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Gender, Race, and Group Behavior in Group Drug Treatment

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Abstract

Background—Group drug counseling is the primary treatment modality used to treat drug dependence in community settings in the United States. Findings from the social psychology literature suggest that gender may influence how individuals participate in groups, and that race may moderate the effects of gender on group behavior. This study examined gender, race, and their interaction as predictors of alliance, participation, self-disclosure, and receipt of advice and feedback in drug counseling groups, and explored how gender and racial differences in drug counseling group behavior related to outcome of cocaine dependence treatment.

Method—Ratings of group behavior were made from videotaped sessions of group drug counseling drawn from a randomized trial of treatment for cocaine-dependent individuals (n = 438). Analyses examined the effects of race (African American vs. non-Hispanic White), gender, and race by gender on group behavior. Additional analyses examined race, gender, and group behavior, and interactions among these variables in predicting monthly cocaine use.

Results—Race and the race by gender interaction, but not gender alone, predicted many group behaviors. Non-Hispanic White women had the highest rates of self-disclosure and receipt of advice and non-positive feedback, followed by men of both races, with African American women having the lowest levels. These differences were unrelated to cross-sectional cocaine outcome.

Conclusions—Women, but not men, of different races acted differently in mixed-race, mixed-gender cocaine treatment groups, with African American women exhibiting less of several behaviors. Additional research on causes and consequences of these differences could inform interventions for drug-dependent women.

Keywords

cocaine dependence; group drug counseling; race; gender; group process

1 Introduction

Group drug counseling is the primary treatment modality used in community settings in the United States for most substances of abuse (Substance Abuse and Mental Health Administration [SAMHSA], 2010a). Findings from the social psychology literature suggest that gender may influence how substance using individuals participate in these groups. For

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example, when participating in non-treatment groups (i.e., work groups) in various settings, compared with women, men tend to talk more, talk more to assert dominance (such as telling others what to do, offering suggestions or advice, and disagreeing with or criticizing others' contributions) and interrupt more to gain the floor (Anderson and Leaper, 1998; Leaper and Ayres, 2007; see review in Carli, 2010). Women tend to disclose more (Murstein and Adler, 1995; Papini et al., 1990) and speak in a more affiliative manner, using behaviors such as praise, collaboration, active understanding, agreement, and expressing affection and support (Leaper and Ayres). In turn, others tend to adopt a friendlier, more pleasant tone toward (Hall and Braunwald, 1981) and be more verbally supportive of women than men (Carli, 1989; see review in Carli, 2010). However, women are more harshly judged when violating societal or gender norms (see review in Carli, 2010), such as becoming substance dependent. It is unknown whether the gendered interaction patterns found in the general population (i.e., men talk more, women disclose more, women receive more support in general, but possibly more criticism when violating social norms) are also found in substance abuse treatment groups.

Although the substance abuse field has not explored gendered interactions in group drug counseling, many studies suggest that gender may be an important variable in substance abuse treatment (Carr and Summerson, 2010; Grella, 2006; Grella et al., 2000; Marsh et al., 2004). Some observed gender differences may affect the way men and women participate in group drug counseling. For example, substance dependent women are more likely to have co-occurring psychiatric disorders (Kessler et al., 1997; SAMHSA, 1999), disruption and more substance use in their families of origin, to lack social support for treatment, and to have lower levels of denial and higher levels of guilt, shame, depression, and anxiety about addiction than substance dependent men (Nelson-Zlupko et al., 1995). Women in substance use treatment also tend to have more drug-related and social problems, such as interpersonal violence, sexual abuse, drug-using partners, unemployment, poverty, and child-care issues, but fewer legal problems than do men (Morgenstern and Bux, 2003; Greenfield et al., 2007; SAMHSA, 1999). The combination of more social problems and fewer legal issues may make substance-dependent women more likely to disclose and to be given feedback and advice in group drug counseling. Although reviews have concluded that men and women tend to have similar substance use treatment outcomes (see reviews in Greenfield et al., 2007; Greenfield et al., 2010), one study of gender differences in an outpatient drug treatment program found that women reported higher therapeutic alliances with their individual therapists than did men, and that this difference partially mediated women's better outcomes in that program (Morgenstern and Bux, 2003).

