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Mixing it Up: Integrating Men and Women Living with HIV/AIDS in Prevention Groups

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Abstract

Aims—The current study was conducted to examine the impact of mixing genders in HIV prevention intervention groups targeted toward HIV positive men and women.

Methods—Men (N=310) and women (N=126) participated in a randomized clinical trial testing a behavioral risk reduction/ medication adherence intervention versus a general health control condition administered to small mixed gender groups. Gender composition of groups was examined in relation to participant group attendance and group satisfaction measures through correlations and logistic regression.

Results—Significant regression models were found for men in the risk reduction condition and for women in the general health condition, however, regression models were not significant for women in the risk reduction condition and men in the general health condition.

Discussion—The findings indicate that mixing genders in risk reduction interventions for men and women living with HIV/AIDS has no negative impact on women's group satisfaction and may positively impact men's group satisfaction. This calls into question the assumption that gender sensitive material will always make individuals uncomfortable within mixed gender groups.

Implications for practice and policy—In practice, mixed gender intervention groups can be a helpful option for delivering programs to diverse populations especially when resources are limited within community-based services providers and AIDS service organizations.

Conclusion—Although more thorough investigation is needed about the consequences and possible benefits of mixing genders within HIV prevention intervention groups, this study supports the idea that mixing genders may be a viable option, in practice, without sacrificing the integrity of the intervention.

Keywords

HIV/AIDS; risk reduction; medication adherence

Introduction

More than 50,000 new HIV infections occur each year in the United States and the global AIDS pandemic continues to expand. The front lines of HIV prevention continue to rely on behavioral interventions that reduce high-risk sexual and injection drug use practices. Evidence based programs grounded in theories of behavior change are disseminated by the Centers for Disease Control and Prevention (CDC) and are aimed at reducing HIV

transmission through increasing abstinence, minimizing numbers of sex partners, and increasing condom use (Lyles et al. 2007). Among the most widely distributed interventions are those delivered in small workshop-style groups targeted to individuals at risk (Herbst et al. 2007a, Herbst et al. 2007b, Darbes et al. 2008). Small groups are generally defined as 5 to 15 group members, typically facilitated by one or two skilled interventionists. Among the 41 behavioral HIV prevention interventions that the CDC has defined as 'best evidence based', two out of three are delivered in small groups.

Most HIV prevention interventions are specifically designed for groups of homogeneous persons, particularly with respect to age, cultural background, and gender. Nearly all small group interventions are tailored for use with either women or men. In some cases the same intervention has been designed for use with both men and women but delivered to gender segregated groups, thus duplicating services and potentially doubling resources. The rationale for conducting sexual risk reduction groups separately for men and women is typically based on the assumption that men and women have different sexual and protective motivations, different roles in relationship power dynamics, and operate under different social norms. It is also commonly assumed that participants in same gender groups will feel more comfortable discussing sensitive issues in separate groups rather than in mixed gender groups (Jemmott et al. 1999). The implication of these assumptions is that different intervention content and contexts are needed for men and women at risk for HIV/AIDS, doubling the resources needed to deliver the same program to men and women. In many cases, agencies elect to only deliver the intervention to the gender that they have the most access to, leaving the minority gender, often women, unserved.

Few studies have empirically investigated the effects of segregating versus mixing genders in small group interventions. In one school-based sexual violence prevention intervention study, group composition was experimentally manipulated to examine differences between same gender versus mixed gender group composition (Clinton-Sherrod et al. 2009). Results showed that boys grades 6 through 12 who participated in mixed gender groups demonstrated more positive changes in attitudes and perceptions than boys who were in gender segregated groups. In contrast, group composition did not have an effect on outcomes for girls.

In terms of HIV/AIDS prevention, we are aware of only one study to systematically test the impact of mixed gender group composition on prevention outcomes. Jemmott et al. experimentally manipulated, along with other factors, whether adolescents were assigned to HIV prevention small group workshops that were gender segregated or mixed gender. Using a widely disseminated intervention that has been shown effective in previous research, Jemmott et al. (1998) failed to demonstrate any differential intervention effects for mixed versus segregated gender groups on sexual risk-related behaviors. Although previous research suggests that mixing genders in groups of adults may similarly have no effect on HIV prevention outcomes (Kalichman et al. 2007), no study has systematically tested associations between mixed group composition and outcomes in HIV prevention interventions for people living with HIV/AIDS.

