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Race/ethnicity and racial group composition moderate the effectiveness of mindfulness-based relapse prevention for substance use disorder

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HIGHLIGHTS

- Mindfulness-based relapse prevention (MBRP) outperformed relapse prevention (RP).
- Racial/ethnic group composition moderated the effectiveness of MBRP.
- Clinicians should focus on group cohesion to improve MBRP outcomes.

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ABSTRACT

Introduction: Mindfulness-based relapse prevention has shown promise as a treatment for substance use disorder but its efficacy according to racial/ethnic minority status and group composition is unknown.
Method: This is a secondary analysis of existing data (Bowen et al., 2014) testing individual race/ethnicity and racial/ethnic group composition as moderators of mindfulness-based relapse prevention (MBRP). Participants (N = 191; 29% female; 47% racial/ethnic minority; mean age = 39) with substance use disorder were randomized to MBRP or relapse prevention (RP). Outcomes were heavy drinking days (HDD) and drug use days (DUD) 12 months after treatment completion. Negative binominal regression models were conducted.
Results: Analyses accounted for drug of choice. Individual race/ethnicity was a significant moderator of substance use outcomes. White participants had lower HDD in MBRP than RP (IRR = 0, 95% CI: 0,0), whereas for minority participants, there was no treatment difference in HDD. Conversely, minorities had lower DUD in MBRP than RP (IRR = 0.03, 95% CI: 0.01, 0.10), whereas for whites there was no treatment difference in DUD. Group racial/ethnic composition was a significant moderator. Participants in groups with more than half whites had lower HDD in MBRP than RP (IRR = 0.01, 95% CI: 0, 0.09), whereas for participants in groups with more than half minorities there was no treatment difference in HDD. Exploratory analyses suggested MBRP resulted in better outcomes than RP when individual race/ethnic status was reflected in the group race/ethnicity (i.e., whites in groups with more than half whites or minorities in groups with more than half minorities).
Conclusions: Among whites, MBRP appears to be more effective than RP in preventing heavy drinking relapse. However, among racial/ethnic minorities, MBRP appears to more effective than RP in preventing drug use relapse. This suggests that the interaction between individual race/ethnicity and group composition may influence primary outcomes.

Multiple large-scale surveys highlight racial and ethnic disparities in rates of alcohol and drug use and related negative consequences (e.g., Chartier & Caetano, 2010; Grant et al., 2016). These studies suggest that Native Americans have the highest rates of substance use disorder (SUD), Asians and Pacific Islanders have the lowest, and rates for blacks, whites, and Hispanics fall in between (Grant et al., 2015, 2016).

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However, experiencing adverse outcomes related to substance use, such as negative health and social consequences, is more common among racial and ethnic minorities than whites[1] (Substance Abuse and Mental Health Services Administration, 2014). Specifically, in the National Alcohol Survey, black and Hispanic men had higher rates of substance-related injuries, accidents, and health, social, work, and legal consequences than white men (Witbrodt, Mulia, Zemore, & Kerr, 2014). Native Americans have the highest rates of alcohol-related deaths, among other substance-related disparities (Chartier & Caetano, 2010). There is a clear need to address these health inequities.

1. Treatment need and access

There are also significant racial/ethnic disparities in access to SUD treatment, though these findings are not always consistent and this is an underrepresented area of research. Many studies indicate that Hispanics are less likely than whites to receive SUD treatment (e.g., Mulia, Tam, & Schmidt, 2014; Wells, Klap, Koike, & Sherbourne, 2001). In some samples, Blacks have evidenced a higher unmet treatment need than whites (Acevedo et al., 2015; Wells et al., 2001); although, in other studies, blacks have a lower unmet treatment need (e.g., Mulvaney-Day, DeAngelo, Chen, Cook, & Alegría, 2012; Perron et al., 2009).

2. Treatment retention and outcomes

Alongside these disparities in treatment access is evidence of inequalities in retention and outcomes. Hispanics and blacks are significantly less likely to complete publicly-funded SUD treatment than whites (e.g., Bluthenthal, Jacobson, & Robinson, 2007; Guerrero et al., 2013; Saloner & LeCook, 2013). Despite lower rates of treatment completion, some studies suggest racial and ethnic minority individuals experience similar benefit from SUD treatment (see Schmidt, Greenfield, & Mulia, 2006 for a review). One meta-analysis found that cognitive-behavioral therapy for SUD was highly effective in reducing substance use across racial and ethnic groups, although results from these studies suggested that blacks and Hispanics benefited less than whites (Windsor, Jemal, & Alessi, 2015). Less is known about whether similarities between racial and ethnic groups in SUD treatment outcomes extend to newer mindfulness-based interventions. A primary goal of this paper is to provide data on racial and ethnic differences in SUD treatment response to such interventions.