Although group processes and group behavior have not been well-studied in group drug counseling, several potentially gender-linked processes have been found to predict outcomes in individual drug treatment or in group treatment for other psychiatric disorders. For example, patient participation (Conye and Silver, 1980; Lundgren and Miller, 1965), patient self-disclosure (Bloch and Crouch, 1981; Coche et al., 1991; Crouch et al., 1994; Tschuschke and Dies, 1994; Tschuschke et al., 1995), quality of the therapeutic alliance (Brown and O'Leary, 2000; Johnson et al., 2008; Marziali et al., 1997; 1999; Taft et al., 2003; van Andel et al., 2003), and receiving positive or empathic feedback (Morran et al., 1998; Miller et al., 1980; Miller et al., 1993) have consistently been associated with better outcomes in group therapy for a variety of disorders and/or in individual drug counseling. Although frequency of generic feedback has been found to be associated with good outcomes in general group therapy (see reviews in Kivlighan, 1985; Claiborn et al., 2001; Morran et al., 1998), unskilled feedback such as confrontation or unwanted advice has been found to predict negative outcomes in individual drug treatment (Miller et al., 1993). In order to best meet the needs of men and women in group drug treatment, it is important to know not only whether the alliance and rates of group behaviors such as participation, self-

disclosure, feedback, etc. differ by gender, but also whether associations between these behaviors and outcomes differ for men and women in drug treatment.

Although there is less research in this area, it is also possible that social norms may provide different group experiences for those of racial minority status, especially in race and gender heterogeneous counseling groups. Despite (1) several theoretical articles about how minority status may influence individuals' experience of treatment (see Vasquez, 2007; Whitley, 2009), and (2) clinical case examples of how counselors and minority patients interact (see Kohl, 2006; Matthews and Peterman, 1998), there is relatively little empirical evidence about how race affects actual therapy process behaviors. Compared to non-Hispanic Whites, Black or African American individuals have been found to have shorter lengths of stay in substance use treatment (Morgenstern and Bux, 2003; Siqueland et al., 2002; Wintersteen et al., 2005), but not lower patient-rated therapeutic alliance (Wintersteen et al.) or worse substance use outcomes (Godley et al., 2001; Lowman and Le Fauve, 2003; Morgenstern and Bux, 2003). Theory suggests that African American clients may be less likely to disclose in therapy because of concerns about "airing dirty laundry" (Consadine et al., 2007; Matthews and Peterman) and one empirical study of suicide evaluations found African American patients to be more cautious about self-disclosure (Morrison and Downey, 2000). Furthermore, drug-dependent African Americans have fewer psychiatric problems (Compton et al., 2000; Morgenstern and Bux, 2003), heavier drug use, and more legal pressure to seek treatment (Morgenstern and Bux, 2003) than non-Hispanic White patients, all of which might contribute to lower self-disclosure. However, one study of self-disclosure in *non-treatment* settings found that racial main effects self-disclosure disappeared when socioeconomic status was controlled (Consadine et al., 2007). There is little solid empirical information about the effects of race on variables such as time talking and turns talking in mixed-race groups, even in non-treatment groups such as work groups. Finally, we could not find any studies examining differences in advice or feedback by racial or ethnic minority status, but one social psychology study found that solo status in one's workgroup predicted higher perceptions of stereotype threat, which predicted less direct inquiry and more distrust of direct feedback from supervisors (Roberson et al., 2003). The current study is the largest study of which we are aware in either the treatment or work group literatures to examine differences observer-rated group behaviors by race, and is the first such study of which we are aware in the substance use treatment literature.

Finally, a nascent area of social psychology suggests that race and ethnicity may interact with gender effects in predicting group behavior (Carli, 2010). For example, based on literature demonstrating more equality in verbal interaction patterns between African American adults and spouses than between White adults and spouses (Henley, 1995; Stanback, 1985), one article examining social (not treatment) groups hypothesized that African American adolescents would interact in a more egalitarian manner than White adolescents (Filardo, 1996). Results indicated that sex differences in speech were much larger for White adolescents than for African American ones. Because about 40% of patients attending substance use treatment are members of a racial or ethnic minority group (SAMHSA, 2010b), it is important to understand how race/ethnicity may affect gendered group behavior and the effects of this behavior on treatment outcomes. The effects of race on gendered group interaction are only beginning to be studied in social psychology, and to our knowledge, this is the first article examining the effects of race on gendered interactions in treatment groups for any psychiatric population, including those in substance use treatment.

