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Predicting substance-abuse treatment providers' communication with clients about medication assisted treatment: A test of the theories of reasoned action and planned behavior☆

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ABSTRACT

The purpose of this investigation is to determine if the theory of reasoned action (TRA) and theory of planned behavior (TPB) can retrospectively predict whether substance-abuse treatment providers encourage their clients to use medicated-assisted treatment (MAT) as part of their treatment plan. Two-hundred and ten substance-abuse treatment providers completed a survey measuring attitudes, subjective norms, perceived behavioral control, intentions, and behavior. Results indicate that substance-abuse treatment providers have very positive attitudes, neutral subjective norms, somewhat positive perceived behavioral control, somewhat positive intentions toward recommending MAT as part of their clients' treatment plan, and were somewhat likely to engage in the actual behavior. Further, the data fit both the TRA and TPB, but with the TPB model having better fit and predictive power for this target audience and behavior. The theoretical and practical implications for the developing messages for substance-abuse treatment providers and other health-care professionals who provide treatment to patients with substance use disorders are discussed.

Great strides have been made in the past decade in the efficacious application of pharmacological intervention in the detoxification, treatment, and long-term sobriety of patients experiencing alcohol and illicit drug abuse. *Medication-Assisted Treatment* (MAT) is a form of pharmacotherapy and refers to the treatment for a substance use disorder that includes a pharmacologic intervention as part of a comprehensive substance abuse treatment plan. Pharmacotherapeutic interventions have been demonstrated efficacious in the treatment of opioid abuse (Knudsen, Ducharme, & Roman, 2007; Weiss et al., 2011), alcohol dependence (Chandreakekaran, Sivaprekash, & Chitraleka, 2001), and cocaine dependence (Carroll et al., 2000). In spite of the growing evidence base, adoption and widespread implementation of MAT has lagged, hampered by a combination of structural, financial, and workforce related issues (Knudsen et al., 2007).

In contrast to other chronic health conditions, treatment of substance use disorders remains largely a disease treated by counselors, social workers and therapists through a network of community based, non-medically-based treatment agencies. Among surveyed substance abuse treatment facilities, only one-third report provision of MAT (National Survey of Substance Abuse Treatment Services, 2008), while the vast majority of primary care physicians report little knowledge of, or attendance to, the treatment of substance use disorders among their patients (Mark et al.; 2003). Confounding this situation are long held social beliefs and attitudes regarding the use of medication to treat substance use disorders, with such beliefs often present among a sizeable group of the professionals serving as addiction providers who are themselves in recovery (Institute of Medicine, 1995, 1997). As evidence of the efficacy of MAT continues to accumulate (Friedmann & Schwartz, 2012), so does the research related to providers' and clients' attitudes beliefs, and behaviors, regarding MAT (Forman, Bovassdo, & Woody, 2001; Reickmann, Daley, Fuller, Thomas, & McCarty, 2007). In general, these studies report rather powerful social normative influences mediating what might best be described as neutral to negative attitudes toward MAT.

Little research exists that explores effective strategies for impacting these attitudes and the corresponding behavioral intentions that providers might have about discussing MAT with their clients. Evidence-based targeted communications and information for providers are needed to facilitate improved openness to MAT efficacy, along with their own professional efficacy in promoting and integrating MAT as part of the treatment and recovery services they provide to their patients. Given the potentially important role previous research seems to assign to attitudes, norms, and efficacy in this area, the theories of

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reasoned action and planned behavior were selected to guide this inquiry. A discussion of each of these theories follows.

1. The theory of reasoned action and the theory of planned behavior

According to the theory of reasoned action (TRA; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), the best predictor of a person's *behavior* is their *intention* to perform or not perform the behavior, and the best predictors of intention are a person's *attitude* toward the behavior (i.e., do they feel positively or negatively toward the behavior) and *subjective norms* (i.e., how they think significant others think they should behave). The theory of planned behavior (TPB; Ajzen, 1985) adds a direct link from *perceived behavioral control* (i.e., how much influence the person has over the behavior) to both intention and behavior. Notably, the TPB "was made necessary by the original model's limitations in dealing with behaviors over which people have incomplete volitional control" (Ajzen, p. 181). Thus, Ajzen predicts there should be less difference between the TRA and TPB when the behavior in question is under volitional control. Many factors affect whether someone perceives a behavior under their volitional control, such as time, money, skills, cooperation of others, etc. A visual representation of the TPB is included in Fig. 1. Meta-analyses by Albarracin, Johnson, Fishbein, and Muellerleile (2001) and Downs and Hausenblas (2005) offer consistent support for the ability of these theories to predict behavior.

