 consists of 10 items (items 6–15) labelled cohesiveness (e.g., “I feel that I belong to a group of people who understand and accept me”). These items measure attributes such as belongingness, self-acceptance, and being part of a group during the group session. The factor loadings for these items ranged from .70 to .83 (see Table 3).

Factor 2 consists of five items (items 1–5) labelled altruism (e.g., “I was forgetting myself and thinking of helping others”). These items measure the group members’ ability to help others unconditionally, to gain respect by helping others, and to see others’ needs before his or her own. The factor loadings for these items ranged from .59 to .84 (see Table 4).

Factor 3 consists of five items (items 16–20) labelled universality (e.g., “I learned that others have some of the same bad thoughts and feelings as I”). These

Table 3
Exploratory Factor Analysis for the Group Dynamics Inventory

Item Number	Stem	Loadings Cohesiveness
6	I felt a sense of belongingness to the group and that the group accepted me.	.81
7	I felt like keeping in touch with other people.	.68
8	I felt that after revealing embarrassing things about myself, I was still accepted by the group.	.75
9	I have the feeling that I am no longer alone.	.82
10	I feel that I belong to a group of people who understand and accept me.	.97
11	I learned that I am not the only one with my type of problem (i.e. "We're all in the same boat").	.75
12	I am seeing that I was just as well off as other people.	.53
13	I learned that others have some of the same "bad" thoughts and feelings as I.	.54
14	I learned that others had parents and backgrounds as unhappy or mixed up as I.	.49
15	I learned that I am not very different from other people and that the group gave me a "Welcome to the human race" feeling.	.67

$N = 200$

Table 4
Exploratory Factor Analysis for the Group Dynamics Inventory

Item Number	Stem	Loadings Altruism
1	I felt that helping others has given me more self-respect.	.55
2	I felt like putting others' needs before my own needs.	.81
3	I was forgetting myself and thinking of helping others.	.86
4	I was giving part of myself to others.	.56
5	I felt that I was helping others and having an important impact in their lives.	.52

$N = 200$

items measure the ability of the group members to understand that people are more similar than different, that existential pain is part of being alive, and that each individual is ultimately responsible for his or her life. The factor loadings for these items ranged from .77 to .87 (see Table 5).

The factor structure of the GDI indicates that cohesiveness accounts for the largest variance in group dynamics, which is consistent with the review of literature about group work (Perrone & Sedlacek, 2000; Yalom, 1995). A close look at the correlations among factors indicates that there are strong correlations among all three factors, which is consistent with the review of literature about group

Table 5
Exploratory Factor Analysis for the Group Dynamics Inventory

Item Number	Item	Loadings Universality
16	I recognized that life is at times unfair and unjust.	.64
17	I recognized that ultimately there is no escape from some of life's pain and from death.	.82
18	I recognized that no matter how close I get to other people, I must still face life alone.	.84
19	I learned that by facing the basic issues of my life and death, I am more able to live my life more honestly and be less caught up in trivialities.	.72
20	I learned that I must take ultimate responsibility for the way I live my life no matter how much guidance and support I get from others.	.71

N = 200

dynamics (Lese & MacNair-Semands, 2000). In conclusion, based on the findings of this study, these three factors offer a strong explanation of the covariation in the responses of the GDI.

DISCUSSION AND IMPLICATIONS

The theoretical and methodological questions that led to this study have been adequately answered for the purposes of an exploratory study. That is, it is possible to assess and measure group dynamics using the GDI. In addition, the study indicated good reliability and support for the internal structure of the instrument. The most important discovery in this study is related to the utility of the GDI as a teaching tool to help supervisors and/or instructors to monitor the dynamics in the essential counselling courses that utilize group supervision in counsellor training settings such as practica, internships, and fieldwork placements. Because the GDI provides an account of degrees of group dynamics (i.e., group cohesiveness, altruism, and universality), it also provides an opportunity for supervisors to implement interventions at the right time, rather than rely only on experience and or "clinical intuition." In other words, based on the degree of group dynamics, a supervisor could choose to act as a teacher, a counsellor, a facilitator, or a consultant (Bernard & Goodyear, 2004).

Similarly, the findings of this study could lead to better planning in the development of groups and the preparation of group leaders to move group members into a working stage. The therapeutic factor of synergy (the integration of all the therapeutic factors—altruism, universality, and group cohesiveness) provides an atmosphere in which group members feel comfortable, accepted and not judged, united as a whole, and valued. Group members also find satisfaction in being listened to and in listening to others, and have a sense that they belong to the group (Yalom, 1995). Although there are other scales used to measure

group dynamics, these scales have not been tested with large populations. That is, earlier scales used to measure group dynamics have their foundation in qualitative and/or experiential data (Frank-Saracini et al., 1998; Perrone & Sedlacek, 2000; Starling & Baker, 2000). The GDI in this study was tested with a large population using the complexity of a factor analysis to account for 64.4% of the variance. Additionally, because of the advantages of group supervision, the scores of the GDI are viewed and interpreted as a group average, which gives the supervisor a clear picture of where the supervisees are as a group. As well, by using the power of group work, the supervisor can influence supervisees' counselling skills.

More research is needed on this scale to establish further applications for its level of influence with supervision models as well as group counselling approaches. Furthermore, an expansion of the usefulness of this scale could lead to the test of this scale in group work with ethnic minority groups and other minority populations.

The present study has several limitations. Participants were all counsellors-in-training at one university. Thus, results may not be applicable in other geographical locations or to experienced counsellors. In addition, the majority of the participants were Caucasian females, with very few students from ethnic minority groups. The majority of the items on the GDI were heavily extracted from existential sources (i.e., Yalom [1995]) that may not have taken into consideration cultural differences in the development of group dynamics.

The study addresses only internal structure, which is one of the two main elements of construct validity, but does not address construct-related validity (i.e., concurrent and predictive validity). Thus, further studies are needed to show that the factors uncovered in the GDI correlate with the external criteria known to reflect the constructs hypothesized in this study.

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