The first purpose of this study is to examine gender, race, and their interaction as predictors of behavior in gender and race heterogeneous (primarily African American and non-Hispanic White) drug counseling groups. Based on sparse previous findings about (a)

characteristics of individuals in substance use treatment, and (b) the effects of race and gender on behavior in non-substance-using, non-treatment samples, we hypothesized that:

1. Women would have higher levels of self-disclosure, would receive more feedback (both positive and non-positive) from counselors and patients, would receive more advice statements from counselors and patients, but would have fewer turns at talk and lower percent time at talk.
2. African American participants would have lower levels of self-disclosure, and in turn, would be given less advice and feedback than non-Hispanic White participants.
3. Gender differences would be larger for Non-Hispanic White participants than for African American participants.

The second purpose is to explore how gender or racial differences in drug counseling group behavior are related to cocaine outcome in these groups.

2 Method

2.1 Overview

Ratings of group behavior were made from videotaped sessions of group drug counseling (GDC) drawn from the National Institute on Drug Abuse Cocaine Collaborative Treatment Study (NIDA CCTS; Crits-Christoph et al., 1999). The NIDA CCTS was a randomized multicenter trial comparing the efficacy of four treatments for cocaine dependence, all of which included GDC and three of which also included individual (cognitive behavioral, supportive expressive, or individual drug counseling) sessions. Like most group drug treatment (McLellan, 2006), GDC (Daley, 2002) educates clients about important concepts in addiction recovery, provides encouragement for recovery activities including 12-step self-help program attendance, and can be offered in conjunction with individual counseling. GDC sessions (1.5 hours) were held once a week for 6 months.

2.2 Participants

A total of 487 patients ages 18-60, with a diagnosis of cocaine dependence, for whom cocaine was their primary drug, and who reported cocaine use in the past 30 days, were randomized, treated and followed between 1994 and 1997. Detailed exclusion criteria are described in Crits-Christoph et al. (1999). This report excluded patients who did not attend any group sessions, who were out of the camera view on videotapes, or who were not African American or non-Hispanic White (n = 11), leaving a sample of 438. This sample was 23% female and 40% African American (60% non-Hispanic White).

Of the 10 group drug counselors, 8 were men, 8 were White, and 3 had masters' degrees (the rest had Bachelor's or Associates degrees), with an average of 6.9 years of clinical experience.

2.3 Assessments

2.3.1. Group behaviors—Eleven group behaviors/processes were assessed, including working alliance, here and now self-disclosures, past self-disclosures, positive feedback statements received from counselor, positive feedback statements received from other patients, non-positive feedback statements received from counselor, non-positive feedback statements received from other patients, advice received from counselor, advice received from other patients, number of turns at talk, and weighted percent time at talk. We differentiated receipt of advice/feedback from counselors and other group members to

address the possibility that counselors, who are presumably trained in diversity issues, may treat women and minorities in a more egalitarian way than would other group members.

Five judges who were trained, experienced master's or Ph.D.-level clinicians provided ratings of all group behaviors except turns at talk and time at talk. Judges rated training, recalibration, and study tapes independently. Judges provided ratings for 406 patients, who were present in an average of 3.86 group sessions. Each tape was rated by two judges; 2-rater average scores were used.

Undergraduate students (27) were hired and trained to code number of turns at talk and time at talk for 421 African American or non-Hispanic White patients. One judge coded each session. Inter-rater reliabilities of single-rater scores for participation measures and 2-rater averages for other group behaviors ranged from adequate (for feedback) to excellent (Crits-Christoph et al., 2011). The sample of 421 patients rated for turns at talk and time at talk mostly, but not completely, overlapped with the sample of 406 rated on other group behaviors, providing a total sample size of 438.