While the TRA and TPB are typically used to predict how likely an individual is to engage in a given healthy behavior themselves, research also suggests that they can be used to explain recommendations made to patients by medical practitioners (Millstein, 1996; Perkins et al., 2007; Roberto, Goodall, West, & Mahan, 2010; Taylor, Montano, & Koepsell, 1994; Walker, Grimshaw, & Armstrong, 2001). For example, Millstein (1996) found that both the TRA and TPB accurately predicted primary care physicians' intentions and behavior to provide STI education to adolescents. However, it should be noted that most of these studies took place more than a decade ago, focused on physicians, and did not include any sort of behavioral measure (i.e., the majority focused on intentions rather than actual behavior). Further, the question remains if the TPB is generalizable to other health professionals such as substance-abuse treatment providers. So, it seems there is still a need for more current research in this area using different participants, an additional topic, and a behavioral measure.

Among other things, Reickmann et al. (2007) used the TRA to predict substance abuse treatment counselor's intentions to tell their patients to use each of four different types of MAT (methadone, buprenorphine, clonidine, and ibogaine). Results indicate that attitudes and norms explained between 40 and 71% in intentions in these instances. Similarly, Kelly, Deane, and Lovett (2012) looked at whether the TPB accurately predicted if residential substance abuse workers would make an effort to employ evidence-based practices (EBP) into their treatment of clients. In this study, EPB were defined as, "an approach which integrates the most appropriate clinical information and scientific evidence, with a view to improving psychological interventions and therapeutic relationships, and producing the best treatment outcomes for clients" (p. 662). Results indicate that attitude, norms, and perceived behavioral control explained 41% of the variance in intentions to use EBP. Notably, neither of these studies included a behavioral measure.

In sum, though previous applications of the TRA and TPB in the health arena have focused primarily on predicting whether individuals engage in healthy behaviors, work by Perkins et al. (2007) suggests that they should provide a solid theoretical framework for health professionals behavior in general, and Millstein (1996), Reickmann et al. (2007), and Kelly, Thompson, and Waters (2006) suggest they might also predict health professionals communication with patients in particular. Thus, the following research questions and hypothesis are advanced:

RQ_1: What are substance-abuse treatment providers' attitudes, subjective norms, perceived behavioral control, intentions, and behavior regarding recommending medication-assisted treatment as part of their clients' treatment plan?

$H_{1A\text{-}B}$: The (A) TRA and the (B) TPB will accurately predict whether or not substance-abuse treatment providers encouraged their clients to use medication-assisted treatment as part of their treatment plan.

RQ_2: Does the TPB add to the predictive power of the TRA for this target audience and behavior?

2. Method

2.1. Response rate and research participants

2.1.1. Response rate

A link to the survey was sent via email to all 510 individuals who were (1) subscribers to an e-newsletter distributed by the Addiction Technology Transfer Center(s) (ATTC), and (2) who identified themselves as serving in a clinical/direct service role in the provision of substance abuse treatment as counselors, clinical supervisors, or peer recovery specialists. Twenty-eight of these surveys were returned as undeliverable. Response rate was calculated as the number of surveys returned ($n = 210$) divided by the number of surveys that were sent out and not returned as undeliverable ($n = 510 - 28 = 482$). Thus, the final response rate is 43.57%.

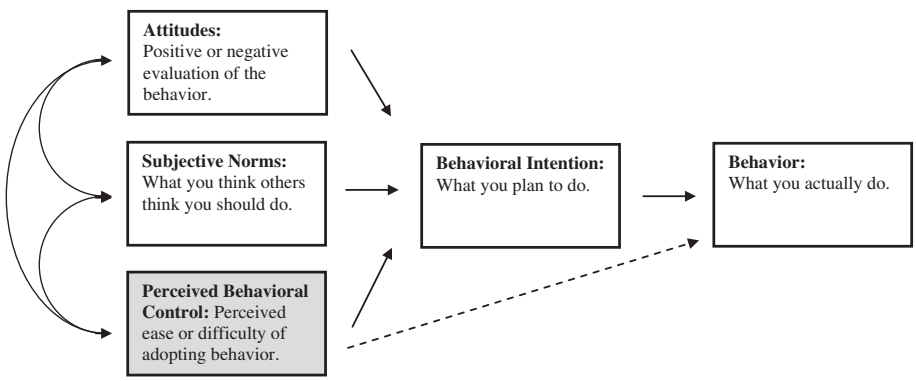

Fig. 1. The theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and the theory of planned behavior (Azjen, 1991). *Note*: Non-shaded boxes show the theory of reasoned action. The entire figure with shaded box shows the theory of planned behavior.