Developing a Culturally Proficient Intervention for Young African American Men in Drug Court: Examining Feasibility and Estimating an Effect Size for Habilitation Empowerment Accountability Therapy (HEAT)

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ABSTRACT

African American males between 18 and 29 years of age are substantially less likely than many other participants to graduate successfully from drug court. Unsuccessful termination from drug court can have serious repercussions for these young men, including possible incarceration and negative collateral consequences associated with having a criminal record. This article reports preliminary results from two pilot studies that examined the feasibility of implementing a culturally proficient intervention for young African American men in drug court, and estimated an effect size for the intervention in improving treatment retention and reducing termination rates. Results confirmed that participants with serious criminal and substance use histories were willing and able to complete the lengthy 9-month curriculum, were satisfied with the intervention, and graduated from drug court at substantially higher rates than are commonly observed in this at-risk population. A sufficient basis has been established to justify the effort and expense of examining this intervention — Habilitation Empowerment Accountability Therapy (HEAT) — in fully powered randomized controlled trials.

INTRODUCTION

The War on Drugs that began in the 1980s relied on incarceration as the principal response to drug-related crime, including illicit drug use and possession. It is now evident that this policy had minimal effects on substance use and criminal recidivism, was prohibitively costly, and disproportionately harmed racial and ethnic minority individuals and the poor (Jensen et al., 2004; Mitchell & Caudy, 2015; Stringer & Holland, 2016).

Drug courts emerged as one alternative to the War on Drugs, offering community-based treatment and supervision in lieu of a criminal conviction or incarceration (National Association of Drug Court Professional [NADCP], 1997). The drug court judge leads a multidisciplinary team of professionals, which commonly includes a program administrator, prosecuting attorney, defense attorney, probation or community supervision officer, treatment representatives, and law enforcement representative. Participants are required to complete substance use disorder treatment and other indicated services, undergo random drug and alcohol testing, and attend frequent status hearings in court during which the judge reviews their progress in treatment and may impose gradually escalating consequences contingent upon their performance. These consequences may include desired rewards (e.g., verbal praise, reduced supervision requirements, token gifts), modifications to the participant's treatment plan (e.g., transfer to a more intensive level of care), or punitive sanctions (e.g., writing assignments, community service, brief jail detention).

In pre-adjudication drug courts, successful graduates have their criminal charges reduced or withdrawn, and the arrest or conviction may be expunged from their legal record. Record expungement helps to avoid some of the negative collateral consequences associated with having a criminal record, such as a loss of voting rights or access to public housing (Festinger et al., 2005). In post-adjudication drug courts, the record of the conviction stands but graduates can avoid incarceration or reduce the length and conditions of their probation. Recently, reentry drug courts have also been

developed, applying the drug court model to help parolees and other individuals released conditionally from jail or prison transition successfully back into their community.

Effects of Drug Courts

Recent meta-analyses and multisite studies conducted by leading scientific organizations have concluded that drug courts significantly reduce criminal recidivism — typically measured by rearrest rates over at least two years — by an average of approximately 12% to 32%, with the best drug courts reducing recidivism by 50% to 85% (Carey et al., 2012; Mitchell et al., 2012; Rossman et al., 2011; U.S. Government Accountability Office [GAO], 2011). The Multisite Adult Drug Court Evaluation (MADCE), a national study of 23 adult drug courts, also found that drug courts significantly reduced illicit drug and alcohol use, improved participants' family relationships, reduced family conflicts, and increased participants' access to needed financial and social services (Green & Rempel, 2012; Rossman et al., 2011).

Unfortunately, the benefits of drug courts have not accrued equally for racial minority participants. A 2014 survey of all state and territorial drug court administrators in the United States reported a substantially lower average graduation rate for African American participants compared to non-Hispanic Caucasians (39% vs. 58%) (Marlowe et al., 2016). Approximately one-half of published program evaluations examining this issue have also reported significantly lower graduation rates for African American participants (for reviews see Belenko, 2001; Finigan, 2009; Marlowe, 2013). In some studies, racial differences in graduation rates were as large as 25 to 40 percentage points (Dannerbeck et al., 2006; Sechrest & Shicor, 2001; Shaffer, 2006; Wiest et al., 2007).