The current study was conducted to examine the impact of mixing genders in HIV prevention groups in an intervention targeting HIV positive men and women. Current HIV prevention priorities emphasize testing people at-risk for HIV and engaging those who test HIV positive into treatment. We recently tested an intervention designed to reduce HIV transmission risks among people who are living with HIV/AIDS (Kalichman 2011). In this trial the risk reduction intervention was compared to a time and contact-matched general health control condition. Both interventions were designed for mixed gender groups by framing issues without presupposing gender and allowing the groups themselves to chart the course of discussions. In a randomized clinical trial, the risk reduction intervention was found equally effective for heterosexual and homosexual men and women in reducing HIV transmission risk behaviors and improving HIV treatment adherence. All of the groups conducted in the study were mixed gender. In the current study, we tested the associations between the gender composition of the intervention groups with participant attendance and intervention acceptability. Based on past research we hypothesized that women's group attendance would be greater with a higher proportion of women in the group, whereas men's attendance would be unaffected by the proportion of women in the group. We also hypothesized that the proportion of women in groups would be associated with more positive group satisfaction for both men and women.

Methods

Participants and setting

Participants were 310 men and 126 women recruited from AIDS service providers in Atlanta, GA. Atlanta has among the fastest growing HIV epidemics in the United States with over 23,000 reported cases of AIDS and an HIV/AIDS rate of 23 per 100,000 population, exceeding the average 15 per 100,000 population in other major US cities (El-Sadr et al. 2010). The study commenced March 2005, enrollment ended in October 2008, and follow-ups were completed November 2009. For recruitment, AIDS service providers and infectious disease clinics were notified about the study opportunity. Recruitment brochures were placed in provider's lobbies and waiting areas. Interested persons phoned the research site to schedule an intake appointment.

The study entry criteria were (a) age 18 or older and (b) name-matching proof of positive HIV status and (c) photo ID. Participants were not screened on the basis of dependant variables (antiretroviral medication adherence and risk behavior) to assure ecological validity of the intervention groups as they would occur in community and clinical services. This study was approved by the University of Connecticut Institutional Review Board and complied with all APA ethical standards. All participants provided informed consent and were able to withdraw from the study at any time without penalty.

Intervention Conditions

Participants were randomized to receive one of the two conditions. The two interventions in this trial were implemented using the same operational procedures. All intervention groups were conducted at the same community-based AIDS service provider. Both intervention conditions were formatted to deliver a 45 minute one-on-one orientation and goal setting

session with one of the group facilitators prior to initiating five 120 minute groups and a 60 minute post-group one-on-one counseling session. Male and female facilitators delivered both conditions in mixed gender pairs. All facilitators received two weeks training, delivered their first groups with an experienced facilitator and received weekly supervision. Groups were conducted with 8 to 10 participants of mixed gender and sexual orientations randomized to receive one of the two intervention conditions.

Integrated Risk Reduction – Adherence Intervention—The experimental condition in this study was grounded in Conflict Theory of Decision-Making (Janis and Mann 1977). This conceptual model posits that weighing risks and benefits of behavioral options leads to more personally effective decisions. We therefore used a single model of decision making skills that afforded a fully integrated and unified intervention for two targeted outcomes, both of which hinge on effective decision making: improved medication adherence and reduced sexual transmission risk behavior.

The first group session built cohesion and trust, and discussed how risk reduction and treatment goals are related and was aimed educate participants about the basics of HIV transmission, treatment resistance, and viral load. Myths and facts about infectiousness were covered in detail. The second group session focused on understanding HIV treatment. Decisional balance exercises were applied to treatment decisions and sexual relationships in contexts of detectable and undetectable HIV viral load. Group session 3 focused entirely on sexual decision making taking into account moods, substance use, relationships, HIV status disclosure, treatment status and viral load. Group session 4 aimed to build more specific treatment and safer sex decision skills in relation to substance use. Participants were shown the effects of substance use on medication taking and safe sex strategies through wearing vision disorienting goggles to simulate intoxication while filling a pillbox with mints and then applying a condom to a penis model. After this activity, participants were trained in correct medication management and safer sex strategies including male and female condoms. Group session 5 emphasized the importance of treatment adherence to improve health and reduce infectiousness. There were also skills building activities for recognizing symptoms for detecting sexually transmitted infections (STI).

