Short Communication

Changing social norms: The impact of normative feedback included in motivational enhancement therapy on cannabis outcomes among heavy-using adolescents

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HIGHLIGHTS

- Perceived norms of close friends versus other same-aged teens significantly differed.
- Norms changed over time after engagement in motivational enhancement therapy.
- Changes in norms were associated with changes in cannabis outcomes.

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ABSTRACT

Introduction: Heavy cannabis use is a problematic behavior, particularly among some adolescents. Adolescents are particularly prone to social influence. As such, injunctive norms (perceptions of others' approval of cannabis use) and descriptive norms (perception of frequency of others' cannabis use) influence cannabis behavior. Given that norms are not always accurate, motivational enhancement therapy aims to reduce cannabis use through normative feedback and correction of normative misconceptions. The purpose of this study was to evaluate the relationships between perceived norms (descriptive and injunctive) and cannabis-related outcomes (use, cannabis-related problems, and cannabis use disorder symptoms) in a heavy cannabis-using adolescent population receiving motivational enhancement therapy.
Methods: Heavy cannabis-using individuals (n = 252, 68% male, mean age 13.38, 59% Caucasian) were recruited from six Seattle high schools for a motivational enhancement therapy-based intervention involving normative feedback.
Results: Participants perceived higher rates of cannabis use among close friends than other same age teens and reported a higher perception of approval for cannabis use from close friends as compared to perceived approval of other same aged peers. Personal approval and the perceived approval of other same age teens were reduced following the intervention but there was no evidence of change in normative perceptions for close friends following the normative feedback interventions. Changes in normative perceptions were related to decreases in cannabis use and -related outcomes.
Conclusions: Results suggest the importance of normative feedback in changing behavior in adolescent cannabis users, but also highlight the ongoing influence of close friends.

1. Introduction

Cannabis is one of the most common substances of use, second only to alcohol: 8.3% of individuals aged 12 and older report using cannabis in the previous month (Substance Abuse and Mental Health Services Administration, 2016). Among adolescents aged 12–17, 7.0% report cannabis use (Substance Abuse and Mental Health Services Administration, 2016). Indeed, cannabis initiation is most common in adolescence, and the risk of developing a cannabis use disorder is higher among younger initiators than those who begin cannabis use in

adulthood (Grant & Dawson, 1998; Volkow, Baler, Compton, & Weiss, 2014). In addition to increasing risk of developing problematic patterns of use, adolescent cannabis use is associated with a host of social, psychological, and physical problems (Volkow et al., 2014) such as decreased academic performance (Washington State Department of Health and Office of the Superintendent of Public Instruction, 2014), declining neuropsychological functioning (Meier et al., 2012), and mental health problems (Patton et al., 2002). Given the problems associated with heavy cannabis use, it is important to identify factors that may lead to continued use.

Adolescents' behavior is particularly prone to social influence (Brown, 2004). As such, injunctive norms (perception of others' approval of cannabis use) and descriptive norms (perception of frequency of cannabis use by others) are associated with cannabis use (Eisenberg, Toumbourou, Catalano, & Hemphill, 2014; Wu et al., 2015). Normative theories assert that attitudes about the acceptability of a behavior and beliefs about others' behavior influences ones own behavior. Individuals act in accordance with their beliefs about normality, thus personal approval is associated with personal rates of cannabis use (LaBrie, Hummer, & Lac, 2011). Adolescents and young adults are particularly influenced by behavior and beliefs of their close friend group: personal approval and cannabis use frequency are associated with perceived norms of close friends (Buckner, 2013; LaBrie et al., 2011; Walker, Neighbors, Rodriguez, Stephens, & Roffman, 2011).

Perceptions of approval and perceptions of others' use are not always accurate (Perkins, 2002; Wolfson, 2000). Over time, treatments have been developed to specifically target perceived norms. In particular, motivational enhancement therapy (MET) incorporates motivational interviewing with personalized normative feedback aimed to correct inaccurate perceptions of normative rates of use (see e.g., Barnett, Sussman, Smith, Rohrbach, & Spruijt-Metz, 2012; Walker et al., 2016). The normative feedback in MET presents descriptive norms of rates of use among other individuals of the same reference group. MET allows for an environment to freely discuss substance use without judgment. Treatment can be effective at changing alcohol use-related normative beliefs (Davis, Houck, Rowell, Benson, & Smith, 2016; Neighbors, Larimer, & Lewis, 2004). Normative interventions have, thus far, been primarily focused on normative populations and have not been regularly extended to heavy-using cannabis populations. Additionally, no known study has evaluated change in perceived norms throughout the course of a MET treatment for cannabis use and use-related outcomes.