Disparities in graduation rates are especially pronounced among African American males between 18 and 29 years of age. Being young and male are well-documented risk factors for poorer

outcomes in drug courts and other correctional rehabilitation programs (Butzin et al., 2002; Marlowe et al., 2003; Peters et al., 1999; Reilly & Calabrese, 2011; Shannon et al., 2015), and combining these risk factors with racial minority status may multiply the likelihood of program failure. In one study, for example, approximately 95% of unsuccessful discharges from a drug court were African-American males between 17 and 20 years of age (Institute of Applied Research, 2003).

These findings are by no means universal as a smaller but growing number of evaluations, including the MADCE, have reported no differences in graduation rates for African-American drug court participants (Cissner et al., 2013; Gallagher et al., 2015; Gilbertson, 2013; Hickert et al., 2009; Hohman, 2000; Roll et al., 2005; Saum et al., 2001), and a few noteworthy studies reported higher graduation rates for African Americans, including those between 18 and 25 years of age (Brown, 2011; Vito & Tewksbury, 1998). Nevertheless, there does appear to be a plurality trend that young African American men are less likely to graduate from drug courts as compared to other participants. Because successful graduation from drug court is one of the greatest predictors of reduced future involvement in the criminal justice system (Cissner et al., 2013; Gottfredson et al., 2007; Rossman et al., 2011), it is reasonable to assume that improving graduation rates for these young men is likely to improve the long-term public safety impacts of drug courts. Moreover, increasing graduation rates will provide immediate short-term benefits for these young men, including avoidance of incarceration and/or the collateral consequences of having a criminal record.

Rectifying Racial Disparities

In 2010, the NADCP board of directors issued a unanimous resolution directing drug courts to determine whether racial or ethnic disparities exist in their programs, and to take reasonable corrective measures to eliminate disparities that are identified (NADCP, 2010). In 2013, NADCP released

Volume I of the *Adult Drug Court Best Practice Standards* (Standards). The NADCP Standards place further obligations on drug courts to monitor their programs at least annually for evidence of racial or ethnic disparities, and adjust their eligibility criteria, assessment procedures, and treatment services, as indicated, to eliminate disparities that are detected (NADCP, 2013). Among other strategies, compliance with the Standards requires drug courts to determine whether certain racial or ethnic groups experience unique barriers or encumbrances that may hinder their success in drug courts, take remedial measures to resolve those barriers, and evaluate the success of the remedial measures. Drug courts must also adjust their treatment services and assessment procedures to ensure they are culturally relevant and suitably matched to the demonstrated needs of racial and ethnic minority individuals.

Moderators of Racial Disparities

Studies indicate that disparities in drug court graduation rates do not appear to be a function of race or ethnicity *per se*, but rather are accounted for by other variables that are often correlated with race, including participants' employment history, educational attainment, socioeconomic status, and primary drug(s) used. These variables are referred to as *moderator variables* because they moderate, or help to explain, the relationship between race or ethnicity and drug court outcomes. Researchers have determined, for example, that lower graduation rates for African-American participants were attributable to their being younger, on average, than other racial groups (Spiropoulos et al., 2013); more likely to be male (Ray & Dollar, 2013); less likely to be employed or enrolled in school (Dannerbeck et al., 2006; DeVall & Lanier, 2012; Gallagher, 2013b; Howard, 2014); more likely to be in a lower socioeconomic bracket (Dannerbeck et al., 2006); more likely to live in disadvantaged neighborhoods characterized by high concentrations of poverty, violence, and single-female-headed households (Howard, 2014); or more likely to be experiencing clinically significant levels of anxiety

or psychological distress (McKean & Warren-Gordon, 2011; Spiropoulos et al., 2013). When the researchers accounted statistically for the influence of these other variables, race was no longer related to outcomes, or its effects were explained by an interaction with one or more of the other variables.