General Health Comparison Condition—The comparison intervention was intended as an informational support group for individuals living with HIV/AIDS. The first group session focused on building group cohesion and tips for accessing quality health information. The remaining four group sessions covered detecting early warning signs of cancer, enhancing nutrition decision making, choosing healthy foods, and planning exercise relaxation. Several skills building activities were included in the groups, including keeping a nutritional diary and practicing detecting suspicious lumps in self exams using breast (women) and testicular (men) anatomical models. None of the content addressed HIV transmission or medication adherence behaviors

Measures

Participants completed comprehensive assessments using a combination of self-administered instruments. For the purposes of the current study, measures assessed group attendance

demographic characteristics, health status, mental health, substance use, and group experiences. Measures were administered before intervention sessions using audio-computer assisted self-interviews (ACASI). The group experience survey was collected following the final group session and was administered in paper booklet format.

Group Attendance demographic characteristics—Participants were asked their gender, sexual orientation, age, years of education, income, ethnicity, employment status and other demographics.

Health characteristics—We assessed a broad range of HIV-related health parameters. HIV-related symptoms were measured with a previously developed instrument concerning experience of 14 common symptoms of HIV disease (Kalichman et al. 2000a). Participants also indicated whether they had ever been diagnosed with an AIDS-defining condition and their most recent CD4 cell count and viral load. Participants reported whether they had been hospitalized for HIV-related health problems and if they ever or currently take antiretroviral medications (ART).

Mental Health and Coping—To assess mental health and coping, we used measures of stress, depression, shame, social support and coping. Our measure of HIV-related stress was adapted from previous studies of mental health and HIV/AIDS (Leserman et al 1999). Fourteen stressors were responded to with respect to the amount of stress each caused the participant in the previous 6 months, using a 3-point scale 0 = 'did not occur/caused no stress', 1 = 'a little stress', and 2 = 'quite a bit of stress.' Example stressors included going on disability, serious illness, discrimination and stigma experiences, starting a new treatment, and financial problems. An HIV-related stress index was calculated as the mean responses. Scores ranged from 0 to 28, and the stress index was internally consistent, $\alpha = .83$.

Depression symptoms were assessed using ten items reflecting cognitive and affective symptoms of depression. Items were drawn from the Centers for Epidemiological Studies Depression Scale (CESD) (Radloff 1977; Kalichman et al. 2000b). Participants were asked how often they experienced specific thoughts, feelings and behaviors in the past 7 days, responding 0 = 'no days', 1 = '1–2 days', 2 = '3–4 days', 3 = '5–7 days,' scores ranged from 0 to 30, $\alpha = .85$.

Shame concerning HIV infection was assessed using the 9-items from the HIV-Related Shame Scale (Persons et al. 2010). Items included “Being HIV-positive makes me feel defective, like there’s something wrong with me,” “I am ashamed that I’m HIV positive” and “I am embarrassed by my HIV symptoms”. Participants rated their agreement on a 5-point scale ranging from 1 (not at all) to 5 (very much). The HIV-Related Shame scale had good internal consistency in the current sample, $\alpha = .93$.

The social support measure consisted of 15 items assessing *perceived* social support (Brock et al. 1996). Items included availability of support and validation of support, such as “There are several people that I trust to help me solve problems”; “I feel a strong emotional bond with at least one other person”; and “It would be difficult to find someone who would lend

me their car for a few hours” (reverse scored). These items were responded to on 4-point scales, 1 = definitely true, to 4 = definitely false, $\alpha = .89$.

Drawing from the Ways of Coping Inventory by Lazarus and Folkman (1984) participants responded to 17 items that represented problem focused, information coping, and social coping behaviors in response to a specific stressor. Coping items were responded to on 4-point scales, 0 = ‘Not at all’, 3 = ‘Most of the time’. Participants were instructed to (a) think about situations that have caused them recent stress, (b) indicate the situation that has caused them the greatest stress, and (c) indicate how much they used each coping strategy to deal with that situation. Seven items represented problem focused coping; e.g., “I confronted the situation and fought for the help that I needed”, “I knew what had to be done and worked harder at it”, $\alpha = .84$. The Information Coping scale consisted of five items; e.g., “I talked with someone to find out more information”, “I talked with my doctor about the problem”, $\alpha = .71$. Finally, the Social Coping scale consisted of five items; e.g., “I talked with someone who could help”, “I asked a friend or relative for advise”, $\alpha = .61$. Scores represented mean responses ranging from 0 to 3.