2.1. Group SUD treatment

Group-based treatment is the most common type of SUD treatment (National Survey on Drug Use and Health, 2013) and creating a coherent group that offers mutual support is paramount (Yalom, 2015). Cohesion between group members has been positively associated with use of cognitive restructuring and self-efficacy in SMART addiction recovery groups (Kelly, Deane, & Baker, 2015; WhitesPooler, Qualls, Rogers, & Johnston, 2014). Racial and ethnic group composition may impact cohesion; ability to select a single-race therapy group was associated with a 43% increase in the odds of receiving mental health care in a nationwide study (Campbell & Alexander, 2002). Only 10% of groups in an outpatient substance abuse treatment (OSAT) survey of 618 agencies nationwide were single-race groups (Campbell & Alexander, 2002), yet research on racial and ethnic group composition and outcomes is limited. One study of group treatment for anxiety disorder found that increased racial/ethnic heterogeneity predicted lower rates of recovery at the group level (Paulus, Hayes-Skelton, & Norton, 2015). However, follow-up analyses yielded complex results; poor outcomes were limited to seven of the 43 total groups having the most racial/ethnic diversity and in each of these seven groups, no two individuals shared the same race/ethnicity. Different racial/ethnic group make-up warrants further and perhaps more nuanced study.

2.2. Mindfulness-based treatment

Mindfulness-based relapse prevention (MBRP) is a group SUD treatment that combines mindfulness principles and practices with cognitive-behavioral relapse prevention. It has shown superior outcomes to standard cognitive-behavioral relapse prevention (RP) in alcohol and drug use outcomes at a one-year follow-up (Bowen et al., 2014), and was more effective than RP for racial/ethnic minority women in a residential sample, but not more effective than RP for white women in the same residential treatment program (Witkiewitz, Greenfield, & Bowen, 2013). It has been proposed that mindfulness-based treatments are congruent with the worldviews of some racial and ethnic minorities (Hall, Hong, Zane, & Meyer, 2011; Mohatt et al., 2008) and many mindfulness-based treatments have been adapted for racial/ethnic minorities (e.g., Dutton, Bermudez, Matas, Majid, & Myers, 2013).

2.3. Study aims

Given racial/ethnic disparities in SUD rates and treatment engagement and outcomes, as well as the potential acceptability of MBRP for racial/ethnic minorities, we conducted a secondary analysis of a randomized clinical trial of mindfulness-based relapse prevention (MBRP) versus cognitive-behavioral relapse prevention (RP) to determine how individual race/ethnicity and racial/ethnic group composition moderate MBRP outcomes. We investigated: (1) individual race/ethnicity (whites compared to racial/ethnic minorities) and racial/ethnic group composition (whether group was more than half racial/ethnic minorities) as predictors of treatment outcomes, (2) treatment by individual race/ethnicity interaction effects, and (3) treatment by group racial/ethnic composition interaction effects. Finally, we evaluated whether the relationship between individual racial/ethnic minority status and group racial/ethnic composition moderated treatment effects. This was largely an exploratory study. We did hypothesize based on previous research (Witkiewitz et al., 2013) that racial/ethnic minority participants would have better outcomes than whites in MBRP as compared to RP. Whether group composition predicted outcomes, however, was an exploratory analysis.

3. Method

3.1. Participants and procedures

Participants were 286 individuals recruited from two sites within a community SUD treatment agency. Inclusion criteria for this study included: age 18 or older, fluency in English, medical clearance, ability to attend treatment sessions, agreement to random assignment, and prior completion of either intensive outpatient or inpatient care for SUD. Exclusion criteria were: current psychotic disorder, dementia, suicidality, imminent danger to others, or participation in prior MBRP trials. Written informed consent was obtained from participants and all procedures were approved by the university Institutional Review Board.

Participants were recruited following an inpatient or intensive outpatient treatment at the treatment agency and then randomly assigned to one of three treatment conditions: MBRP, RP, or treatment as usual. The current analyses only included participants assigned to

[1] We acknowledge the inherent limitations of the terms “white” and “racial/ethnic minority”; Race/ethnicity is a social construct and not biologically determined (Ford & Kelly, 2005). However, insomuch as societally assigned and self-identified “race” is associated with differential treatment experiences, response, and outcomes, we believe it merits investigation and so compare the experiences between self-identifying “whites” and “racial/ethnic minorities” in this article. Racial and ethnic minorities may not be in the minority in all contexts. Rather, this term includes individuals who tend to have a common set of experiences different from whites, such as experiencing racial discrimination.