Therapeutic alliance was assessed using the observer version (Raue et al., 1997) of the Working Alliance Inventory (WAI) (Horvath and Greenberg, 1989). The WAI is a 36-item instrument, with each item rated on a 7-point Likert-type scale, with total scores ranging from 36 to 252 (higher is better). This scale assesses the patient's affective bond with the therapist and the agreement between patient and therapist on the goals and tasks of treatment. We evaluated each member's alliance with the group counselor (not the alliance with the group as a whole).

Patient self-disclosure statements revealed something personal about past emotionally significant events (“past self-disclosure”) or a current reaction to the group (“here and now self-disclosure”). They were assessed using the response mode coding system developed by Connolly Gibbons et al. (2002).

Feedback statements to each group member helped him/her become aware of a thought, feeling, or behavior and were assessed using the Connolly Gibbons et al. (2002) system. Positive feedback statements provided support, approval, reassurance, or reinforcement, using the “approval” category from the Hill Counselor Verbal Response Modes Category System (Hill, 1986).

Advice statements were coded using the Connolly Gibbons et al. (2002) system. A statement was considered “advice” if it instructed the patient to do something.

Group participation variables included weighted percent time at talk (percent of group time excluding counselor talk time) and number of turns-at-talk of at least 3 seconds in each group session by each patient.

2.3.2. Outcome—*Cocaine use* was self-reported days using cocaine each month during the 6-month treatment period, taken from the Addiction Severity Index (McLellan et al., 1992). In the CCTS as a whole, 10% of urine drug screens indicated use when the patient denied use (Crits-Christoph et al., 1999).

2.4 Analyses

Six of the 11 group behaviors (positive and non-positive feedback from counselor, non-positive feedback from other patients, advice statements from counselor and other patients, and here and now self-disclosures) were square root transformed to achieve normality and

one (positive feedback from other patients) was dichotomized. All analyses used a $p = .01$ significance level to correct for multiple comparisons.

2.4.1. Effects of race and gender on group behavior—Eleven separate analyses tested the effects of gender, race, and the interaction of gender and race on each group behavior. Gender and race were centered, and then gender, race, and their interaction were tested as simultaneous predictors of each group behavior using analysis of variance for the 10 continuous group behavior variables and logistic regression for the dichotomized variable. These analyses were used to test Hypothesis 1 (higher self-disclosure, feedback and advice received, and less time talking for women), Hypothesis 2 (less disclosure, advice, and feedback for African American participants), and Hypothesis 3 (greater gender differences in group behaviors for non-Hispanic White participants than for African American participants). Because ratings took place for participants who were present, there was almost no missing group behavior data (one alliance score was missing, which was excluded from analyses involving alliance).

2.4.2 Interactions of group behaviors with gender and race in predicting cross-sectional cocaine outcomes—In this trial, cocaine use reduced dramatically in the first month of the trial and then was relatively constant between months 1-6. Because of this, the main outcome paper (Crits-Christoph et al., 1999) did not test for a linear improvement in cocaine use over time (rather, the statistical model used all assessments and compared treatments on the overall level [average] across these assessments, covarying baseline levels). As a result, for this study, days using cocaine each month was averaged over months 1-6 to create a single composite outcome score, which was square root transformed to achieve normality. Average scores excluded months where data was missing (16%, with no differences in missingness across race/gender groups); therefore, an average cocaine use score was available for all participants. Separate linear regression analyses using centered predictors tested main effects plus gender by behavior interactions (11 analyses), race by behavior interactions (11 analyses), or gender by race by behavior interactions (11 analyses) in predicting average cocaine use days (33 total analyses). Covariates included baseline days using cocaine and treatment condition (see description of treatment conditions in Section 2.1). These analyses were used to explore how gender or racial differences in drug counseling group behavior are related to cocaine outcome.