Group experience survey—Participants completed group experience measures at the end of the intervention. Seven items assessed perceptions of group environment; e.g., “There was a feeling of togetherness in the group”, “The group had a positive spirit”, $\alpha = .93$. Items were responded to on 4-point scales, 1 = ‘Strongly disagree’, 4 = ‘Strongly agree’ with scores representing the mean response ranging from 1 to 4.

Gender composition of groups and participant group attendance—These data were extracted from our monitoring database for the study intervention sessions. Group facilitators completed attendance record forms at the end of each group session. Participants who came late to groups were allowed to join the session and were therefore included in the attendance records. Gender was self-defined by participants and all transgender persons identified as biologically male. We took the proportion of women at the last group session and divided by the total number of persons in that group to obtain the proportion of women in the groups. Proportion of women at last group session was used above other proportion measures (i.e. proportion of women in the first group, average proportion of women in all groups, etc.) because our measure of group satisfaction came from the last session and group satisfaction responses should be most indicative of the proportion of women at that session.

Statistical Analyses

Descriptive statistics were run to determine group composition characteristics at baseline as well as demographic information. Comparisons were made to determine any significant differences in attendance and demographic variables between the intervention and control groups as well as between genders. Bivariate Pearson correlations were conducted to determine if relationships exist between health and mental health factors and group attendance as well as between group satisfaction measures and the proportion of women who were in the group. Lastly, multiple regressions were used to examine group satisfaction measures in association with the proportion of women in the group.

Results

A total of 21 risk reduction and 21 general health interventions were completed (105 group sessions for each of the two conditions). Overall, 31% of participants in the risk reduction intervention condition were women as were 27% of participants in the general health groups. Table 1 presents the demographic and health characteristics of men and women in the groups. The majority (91%) of participants were African American, and the mean age was 44.1 (SD = 6.8). The majority of participants reported annual incomes under \$10,000 and approximately one of three reported that they were unemployed. Analyses were run to determine similarity of groups within each gender across demographic characteristics. Results comparing the conditions for men and women demonstrated no significant differences.

Group session attendance

Analyses tested whether there were differences in attendance rates for the risk reduction and general health conditions within genders. Results showed that there were no significant differences between the conditions in group or individual session attendance for any sessions among men and women (see Table 2). Additionally, no significant differences were found when the averages of individual, group, and total intervention attendance were compared between conditions for either men or women.

Bivariate correlations conducted between health and mental health factors and group attendance found significant results for women in the risk reduction intervention condition (see Table 3). For women, group session attendance was related to the shame scale and the stress scale; the more shame or stress the women in the risk reduction condition were experiencing the less likely they were to attend group sessions. In contrast, there were no significant correlations between health and mental health measures and intervention attendance for women in the general health condition and men in either condition.

Gender Composition of Groups and Participant Satisfaction

We examined correlations between group satisfaction measures and the proportion of women who were in the groups. These correlations show that for men in the risk reduction condition, a higher proportion of women in the group was associated with greater feelings of togetherness, more positive group spirit and understanding. For women in the general health condition, the proportion of women in the groups was significantly related to how satisfied the women were with the group experience (see Table 4). This was true for all measures of group satisfaction except for one item: 'I had a good feeling about the other people in the group.' There were no significant correlations between the proportion of women in the groups and group satisfaction for men in the general health condition or women in the risk reduction condition.

Multiple regression analyses examined the group satisfaction measures in association with the proportion of women in the groups. No covariates were added to this model. The results of the regressions indicate that the items relating to group satisfaction account for 7.4% of the variance in proportions of women in the groups for men in the risk reduction condition,

$R^2 = .115$, $F(7,148) = 2.76$, $p < .01$. Additionally, these items account for 11.0% of the variance in proportions of women in the groups for women in the general health condition, $R^2 = .201$, $F(7, 61) = 2.196$, $p < .05$. The regression models for women in the risk reduction condition and men in the general health conditions were not significant.