Studies conducted in the early to mid-2000s also found that African American drug court participants were significantly more likely than non-Hispanic Caucasians to be using crack cocaine, and the severely addictive and destructive nature of this drug was wholly or partly responsible for their lower graduation rates (Dannerbeck et al., 2006; Guerrero et al., 2013; Hartley & Phillips, 2001; Miller & Shutt, 2001). As the drug epidemic evolved in the United States, changes in racial drug-use patterns have been observed. Recent studies indicate that African Americans arrested for drug offenses are more likely than Caucasians to use marijuana as their primary drug of choice, and are less likely to meet diagnostic criteria for substance dependence or a severe substance use disorder (Guerrero et al., 2013; McElrath et al., 2016). Proactive police surveillance and arrest practices in some minority communities may be widening the net for African Americans, particularly young adult males, bringing many of these individuals into drug courts and other treatment diversion programs despite having relatively minor drug problems (Guerrero et al., 2013; Mitchell & Caudy, 2015; Nguyen & Reuter, 2012; Reuter et al., 2000; Sahker et al., 2015). Focus groups conducted in drug courts found that many African-American participants believed the programs were unsuited to their needs because they did not feel they had a substance use problem, and they resented being compelled to identify themselves as addicts or admit to being powerless over their drug use (Gallagher, 2012; Gallagher, 2013a; Gallagher & Nordberg, 2015).

Requiring individuals with minor drug problems to participate in substance use disorder treatment is a waste of treatment resources and can make outcomes worse by placing unwarranted demands on participants, interfering with their engagement in prosocial activities like work or school,

and exposing them to higher risk and higher need peers (Lloyd et al., 2014; Lowenkamp & Latessa, 2004). Interacting with high risk peers is especially problematic for adolescent and young adult males, who may be unduly influenced by delinquent peer groups to adopt deviant or antisocial values and attitudes (DeMatteo et al., 2006; McCord, 2003; Welsh & Rocque, 2014).

Taken together, these findings indicate that racial disparities in drug court outcomes are explained, at least in part, by broader societal burdens that are often borne disproportionately by racial minority participants, including lesser educational and employment opportunities, aggressive law enforcement practices in minority communities, and a greater infiltration of crack cocaine into African American communities in past decades. The implications of these findings are critical for designing effective corrective measures in drug courts. First, drug courts should increase their focus on delivering vocational and educational services to offset disadvantages experienced by racial minority participants. Focus group studies conducted in drug courts found that African-American participants recommended placing greater emphasis on delivering vocational and educational services, and reducing the program's emphasis on substance use disorder treatment, particularly peer support groups such as AA and NA (Cresswell & Deschenes, 2001; Gallagher, 2012; Gallagher, 2013a; Gallagher & Nordberg, 2015). Studies have, in fact, reported significantly better outcomes for African American participants when drug courts and other correctional programs enhanced their provision of vocational services (DeVall & Lanier, 2012; Fosados et al., 2007; Leukefeld et al., 2007).

Drug courts should also administer evidence-based interventions designed to treat the types of substance use patterns they frequently encounter among racial minority participants. For example, drug courts may need to incorporate treatments designed for young adults who are engaging in problematic cannabis use but are not clinically dependent or addicted, such as the treatments delivered in the Cannabis Youth Treatment Study (CYT) (Dennis et al., 2004). They may also need to deliver

treatments that are proven to be effective for persons suffering from cocaine or stimulant addiction, such as the Matrix Model (Marinelli-Casey et al., 2008). Many commonly administered substance use disorder treatments were designed originally for older, Caucasian, alcohol-dependent persons, and may not be suitable for younger racial or ethnic minority persons (Burlew et al., 2011).