3. Results

3.1 Effects of race and gender on group behavior

Contrary to Hypothesis 1, gender was only significantly associated with one group behavior as a main effect (women were more likely to get positive feedback from other patients; $B = .66$, $SE[B] = .24$, $Wald = 7.24$, $df = 1$, $p = .007$; see Tables 1 and 2 for ANOVA results). The race effects proposed in Hypothesis 2 and some additional race effects were found: as a main effect, being African American was associated with lower rates of 7 of 11 group behaviors (see Tables 1 and 2; $B = .35$, $SE[B] = .24$, $Wald = 2.05$, $df = 1$, $p = .153$ for race effect on positive feedback from other patients). However, race differences appeared to be primarily driven by differences in African American and non-Hispanic White women, with significant gender by race interactions for 5 group behaviors (see Table 2; $B = .00$, $SE[B] = .49$, $Wald = .00$ $df = 1$, $p = .99$ for effect on positive feedback from other patients). In each case, African American and non-Hispanic White men acted similar to each other. African American women had lower levels of most behaviors than the men did, and non-Hispanic White women had higher levels than did the men (see Table 1). Post hoc comparisons showed lower levels of past self-disclosures, time at talk, and receipt of advice and non-positive feedback from both counselors and other patients for African American women

than for non-Hispanic White women, and no race differences on any group behavior for men.

We had hypothesized that gender differences would be larger for non-Hispanic White participants than for African American participants (Hypothesis 3); however, as described above, gender effects were actually in opposite directions for non-Hispanic White and African American participants. In the African American sample, post hoc comparisons showed significantly ($p < .01$) lower receipt of advice from counselors and near-significantly ($p < .02$) *lower* receipt of advice from other patients and non-positive feedback from other patients for women than for men. However, among non-Hispanic Whites, several variables were significantly (positive learning statements from counselors) or near-significantly ($p < .02$; past-self-disclosures, non-positive feedback from counselors, advice from other patients, turns at talk) *higher* for women than for men.

We had wondered whether the consistency of effects found was because of a high level of overlap among the group behaviors measured. However, correlations among the group behaviors indicated that findings were largely independent. Except for a few closely related variables (i.e., time at talk and turns talking, advice and non-positive feedback), bivariate Spearman correlations among transformed group behaviors ranged from $r = .11$ to $r = .46$.

3.2 Interactions of group behaviors with gender and race in predicting cross-sectional cocaine use

As reported previously (Crits-Christoph et al., 2007), gender and race did not predict cocaine use as main effects. There was not a significant ($p < .01$) gender by race interaction in predicting average days of cocaine use, suggesting that the observed differences in group behavior did not translate into different cocaine outcomes. Furthermore, post hoc analyses found no differences in cocaine use between African American and non-Hispanic White women, the two groups with the largest differences in group behavior. There was also no evidence that group behaviors had different associations with cocaine outcome for individuals of different genders, races, or gender-race combinations: no gender by behavior, race by behavior, or race by gender by behavior interactions were significant predictors of average days of cocaine use.

4. Discussion

Contrary to Hypothesis 1, gender was associated with only one group behavior as a main effect (with women more likely to received positive feedback from other patients). As expected in Hypothesis 2, African American participants were less likely to make past self-disclosures (which made up most of the self-disclosures in these groups) and were less likely to get advice and non-positive feedback than were non-Hispanic White participants. They also talked less and had fewer turns at talk. However, except for turns at talk and time at talk, all group processes associated with race were also significantly associated with the race by gender interaction. When we examined these interactions, the main effects of race on group behavior appeared to be driven by race effects among women only. In fact, we found lower levels of past self-disclosures, time at talk, and receipt of advice and non-positive feedback for African American women than for non-Hispanic White women, and no race differences on any group behavior for men. As expected in Hypothesis 3, gender interacted with race in relation to many group behaviors. However, unexpectedly, gender effects (which for the most part neared, but did not reach, statistical significance for both African American and non-Hispanic White subsamples) were in opposite directions for African American and non-Hispanic White participants: African American women tended to have lower levels of group behaviors than African American men, and non-Hispanic White women tended to have higher levels of group behaviors than did non-Hispanic White men.

Race and race by gender effects on group behavior in the sample as a whole were consistent, but small (partial h^2 from .02 to .04). Effect sizes of race among women only (partial h^2 from .09 to .14) were between "small" (h^2 = .04) and "medium" (h^2 = .25; Ferguson, 2009).