The current study evaluated the relationship between close friend and same-aged perceived norms (descriptive and injunctive) on cannabis use and use-related problems among individuals in a MET-based cannabis use intervention study. It was hypothesized that: (a) perceived norms would be related to cannabis use and use-related outcomes cross-sectionally, (b) perceived normative use and approval of cannabis use would decrease following the normative intervention, more so for same-age peers than for close friends, (c) changes in perceptions of norms would predict change in cannabis use and use-related outcomes.

2. Materials and methods

2.1. Participants

Participants were adolescents self-referring to a cannabis intervention who were recruited to participate in a randomized controlled trial examining the efficacy of repeated MET check-ins for reducing cannabis use. Among the 668 adolescents who were interested in the study, 445 were screened for eligibility. Eligibility criteria included cannabis use on at least 9 of the previous 30 days (see Berghuis, Swift, Roffman, Stephens, & Copeland, 2006), availability throughout the course of the 15-month study, and freshman to junior school status at baseline. Participants with a medical or psychiatric condition that would prevent them from participating and individuals without English

comprehension were excluded. A total of 252 individuals were eligible and interested in participation. The current study is based on secondary data analyses. See parent trial for additional information on participant flow (Walker et al., 2016). The final sample (n = 252) was predominantly male (68%) with a mean age of 15.84 (SD = 0.96) and a mean cannabis initiation age of 13.38 (SD = 15.05). The sample was relatively diverse: 59% Caucasian, 20% multiracial, 6% African American, 4% Asian, and 11% other with 10% of the sample identifying as Hispanic or Latino. The sample reported low to moderate symptoms of depression and anxiety, on average, on the Global Appraisal of Individual Needs (GAIN; Dennis, Titus, White, Unsicker, & Hodgkins, 2003) screener and only 4 participants (1.6%) reported currently psychotherapy or counseling (e.g., for depression, adjustment). Most participants (84.9%) reported at least one day of alcohol use in the previous two months and 40.2% reported at least one day of other substance use.

2.2. Measures

2.2.1. Perceived norms

Descriptive and injunctive perceived norms of two reference groups (other same-age teens and close friends) were assessed at baseline and each subsequent follow-up. Participants were asked to report descriptive norms by indicating the percentage of individuals (0.0–1.0) in each reference group that they believe have ever used cannabis and that use cannabis regularly. These items were averaged together for each reference group to create two scales: descriptive norms of other teens their age (Descriptive – Other Teens) and of close friends (Descriptive – Friends). Injunctive norms were assessed by averaging participants' responses about approval of various levels of cannabis use (trying cannabis once or twice, using cannabis occasionally, using cannabis regularly) by two reference groups: injunctive norms of other teens their age (Injunctive – Other Teens) and of close friends (Injunctive – Friends). Answers were reported on a scale of 1 (strongly disapprove) to 5 (strongly approve). Additionally, participants were asked how much they approve of trying cannabis once or twice, using cannabis occasionally, and using cannabis regularly in order to form a scale of personal approval towards cannabis (Injunctive – Personal Approval). Alpha reliabilities of descriptive norm subscales, injunctive norm subscales, and personal approval scales ranged from 0.65 to 0.81.

2.2.2. Cannabis use

Frequency of cannabis use was assessed with the Global Appraisal of Individual Needs (GAIN; Dennis et al., 2003). The GAIN asks participants to report the number of days out of the past 60 in which they used cannabis. The GAIN is a reliable and valid measure of cannabis use, and has been shown to be comparable to other validated scales of substance use frequency (Dennis, Funk, Godley, Godley, & Waldron, 2004).

2.2.3. Cannabis problems

Cannabis-related problems were assessed with the Marijuana Problems Index (MPI; Johnson & White, 1995), a 23-item measure which was adapted for a cannabis-using population from the Rutgers Alcohol Problem Index (White & LaBouvie, 1989). Participants rate on a scale of 0 (never) to 4 (> 10 times) the frequency in which they experience 23 different problems associated with cannabis use. A MPI score was created as the mean of the items. Cronbach's alpha scores indicated good to excellent reliability across time points (alpha = 0.86–0.94).

2.2.4. Cannabis use disorder symptoms

The symptoms of cannabis use disorder were assessed with the GAIN (Dennis et al., 2003). The GAIN has been found to be a valid and reliable measure of symptoms of marijuana abuse and dependence (Dennis, White, Titus, & Unsicker, 2008). A total symptom scale was created by adding together the total number of symptoms endorsed.