Comparing Profiles of the Transtheoretical Model of Change Constructs For Reducing Illicit Substance Use Among Trauma Patients

John Moore[1], MSW; Kirk von Sternberg[1], PhD; Mary Velasquez[1], PhD
[1]Steve Hicks School of Social Work, The University of Texas at Austin

HEALTH BEHAVIOR RESEARCH & TRAINING INSTITUTE

TEXAS
The University of Texas at Austin
Steve Hicks School of Social Work

Introduction

➤ The Transtheoretical Model (TTM) has been widely used as a guiding framework for interventions targeting substance use behavior change across a variety of populations.[1-3]

➤ TTM constructs function as both mechanisms and markers of behavior change.[1]

➤ Empirical research has demonstrated that profiles of successful substance use behavior change can be captured by comparing the mean scores of TTM constructs between changers and non-changers.[1-3]

➤ Thus, profiles of successful behavior change can be used in clinical settings as a marker for a client's progress related to substance use behavior change.

➤ However, to date, no prior study has investigated profiles of successful substance use behavior change among trauma patients.

➤ The clinical profiles of trauma patients may differ from other populations due to the influence of traumatic events on substance use behaviors (e.g., traumatic injury has been linked to short-term reductions in substance use behaviors).[4,5]

➤ Examining TTM construct profiles for specific substance use behaviors among trauma patients may inform our understanding of mechanisms and markers for successful behavior change among this population.

➤ To this end, the present study focused on investigating TTM construct profiles for marijuana use behavior change.

Purpose

✓ *Identify TTM construct profiles that are associated with positive marijuana use behavior change among trauma patients who screened positive for marijuana use.*

Methods

Study and Participants

➤ Data came from The Traumatic Injury Prevention Project (TIP), a three-group and single-site randomized clinical trial conducted in a level-1 urban trauma center.[6]

➤ Study participants included individuals who were:
➤ 18 years+ in age
➤ Admitted for an intentional or unintentional traumatic injury
➤ Screened positive for drug use within the past-month

➤ Participants were assigned to one of the below three intervention conditions on a 1:1:1 randomization allocation ratio:
➤ Brief Advice
➤ Brief Motivation Intervention
➤ Brief Motivational Intervention + Booster

Methods Continued

TTM Constructs	
Pros for change	Pros for changing marijuana use.
Cons for change	Cons for changing marijuana use.
Confidence to change	Level of confidence in one's ability to reduce their marijuana use in specific circumstances.
Temptation	The level of temptation to engage in marijuana use that a participant experiences in their day-to-day life.
Experiential processes of change	Cognitive processes (e.g., thoughts, feelings, attitudes, etc.) that indicate one's internal disposition of changing their marijuana use.
Behavioral processes of change	Action-oriented behaviors that foster the desired change in marijuana use.

Decisional Balance Scale: 16-item measure used to measure one's pros and cons for changing marijuana use.

The Brief Situational Confidence Questionnaire: 8-item measure used to assess one's confidence to reduce marijuana use in specific situations.

The Brief Situational Temptation Questionnaire: 8-item measure used to assess one's level of temptation to use marijuana in their daily life.

The Processes of Change Questionnaire: 20-item measure that assesses one's engagement in the experiential and behavioral processes of change.

Outcome

➤ Marijuana use status at 12 months (Abstinence vs. any use).

Analytic Plan

➤ Profile Analyses (PA) using SPSS v. 26 was used to examine the end-of-treatment (i.e., 3 months post-intake) mean profiles of TTM constructs for two marijuana use-outcome-based groups (i.e., participants who were abstinent and participants who were using marijuana at 12 months).

➤ PA is a special application of multivariate analysis of variance (MANOVA) for repeated measures that can be used when several dependent variables (e.g., subscales of the TTM measures) are measured at one time.[7]

➤ The PA test of interest was the test of parallelism, which is equivalent to the interaction effect in a standard MANOVA and assesses the patterns of the mean values of the dependent variables.[7]

➤ Rejection of the null hypothesis of parallelism indicates an interaction or non-parallelism in the overall shape of the profiles.[7]

➤ An assumption of PA is that each of the dependent variables is measured on the same metric. Thus, the raw profile mean scores were transformed into z scores.[7]