It is not clear why African American and non-Hispanic White women acted differently in these groups. Some studies have documented the marginalization of minorities and women in decision-making in task groups (see Elsass and Graves, 1997; Kirchmeyer, 1993) and African American women can be considered to have "double minority" status. However, it is unclear whether the African American women, who disclosed less and received less correction (e.g., advice and non-positive feedback) from the counselor and other group members, were being "marginalized" in these treatment groups or were acting in a more empowered manner than the non-Hispanic White women. For example, help-seeking behavior (such as disclosing and receiving advice and feedback) is expected to be positive in treatment groups; however, disclosing and getting corrected are often considered to be behaviors of those in low power roles, and receiving advice can motivate or de-motivated individuals to change substance use, depending on the circumstances (Miller, 1991). Furthermore, one study found that African American women in substance use treatment had more effective coping skills and less exposure to drug culture variables and pressures/ invitations to use than did non-Hispanic White women and men of both races (Walton et al., 2001). Given research showing that social support decreases depression and cocaine relapse risk among drug-involved White women, but increases depression and has no effect on cocaine relapse among drug-involved African American women (Havassy et al., 1995; Kubiak and Siefert, 2008), women may have been using their groups in ways that best fit their own needs.

It is also possible that the composition of the groups affected group behavior and that different findings might have resulted from having groups in which African Americans and women were in the majority, rather than the minority. For example, retention rates in substance use treatment are higher for women in women-only than in mixed gender programs (Grella et al., 1999) and higher for women in programs with more other women similar to them (i.e., pregnant/parenting or not; Grella, 2000). In this study, groups had rolling admission, meaning that the composition of groups changed over time and could not be clearly defined to be directly tested. However, site demographics were definable and site may serve as a reasonable proxy for group because there were only 2-3 groups per site. Women were in the minority at all sites, ranging from 17% to 29% of the sample, so we did not have enough variation in the percentages of women at each site to test whether gender composition affected group behavior. African Americans were in the minority (3% to 24%) at 3 sites and in the majority (65% and 74%) at 2 sites. As a post hoc test of whether group composition moderated race effects, we created a variable reflecting whether African Americans were in the majority or minority at the site and tested the interaction of this variable with race in predicting group behavior. One significant (p = .007) interaction was found in predicting turns at talk: African Americans and non-Hispanic Whites had a similar mean number of turns at talk (21.0 and 22.8, respectively) at sites where African Americans were in the majority, but African Americans had fewer turns at talk (13.5 and 22.7, respectively) than non-Hispanic Whites at sites were non-Hispanic Whites were in the majority. We found no other evidence ($p < .01$) that having a majority of African American patients at the site moderated the effects of race on the other 10 group behaviors in the sample as a whole or among female participants only.

Without knowing more about the basis for the race and gender by race effects on group behavior, it is difficult to offer definitive clinical recommendations. The lack of race and gender by race effects on treatment outcome may suggest that the small race/gender differences in group behavior we observed are largely irrelevant. It is also possible that our

lack of findings for cocaine outcomes were due to having a relatively small numbers of women, especially African American women (9% of the sample) in relation to power to detect differences in cocaine use, although other studies have not found minority women to have worse substance use treatment outcomes (see Godley et al., 2001; Morgenstern and Bux, 2003; Lowman and Le Fauve, 2003). In either case, the consistency of gender by race effects on group behavior raises questions that should be addressed in future research, such as: whether differences in group interaction affect other outcomes (e.g., drug substitution, long-term outcomes, social functioning); whether race-specific drug counseling interventions for women are warranted; and more detailed information about how group composition affects findings. For example, because this was a cocaine dependent sample with relatively few women (39 African American and 62 White women in a sample of 438), generalization of results to populations with other substance use disorders and to settings in which women (especially African American women) are in the majority is unclear. Even if further research does not substantiate a need for race-specific drug counseling for women, it would seem prudent to educate group drug counselors about what to potentially expect when leading race and gender heterogeneous groups.

In summary, the current study found that ratings of group process in group drug counseling for cocaine dependence were often predicted by race and the interaction of race and gender, but rarely gender alone. African American participants talked less and had fewer turns at talk than non-Hispanic White participants, with race effects on turns at talk most pronounced when most participants at the site were non-Hispanic White. African American women displayed the lowest rates of self-disclosure and receipt of advice and non-positive feedback and non-Hispanic White women displayed the highest. These race/gender differences in group behavior, however, did not translate into race/gender differences in cocaine treatment outcome.

