LEADERS EFFECT ON DEPRESSION OUTCOMES IN A RANDOM SAMPLE OF BREAST CANCER PARTICIPANTS IN PROFESSIONALLY LED INTERNET SUPPORT GROUPS

Morton Lieberman¹*, Stephen J. Lepore²

Affiliations:
1 University of California, San Francisco (UCSF), USA, E-mail: morton.lieberman@ucsf.edu
2 Chair & Professor, Dept. of Social & Behavioral Sciences, Temple university, PA, USA, E-mail: slepore@temple.edu
* Correspondence author

Abstract
The study examines emotional and cognitive behaviors expressed in text by professional leaders in online breast cancer support groups. We tested the hypothesis that high levels of leaders’ cognitive and positive emotional word usage are linked to reductions in depression measured by levels of depression. Sample: Age 52.7 (6.95), Race Caucasian N=174, Education, High school graduate 93, College graduate 90, Employed part- or full-time N=125, Married, 156, Stage of cancer 1=101, 2= 82. Outcome was assessed using the depression scale of the Hospital Anxiety & Depression Scale (HADS). Linguistic Inquiry and Word Count (LIWC) procedure was utilized to examine the hypothesis that online chatroom leaders’ high use of positive emotion and cognitive words would lower depression in patients post-intervention. Interventions were manualized. Groups had weekly, 90-minute live chat for six weeks. Two 3-step linear equations, one for emotional variables and one for the cognitive variables, were computed. Meetings were added to the variables tested. We found that both positive emotion and cognitive word usage were linked to lower depression post intervention. Based on our previous studies of leader behaviors in support groups, leader effects were mediated through other group characteristics. In one case, it was the norms of the group and in the other helpful group experiences, proximal variables. Clearly, leadership is a distal variable and at this point in time what are all the mediating variables.

Keywords: LEADERS, EFFECTIVENESS, ONLINE SUPPORT GROUPS, DEPRESSION, OUTCOMES, RANDOM SAMPLE

1. INTRODUCTION
It is axiomatic that leaders play a significant role in shaping the group experience for support group members. This view holds true for both in person and internet groups. The purpose of this study was to examine two types of behavior by professional leaders in online breast cancer support groups. We explored leaders’ cognitive and emotional behaviors (word usage) in the group to test their linkage to outcome measured by levels of depression. Specifically, based on our previous work as well as a long line of research by small group investigators, we
hypothesized that the more cognitive and positive emotions (support) the better the outcomes.

2. BACKGROUND

An examination of social psychology of small group research and group therapy research reveals numerous publications on leadership. An examination of the group therapy literature emphasizes a limited number of therapists’ interventions that can lead to the participants’ positive outcomes. The following is a list of them. Leadership intervention can begin prior to the group’s first meeting. There is ample evidence that preparation of patients can facilitate positive outcomes (Dies, 1994); there is also some evidence that appropriate composition selecting admixture of participants can facilitate the group and lead to well functioning group and outcome (Lieberman, 2005). There is a considerable literature that providing structure for patients enhances the positive qualities of the group (Dies, 1994). Behaviors of the therapists that have been found to be important include self-disclosure (Lieberman, 2007), warm and supportive behavior providing a cognitive framework for change, modeling and influencing the norms of the group (Lieberman, Golant and Altman 2004). We look in vain at the support group literature for comparable studies. Although our literature search found over a hundred publications of both in-person or internet groups, the bulk of these articles are clinical or non-systematic surveys of the leaders. Omitted from our search were peer led groups, although the leadership function is apparent, it is often divided among several members and frequently changes over time (Lieberman 2004).

The following describes a handful of studies that bear on the subject of this paper.

Beck and Keyton (2014) investigated how member-leader messages create social support in support groups. The transcribed conversations of weekly meetings of Breast Cancer support groups using Interaction Process Analysis (Bales, 1950) procedure to discover how the member-leader facilitated social support. Across the meetings, task talk dominated (primarily statements of orientation or information). Furthermore, analysis of interaction sequences between the support group facilitator and members revealed two broad categories of task-oriented facilitation techniques (changing the focus, clarification) and category of socio-emotional facilitation techniques (showing support).

Templeton, Xin and Luo (2012) studied the roles of leaders’ and members’ personality and values characteristics in MOSN groups (moderated online support networks). Based on data from 583 MOSN group members (including 38 leaders), they investigated three hypotheses; 1) the presence of personality and values homogeneity, 2) the congruence between leader and member personality and values, and 3) whether leadership style is related to modal personality and values. Found was partial support for all three hypotheses. They concluded that MOSN group membership decisions are related to the personality and values traits of the leader.