Discussion

This intervention was found to be equally effective for heterosexual and homosexual men and women in reducing HIV transmission risk behaviors and improving HIV treatment adherence in another study (Kalichman, 2011). Given the personal and sensitive nature of the risk reduction intervention, we hypothesized that women in this condition would be more satisfied with groups if there were more women in attendance. However, we found no significant relationship between number of women in groups and women's group satisfaction in this condition. In contrast, we were surprised to find a significant relationship between the proportion of women and group satisfaction for women in the general health control condition. This condition lacked the assumed gender sensitive sexual content of the risk reduction condition and instead focused on cancer detection, healthy eating, exercise and relaxation. One possible explanation for this finding may be the use of the breast and testicular self-examination models as part of the health condition. The self-examination exercises were presented using life-like anatomical models where female participants felt sample silicon breast models and men used latex testicle models to learn self-examination skills. Although we did not previously perceive these activities to be as personal or as sensitive as discussing personal sexual behaviors, it is possible that participants may have found these activities more sensitive than discussing sexual behavior. Thus, women in the general health condition may have been more comfortable with the breast self-exam activity when more women were present in the group. This finding is intriguing and suggests future research is needed to determine specific content and activities that are related to gender-specific comfort levels in groups.

Contrary to common assumptions, our findings show that mixing genders in risk reduction interventions for men and women living with HIV/AIDS has no impact on women's group satisfaction and may positively impact men's group satisfaction. These results call into question the assumption that gender sensitive sexual risk reduction content necessarily leads to discomfort when delivered in mixed gender groups. In contrast, gender specific self examination and other general health behavior intervention activities may be impacted by the relative gender composition of groups. Overall, we found no evidence for adverse effects of mixing genders in sexual health promotion small groups.

There are several limitations of this study that should be taken into consideration. This research was conducted in one southeastern U.S. city, so these results may not be generalizable to other geographical locations. Although the sample's demographics (i.e. majority African American, slightly older population, etc.) mirror the epidemic in the southeast of the United States, this does not correspond with epidemics in other areas of the United States such as in New York or San Francisco. This lack of diversity may limit the generalizability of the findings. Additionally, the gender relations within the study groups are representative of those in the community of Atlanta, GA. These gender relations may not

be the same in other communities. This may impact the dynamics within intervention groups and warrants further study.

The small sample size may also limit impact and generalizability of these results. All group satisfaction measures were collected through self-report and only at the end point of the intervention. These results therefore may be biased by social desirability and may not capture the dynamic interactions of group experience and satisfaction across multiple time points. Additionally, the main independent variable for this analysis, the proportion of women in each intervention group, was not experimentally manipulated. Nearly all the groups contained a majority of men in relation to the number of women. This may have limited our range of findings. The group satisfaction measure has only face validity and has not been validated. While we do not see this to be a problem with respect to our findings it should be kept in mind. With these limitations in mind, we believe these results still have important implications for HIV prevention research and practice.

Based on the current study findings, HIV prevention intervention groups for people with HIV/AIDS can be mixed with little concern that participants will feel uncomfortable within the group. Mixing intervention groups has several important implications, particularly the inclusion of gender minorities in HIV prevention groups. Mixing groups also has implications for maximizing limited prevention resources. It is less costly to conduct one group of mixed gender participants than two smaller groups of gender segregated participants. Future research should focus on experimentally manipulating group gender composition and varying the content of interventions to test for differences in satisfaction levels within and between genders. Interventions with larger samples, different locations and varying demographics are also needed to determine generalizability.

Finally, these results have particularly important implications for interventions currently disseminated by the CDC for people living with HIV that require gender segregated groups. Evidence-based interventions are some of the most vastly used programs by a wide variety of public health departments, community-based service providers and AIDS service organizations. Although some interventions may warrant a gender focus that demands exclusion and segregation, the value of group diversity should not be overlooked. We recommend that prevention intervention packages be reevaluated for use with mixed gender groups with the end goal being to insure maximum impact, cost efficiency and dissemination of effective interventions.

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Table 1

Characteristics of men and women in the general health and integrated intervention conditions.