Results

Figure 1. End of Treatment Profiles for Abstainers and Marijuana Users at 12 Months
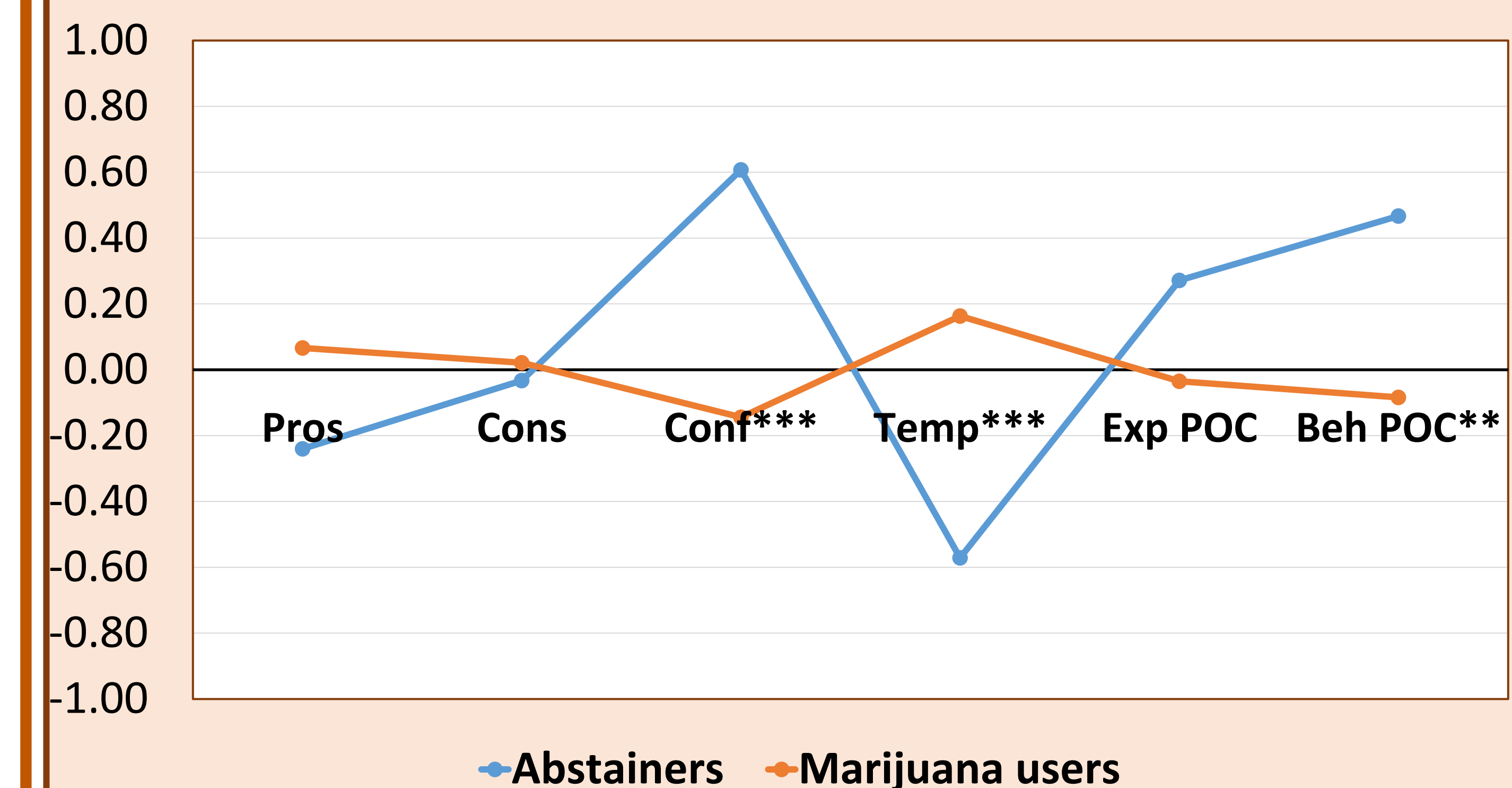
➤ PA results showed a significant parallelism effect (p<.001), suggesting differences in the profiles of abstainers and marijuana users.

➤ Abstainers scored higher on confidence to change and behavioral processes and scored lower on temptation to not change compared to marijuana users.

Conclusions

➤ Findings are consistent with prior research that found that at-risk drinkers who reduced their drinking to non-risk levels had higher levels of confidence to change, higher use of the behavioral processes, and lower levels of temptation than those who continued to drink at-risk levels.[1,3]

➤ TTM constructs of change for substance use behaviors appear to be similar for trauma patients compared to other populations.

➤ Further study is needed to examine the utility of integrating TTM construct profiles into substance use interventions for those with a traumatic injury history.

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