Bright, Baker, and Neimeyer (1999) studied the relative efficacy of professional and paraprofessional therapists in providing group cognitive behavioral therapy (CBT) and mutual support group therapy (MSG). Depressed outpatients (N = 98) were randomly assigned. Results suggest that nonprofessionals were as effective as professionals in reducing depressive symptoms and that clients in the CBT and MSG improved equally. Clinically significant improvement was demonstrated for both conditions.

Owen, O’Carroll and Golant (2009) examined the strengths and challenges of facilitators online cancer support groups (OSG) relative to face-to-face groups (F2F) through the use of deductive qualitative
analysis. They compared the professional experiences of facilitators from both F2F and OSGs. Transcripts from online supervision sessions among OSG facilitators were analyzed. Items were developed to measure the primary themes and administered to a sample of both F2F and (OSG) facilitators. Three categories: group processes, structural elements, and facilitator roles. Positive perceptions of group processes, structural elements, and facilitator roles were significantly higher among F2F facilitators than OSG facilitators.

Lieberman and Golant (2002) tested the effects of leader behaviors on outcomes in 269 cancer patients in professionally led support groups. Both the direct effect and a mediation hypothesis, helpful group experiences, were examined. They used a model of leadership based on five dimensions: evoke stimulate, executive management, meaning attribution, uses of self, and support caring (Lieberman, Yalom, and Miles 1973). Patients were drawn from The Wellness Community support groups. Outcomes included quality of life, FACTB (Celad et.al 1993), and depression, CESD (Radloff, 1977). In a linear regressions analysis, leaders perceived as high on meaning, attribution and management had lower depression, fewer physical problems, higher well-being, and better functioning.

In a test of the mediation hypothesis, leader behaviors associated with outcomes were substantially mediated through helpful group experiences.

In another study, Lieberman & Golant (2011) examined similarities and differences between breast cancer on-line (Chat) support groups and face-to-face groups [F2F]. Both were professionally led. The two settings are obviously distinct, information for participant's about each other and the therapist is radically altered in on-line groups. Transcripts are used for all assessment; The Expression of Negative Emotions, Content, Leader Behaviors, and Cohesiveness. Three text analysis programs; Linguistic Inquiry (Pennebaker 1997), Psychiatric Content Analysis (Gottshalk, 1972), and the Ekman & Lieberman dictionary (Unpublished), to rate psychological categories. In both settings the content is similar, the Chat groups were more cohesive, there were several differences in therapists’ behavior, on-line participants expressed significantly more negative emotions, behaviors linked to good outcomes in BC support groups.

Lieberman (2008) examined the effects of disease (cancer and Parkinson's disease [PD]) on three moderators, the expression of positive and negative emotions and cognitive mechanisms. Each illness makes its own unique demands on patients and may influence change mechanisms. Similarly, we are asking, what effects does the type of leadership have on mediators that have previously been linked to positive outcomes? Four types of groups were studied, professional, the wellness community (TWC) chat mixed cancer (N groups = 4) and TWC chat PD patient groups (N groups = 6). The two peer groups were bulletin boards for colorectal cancer (N groups = 1) and PD BBs (N groups = 6). The design was a 2X2, disease and leader type. Computer-based text analysis, the linguistic inquiry assessed the dependent variables. The results of the MANOVA found that: disease is P =NS, leader type, P = .00, interaction, P = .00. The interaction between disease and leader type is statistically significant, indicating that disease in combination with whether the leader is a peer or professional effects the expression of emotions and cognitive mechanisms.

Lieberman, Golant and Altman (2004) examine the relationship between cancer support groups’ normative regulation and patient outcomes. Cancer patients (N =289) in 54 groups were studied through the use of a cross-sectional, treatment dosage design. Outcomes were assessed by the CESD and the FACTB. The framework for assessing
normative regulations was based on the degree to which patients matched leader norms. This approach to indexing members’ perceptions of normative regulations proved to be a successful strategy. The more a participant view matched those of the leaders, the greater the likelihood they benefitted from the group. The content of the norms added an independent effect on positive outcomes. Participants who saw their groups as approving of aggressive and competitive behaviors and the intense expression of emotions were less likely to show positive outcomes.

The studies reviewed provide a basis for the hypothesis tested in the present study.

