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Climate for innovation, 12-step orientation, and tobacco cessation treatment

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ABSTRACT

This study examined the relationship between (1) three indicators of climate for innovation (clinician skills, absence of program obstacles, policy-related incentives) and adoption extensiveness of both behavioral treatments for tobacco cessation (TC) and system-level support for TC in substance use disorder treatment programs, (2) a program's 12-step treatment orientation and adoption extensiveness, and (3) whether 12-step treatment orientation moderates the relationship between climate for innovation and adoption extensiveness. Data were obtained from a random sample of 1006 program administrators. Hierarchical regression results showed that both absence of program obstacles and policy-related incentives are positively related to adoption extensiveness. Twelve-step treatment orientation is neither related to adoption extensiveness nor a moderator of the relationship between climate for innovation and adoption extensiveness. Although the adoption of both behavioral treatments for TC and system-level support for TC is not extensive, we conclude that a 12-step treatment orientation neither hampers nor promotes adoption extensiveness.

1. Introduction

Since 2000, national guidelines encourage all clinicians, including those working in substance use disorder (SUD) treatment programs, to adopt evidence-based practices (EBPs), such as behavioral treatments, system-level support, and pharmacotherapy, for the treatment of tobacco dependence (Fiore et al., 2008; Kalman, Morissette, & George, 2005; Richter & Arnsten, 2006). The guidelines are important considering that between 65 and 87% of individuals in SUD treatment smoke (for a review of the literature, see Guydish et al., 2011) compared to 21% in the general adult population (Centers for Disease Control and Prevention, 2013). Nonetheless, adoption of tobacco cessation (TC) EBPs in SUD treatment programs is a slow process that is characterized by a non-linear and non-uniform adoption across treatment programs (e.g., not all aspects of EBPs might be adopted, not all programs adopt EBPs at the same time or with the same extensiveness) (Fuller et al., 2007; Knudsen & Studts, 2011; Richter, Choi, McCool, Harris, & Ahluwalia, 2004; Rothrauff & Eby, 2010).

Several reasons may explain this low and slow adoption of TC EBPs. There is a known research-to-practice gap in the SUD treatment field with EBPs being slow to be integrated into routine practice (Fuller et al., 2007; Richter et al., 2004; Roman, Abraham, Rothrauff, & Knudsen, 2010). Similarly, there is the "clinical lore" that is slow to debunk that tobacco is not a real drug and is too hard to treat alongside other addictions (Guydish, Passalacqua, Tajima, & Manser, 2007; Ziedonis, Guydish, Williams, Steinberg, & Foulds, 2006). Additionally, low adoption may reflect the smoking culture that still exists in some SUD treatment settings (McIlvain & Bobo, 2005; Reilly, Murphy, & Alderton, 2006).

A major contributor to these low TC adoption patterns may be due to the 12-step philosophy surrounding recovery that teaches people that their first and primary responsibility is sobriety from alcohol, illegal drugs, and non-prescription medications (Bobo & Husten, 2000; Rothrauff & Roman, 2011; White, 1998). It is further recommended that people solely focus on remaining sober from their primary SUD instead of making additional changes such as stopping smoking (Bobo & Husten, 2000; Kotz, 1993).

The empirical evidence regarding how 12-step treatment orientation relates to SUD treatment paints a complex picture. On one hand, there is evidence that a 12-step model is related to positive SUD patient treatment outcomes (Crits-Christoph et al., 1999; McAuliffe, 1990; National Institute on Drug Abuse [NIDA], 2012; Project MATCH Research Group, 1997). On the other hand, findings based on a program's 12-step treatment orientation show negative relationships with adoption of EBPs (not specific to TC), particularly pharmacotherapy (e.g., Abraham, Rieckmann, McNulty, Kovas, & Roman, 2011; Bride, Abraham, Kintzle, & Roman, 2013; Rieckmann, Kovas, McFarland, & Abraham, 2011).

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The current study focuses on the adoption of two EBPs for TC that are recommended in the national guidelines but rarely studied in SUD treatment—behavioral treatments for TC and system-level support for TC (Fiore et al., 2008). As SUD researchers are placing more emphasis on theoretical frameworks for selecting predictors of the adoption of EBPs, we use Klein and Sorra's (1996) innovation implementation effectiveness framework to create a novel way of examining the relationship between various aspects of climate for innovation (i.e., clinician skills, absence of program obstacles, policy-related incentives) and adoption extensiveness of both behavioral treatments for TC and system-level support for TC. Additionally, because previous research has omitted behavioral treatments for TC and system-level support for TC in relation to a program's 12-step treatment orientation, we investigate whether there are differences in the adoption extensiveness between programs that have a primarily 12-step treatment orientation and programs with a primarily non-12-step treatment orientation. Finally, we examine whether 12-step treatment orientation moderates the relationship between the climate for innovation and adoption extensiveness of both behavioral treatments for TC and system-level support for TC.