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Table 1

Group Behavior and Cocaine Use by Race and Gender (n = 438)

	African American Men (n = 136) M (SD)	Non-Hispanic White Men (n = 201) M (SD)	African American Women (n = 39) M (SD)	Non-Hispanic White Women (n = 62) M (SD)
WAI alliance score	190.9 (20.2)	190.6 (17.3)	183.1 (25.3)	192.5 (16.4)
Here and now self-disclosures	.56 (.69)	.52 (.73)	.50 (.62)	.61 (.57)
Past self-disclosures	7.6 (3.5)	8.0 (3.9)	6.6 (3.6)	9.4 (3.8)
Positive feedback statements received from counselor	.26 (.31)	.28 (.32)	.30 (.43)	.42 (.35)
Positive feedback statements received from other patients	.19 (.44)	.15 (.24)	.22 (.35)	.25 (.34)
Non-positive feedback statements received from counselor	1.0 (1.0)	1.1 (.93)	.80 (.82)	1.5 (1.4)
Non-positive feedback statements received from other patients	.61 (1.0)	.55 (.67)	.27 (.37)	.80 (.96)
Advice statements received from counselor	1.0 (1.0)	1.1 (1.1)	.64 (.78)	1.4 (1.5)
Advice statements received from other patients	.80 (1.4)	.80 (1.1)	.36 (.49)	1.4 (1.9)
Number of turns at talk	20.0 (8.9)	21.9 (10.1)	20.6 (8.6)	25.4 (10.5)
Weighted percent time at talk	1.3 (.66)	1.4 (.65)	1.1 (.55)	1.5 (.72)
Days using cocaine each month	3.6 (4.7)	3.3 (4.5)	4.1 (6.2)	3.0 (4.2)

NOTE: the sample sizes for cells vary slightly due to missing data.

Table 2

Gender, Race, and Race by Gender Effects on Group Behaviors

Dependent variables and predictors	*df*[a]	*F*	*p*	*Partial* η^2[b]
WAI alliance score				
Gender	1, 401	1.7	.193	.00
Race	1, 401	4.0	.045	.01
Race by gender	1, 401	4.6	.032	.01
Past self-disclosures				
Gender	1, 402	.19	.667	.00
Race	1, 402	11.7*	**.001**	.03
Race by gender	1, 402	7.3*	**.007**	.02
Here and now self-disclosures				
Gender	1, 402	.08	.781	.00
Race	1, 402	.52	.472	.00
Race by gender	1, 402	1.8	.185	.00
Positive feedback from counselors				
Gender	1, 402	2.3	.127	.01
Race	1, 402	6.5	.011	.02
Race by gender	1, 402	3.3	.069	.01
Non-positive feedback from counselors				
Gender	1, 402	.02	.893	.00
Race	1, 402	11.6*	**.001**	.03
Race by gender	1, 402	7.8*	**.006**	.02
Non-positive feedback from other patients				
Gender	1, 402	.45	.503	.00
Race	1, 402	11.6*	**.001**	.03
Race by gender	1, 402	10.9*	**.001**	.03
Advice from counselors				
Gender	1, 402	1.2	.277	.00
Race	1, 402	14.0*	**<.001**	.03
Race by gender	1, 402	9.4*	**.002**	.02
Advice from other patients				
Gender	1, 402	.07	.798	.00
Race	1, 402	15.1*	**<.001**	.04
Race by gender	1, 402	12.4*	**<.001**	.03
Number of turns at talk				
Gender	1, 417	3.2	.072	.01
Race	1, 417	8.5*	**.004**	.02
Race by gender	1, 417	1.4	.211	.00

Dependent variables and predictors	*df*[a]	*F*	*p*	*Partial* η^2[b]
Weighted percent time at talk				
Gender	1, 417	.09	.770	.00
Race	1, 417	9.2*	**.003**	.02
Race by gender	1, 417	5.6	.018	.01

*p =< .01.

[a]The table lists numerator and denominator degrees of freedom for each test, separated by a comma.

[b]Partial η^2 is a measure of effect size for ANOVA.