3. MATERIALS & METHODS

3.1. SAMPLE

A two-armed randomized controlled trial with one-month pretest and post-test assessments was conducted. (Lepore et.al, 2014). Non-metastatic breast cancer survivors (N=184) with elevated distress were randomized to either a facilitated experimental prosocial internet support group (P-ISG) or a facilitated standard internet support group control (S-ISG) condition. Sample: Age mean 52.7 (6.95), Race Caucasian N=174, Education, High school graduate 93, College graduate 90, Employed part- or full-time N=125, Married, 156, Stage of cancer 1=101, 2= 82.

The P-ISG intervention included all elements of the standard, S-ISG, but with critical additions directed toward increasing helping behaviors toward others in the support group participants. Both in the experimental and control condition, the professional leaders followed a manual. The facilitators were blind to study hypotheses. These graduate-level health professionals had >10 years experience running ISGs. Trained researchers used checklists to review weekly chat transcript to code facilitators’ treatment fidelity on eight intervention components.

Co-investigators, both PhD-level clinical psychologists with experience supervising ISGs, conducted weekly online facilitator supervision. Groups had weekly, 90-minute live chat for six weeks. The facilitator introduced structure by suggesting chat topics: (1) pain, fatigue, lymphedema; (2) self-esteem, body image; (3) problems in physical activities; (4) intimacy, sexuality; (5) depression, anxiety, recurrence fear; and (6) health challenges (diet, exercise, surveillance). For participants who missed group, chat transcripts were posted within 24 hours. The discussion board was always available.

3.2. MEASURE OF OUTCOME.

To assess level of depression we utilized the HADS depression sub scale. HADS measure of anxiety and depression, which has been validated with breast cancer populations (Zigmond & Snaith 1983). The HADS provides measures of symptoms of depression (7 items; à=.83)

MEASURES OF EMOTIONS AND COGNITION. Computer-based text analysis [The Linguistic Inquiry (LIWC); Penne-baker, 1997] software was utilized to examine the hypothesis that the ISG leaders high use of positive emotion (e.g., happy, joy) and cognitive words (e.g., understood, realized) during chat would lead to lower depression in the participants. The LWIC provides a method for studying the various emotional, cognitive, structural, and process components present in written speech. This study used two of the summary scales contained in emotions (positive and negative and three of the cognitive sub scales (insight, disclosure, certainty)

3.3. ANALYSIS

Two three step linear equation, with Bonferroni correction. One for positive emotion word usage and one for cognitive word usage. We added the meeting in which the targeted leader behavior took place,
reasoning that over time this could change. Step 1 was the time 1 depression scores, step 2 was the meeting of the leader behavior and step 3 was either the cognitive or emotion word usage variables. The dependent variable was depression at time 2, post-intervention.

3.4. RESULTS

We found that overall (p=.05), cognitive word usage was linked to lower depression post intervention (See table 1). However, we could not single out specific components of the various cognitive subscales that contributed most to the summary score. This was not true of the summary emotional score (p=.004), which included both positive and negative emotion word usage but only the positive emotion predicted lower depression. See Table 1 and 2.

### TABLE 1. REGRESSION EMOTIONAL VARIABLES

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4. DISCUSSION AND CONCLUSION

The results from our analysis mirror the general results of the studies of small group research as well as some of our previous studies on leadership. Particularly the study of in-person cancer support groups (Lieberman and Golant, 2002) which found that a high meaning attribution (cognitive behaviors), as well as management, providing structure were linked to lower depression. The present study found that cognitive was linked to lower depression. The methods of measurement in the two aforementioned results were based on very different methods for measuring cognitive behavior of the leader. In the former study, using a five factor model originally developed for a study of encounter groups (Lieberman, Yalom and Miles, 1973) was measured in the cancer support groups by the perception of the members. In the present study, of course the variable was assessed by examining leader actual behavior in the group. Our previous studies of leadership had no measure of emotional behavior. However, it found that support was positively related to outcomes. It does seem sensible that leaders who express more positive emotions will express more support.

As we have previously indicated, the research literature on support groups both in person as well as online is limited. Clearly, the leader makes a difference in both how the group interacts and helping processes such as insight (Lieberman, 2007). These processes have an impact on outcomes. However, standing back and hoping to gain some perspective on the leaders’ contribution to positive impact on the members feels like untangling a big ball of twine. Again referring to our previous studies of leadership, we found that we could relate leader behavior to positive outcomes mediated through other group characteristics. In one case, it was the norms of the group and in the other helpful group experiences. Given the state of research in both online and in-person support group studies, we cannot say what are all the mediating variables that are at once effected by leader behavior and on the other hand effect outcomes. Nor how much of the leader behavior is a direct influence on outcomes and how much is mediated.

5. REFERENCES

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