1.1. Behavioral treatments for TC and system-level support for TC

Fiore et al. (2008) recommend the use of different types of behavioral treatments for TC and system-level support for TC to address the varied needs of tobacco users. For example, compared to individuals without SUDs, those with SUDs have a higher rate of tobacco use (Berggren et al., 2007; Centers for Disease Control and Prevention, 2007; Jackson, Sher, Wood, & Bucholz, 2003; Kalman et al., 2005; Martin, Rohsenow, MacKinnon, Abrams, & Monti, 2006), are more heavily dependent on tobacco products (Hughes, 2002; Sobell, 2002), and have more difficulty achieving TC (Hughes & Kalman, 2006).

Behavioral treatments for TC, which are conceptually distinct from system-level support (Abrams et al., 2003; Fiore et al., 2008), include approaches such as the use of the five A's (asking patients about their tobacco use, advising users to quit, assessing their willingness to quit, assisting in quitting, and arranging for follow-up care), enhancement of problem solving skills and skills training, combinations of counseling and pharmacotherapy, and on-going TC support and encouragement (Fiore et al., 2008; Kalman et al., 2005; Richter & Arnsten, 2006). In addition, it is recommended that behavioral treatments for TC are offered in various formats such as individual counseling, group counseling, telephone support, and/or a combination of formats (Fiore et al.l, 2008).

System-level support for TC is also necessary for the effective delivery of TC services (Fiore et al., 2008). System-level support can include organizational approaches such as ensuring that tobacco users are identified and documented, TC treatment is offered, staff are trained and have access to available resources to promote TC, staff are dedicated to providing TC treatment, and staff are supported and motivated to use EBPs to treat tobacco dependence (Fiore et al., 2008; Kalman et al., 2005; Richter & Arnsten, 2006).

1.2. Climate for innovation and adoption of behavioral treatments for TC and system-level support for TC

We utilize Klein and Sorra's (1996) theoretical framework on the adoption of innovations in organizational settings to examine various aspects of climate for innovation as predictors of adoption extensiveness of behavioral treatments for TC and system-level support for TC. We chose Klein and Sorra's model over other frameworks that may have utility in understanding the adoption and implementation of innovations (e.g., Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Rogers, 2003) due to our interest in examining how specific organizational processes and management practices influence the adoption of TC.

Klein and Sorra's model is well established in the organizational science literature and has been used in numerous rigorous empirical studies to understand the adoption and implementation of a wide range of phenomena. This includes the implementation of safety performance standards (Mohaghegh & Mosleh, 2009), primary health care service delivery (Nembhard, Alexander, Hoff, & Ramanujam, 2009), information technology systems (Dong, Neufeld, & Higgins, 2008), and health promotion programs (Weiner, Lewis, & Linnan, 2009).

Klein and Sorra identify innovation adoption and implementation as “the process of gaining targeted employees' appropriate and committed use of an innovation” (p. 1055). They argue that the fundamental challenge for innovation adoption and implementation is to change organizational members' behavior so that they use the innovation on a day-to-day basis. In other words, implementation failure is the primary reason why organizational innovations do not have their intended benefits, and implementation happens only when employees are both motivated and able to execute the innovation. The model conceptualizes adoption and implementation effectiveness as a continuum that ranges from avoidance of the innovation (nonuse) to meager and unenthusiastic use, to skilled and sustained use. This is consistent with our conceptualization of adoption extensiveness.

According to Klein and Sorra's theoretical framework, climate for innovation is one of the main factors that predict the adoption, implementation, and sustainability of an innovation. The three components of an organization's climate for innovation are employee skills that assist the innovation, absence of program obstacles to adopt and implement the innovation, and policy-related incentives that support the availability and use of the innovation. First, research has shown that individual *clinician skills* such as higher level of education, greater tenure in the SUD field, and more training are positively associated with the adoption of pharmacotherapy (e.g., Knudsen, Ducharme, Roman, & Link, 2005; Rieckmann et al., 2011). Similar findings have been reported for clinicians' attitudes toward pharmacotherapy use. Abraham et al. (2011) found that attitudes toward the adoption of naltrexone were more favorable among clinicians with at least a master's degree, who had medication-specific training, and had more years of experience in the field.

Second, individual factors that can be defined as *absence of program obstacles* to the adoption of EBPs such as non-profit status (e.g., Friedmann, Jian, & Richter, 2008; Richter et al., 2004), hospital affiliation and/or hospital-based standing (e.g., Friedmann et al., 2008; Knudsen & Studts, 2011), mental health services provision (e.g., Friedmann et al., 2008), and non-outpatient care (e.g., Knudsen & Studts, 2011; Ziedonis et al., 2006) are related to greater availability of TC pharmacotherapy than other SUD treatment programs.

Third, little is currently known about the relationship between *policy-related incentives* and adoption of EBPs. However, it seems reasonable to expect that incentives such as policies that reimburse treatment programs for providing TC-related services are linked to the adoption extensiveness of both behavioral treatments for TC and system-level support for TC. For instance, Fiore et al. (2008) note an association between restrictions on reimbursement for TC services and the use of more brief versus intensive interventions.

In addition to applying a theoretical framework, we use a different and somewhat unique approach to the creation of the three climate for innovation indicators by taking multiple variables for each indicator and combining them into three climate for innovation indices (i.e., we create formative measures): clinician skills, absence of treatment obstacles, and policy-related incentives. This approach differs from prior research in the SUD field that has generally