Characteristic	Men					Women				
	General Health (n = 149)		Risk Reduction (n = 156)			General Health (n = 69)		Risk Reduction (n = 60)		
	N	%	N	%	X ²	N	%	N	%	X ²
Sexual Orientation										
Straight	35	24	47	30		53	77	45	75	
Gay/Lesbian/Bisexual	113	76	109	70	1.62	15	22	15	25	.15
Transgender	9	6	6	4	.79	6	9	5	8	.01
Race										
White	9	6	10	6		4	6	1	2	
African-American	134	90	140	90		62	90	58	97	
Hispanic or Latino	2	1	3	2		2	3	1	2	
Asian/Pacific Islander	1	1	0	0		0	0	0	0	
Other	3	2	3	2	1.22	1	1	0	0	2.65
Income										
\$0–\$10,000	108	73	107	69		47	68	45	75	
\$11,000–\$20,000	29	20	38	24		18	26	9	15	
\$21,000–\$30,000	11	7	10	6		2	3	4	7	
Over \$30,000	1	0	0	2.14	2	3	2	3	3.10	
Employment Status										
Unemployed	44	30	55	35		21	30	20	33	
Working	15	10	15	10		7	10	8	13	
Receiving disability benefits	84	56	77	49		39	57	31	52	
Student	1	1	4	3		2	3	1	2	
Other	5	3	5	3	3.17	0	0	0	0	.71
Age										
	M	SD	M	SD	t	M	SD	M	SD	t
	44.52	6.70	44.08	6.57	.57	46.00	7.53	45.22	7.94	.58

Characteristic	Men				Women			
	General Health (n = 149)		Risk Reduction (n = 156)		General Health (n = 69)		Risk Reduction (n = 60)	
	N	%	N	%	N	%	N	%
Education	12.54	2.07	12.81	2.12	11.87	2.36	11.67	1.85
				X ²				X ²
				1.16				.54

Note

* p < .05,

** p < .01

Table 2
Individual and group session attendance for men and women in the general health and integrated intervention conditions

	Men						Women					
	General Health (n = 149)			Risk Reduction (n = 156)			General Health (n = 69)			Risk Reduction (n = 60)		
	N	%	N	%	N	%	N	%	N	%	N	%
Pre-group individual session	139	93	150	96	126	65	94	56	93	.04		
Group session 1	112	75	109	70	1.07	51	74	40	67	.81		
Group session 2	109	73	120	77	.58	50	73	38	63	1.23		
Group session 3	99	66	112	72	1.02	46	67	43	72	.38		
Group session 4	100	67	102	65	.10	50	73	41	68	.26		
Group session 5	102	69	109	70	.07	55	80	39	65	3.51		
Post-group individual session	88	59	100	64	.82	49	71	35	58	2.27		
	M	SD	M	SD	t		M	SD	M	SD	t	
Individual sessions	1.52	0.60	1.60	0.55	1.20		1.65	0.56	1.52	0.60	1.33	
Group sessions	3.50	1.78	3.54	1.69	.18		3.65	1.61	3.35	1.74	1.03	
Total sessions	5.02	2.24	5.14	2.12	.46		5.30	2.05	4.87	2.21	1.17	

Note

*
p < .05,

**
p < .01

Table 3

Pearson correlations between health, distress, and coping measures and group session attendance

	Men		Women	
	General Health	Risk Reduction	General Health	Risk Reduction
HIV symptoms	.02	-.01	-.12	-.08
CD4 Cell Count	-.03	.12	.01	-.02
Stress	-.14	.01	-.04	-.26*
Depression	-.05	-.07	-.14	-.13
Shame	-.11	.01	-.03	-.29*
Social Support	.02	-.08	.13	.14
Coping	-.01	-.03	.01	.04

Note

*
p < .05,**
p < .01

Table 4

Pearson correlations between group satisfaction measures and proportion of women in the group

	Men		Women	
	General Health	Risk Reduction	General Health	Risk Reduction
Feeling of togetherness in group	.038	.218*	.377**	-.013
Group had positive spirit	.016	.197*	.391**	-.084
Good feeling about other people in group	-.009	.171	.227	.019
Felt comfortable in group	.012	.148	.277*	-.004
People in group were open and honest	-.027	.100	.324*	.001
Could express true feelings in group	.000	.159	.283*	.001
People in group understood each other	.077	.220*	.325*	-.008
Group Satisfaction Total Score	.016	.198*	.339*	-.012

Note

*
p<.05,**
p<.01