Culturally Proficient Practices

National studies in the U.S. have determined that African-American and Hispanic individuals are less likely than non-Hispanic Caucasians to be retained in substance use disorder treatment and are less likely to complete treatment successfully (Arndt et al., 2013; Mennis & Stahler, 2015). However, these disparities are significantly smaller or eliminated entirely when programs apply culturally proficient practices. Retention in treatment has been shown to be significantly better, for example, in programs that cultivated linkages and resources in minority communities, implemented policies and procedures (such as bilingual services) to better serve ethnic minority individuals, matched clients to service providers with similar cultural and linguistic backgrounds, and ensured that all staff members, including managers and supervisors, attended cultural sensitivity trainings and harbored culturally sensitive beliefs and values (Finn, 1994; Goddard, 1993; Guerrero, 2013; Guerrero & Andrews, 2011; Marsh et al., 2009).

Few studies have examined the effects of delivering culturally proficient services in drug courts; however, one study in Kentucky reported highly impressive results for young African American males when an experienced African American clinician delivered a curriculum that addressed issues commonly confronting these young men, including negative racial stereotypes, counterproductive values expressed in certain aspects of “hip hop” culture, and intergenerational remnants of historical trauma stemming from slavery and racially discriminatory laws and policies (Vito & Tewksbury,

1998). Contrary to the findings reported in many drug court evaluations, young African American males in this drug court graduated at nearly twice the rate of Caucasian males (42% vs. 22%).

Current Program of Research

The current program of research builds on the early success reported in Kentucky by Vito & Tewksbury (1998) in improving outcomes for young African American men in drug court. With support from NADCP, the curriculum delivered in that study was documented carefully in a treatment manual for clinicians (Turpin & Wheeler, 2012a) and an accompanying workbook for counseling-group participants (Turpin & Wheeler, 2012b). Subsequent studies of this intervention — Habilitation Empowerment Accountability Therapy, or HEAT — are proceeding in accordance with the National Institutes of Health (NIH) Stage Model of Behavior Therapy Development (Carroll & Onken, 2005; Onken et al., 2014; Rounsaville et al., 2001). Stage Ia of the NIH model involves developing a manual for the intervention that specifies the topics to be covered and procedures to be implemented, and ensures the intervention can be delivered with fidelity in a consistent and standardized manner (Carroll & Nuro, 2002). Subsequently, Stage Ib involves pilot testing the intervention to ensure it is acceptable to participants and staff, and feasible to implement in real-world practice. Stage Ib pilot testing also involves estimating an effect size (ES) for the intervention by comparing outcomes on a small sample of participants (typically 10 to 20 participants) who receive the intervention to a comparable sample of roughly the same number of individuals who do not receive the intervention (Hertzog, 2008; Rounsaville et al., 2001). The goal of Stage Ib pilot testing is not to prove whether the intervention works, but rather to determine if it shows sufficient promise to justify the considerable effort and expense required to examine it in a fully powered experimental study. By estimating an ES, researchers can also determine how many participants are likely to be needed in future studies to

evaluate the efficacy of the intervention, and thus how much those studies are likely to cost and how long they are likely to take to recruit the requisite numbers of subjects.

METHODS & RESULTS

The current studies are Stage Ib pilot studies designed to determine (1) whether young African American men are willing and able to complete the lengthy 9-month HEAT curriculum, and (2) whether HEAT shows promise for retaining these young men in drug court and reducing otherwise high attrition rates for this at-risk population. Based on the promising results demonstrated in the pilot studies (reported below), future studies will examine the effects of HEAT in larger efficacy studies (NIH Model Stage II), and determine whether its effectiveness can be maintained when it is incorporated into mainstream drug court practice and delivered by community providers (Stage III). The HEAT curriculum was delivered in the current studies by one of the original developers of the intervention and a co-author of this article. Future studies will determine whether comparable benefits can be achieved when the curriculum is delivered by other treatment providers.

Description of HEAT

HEAT is a culturally proficient, strength-based, and trauma-informed group counseling intervention designed for African American males between 18 and 29 years of age who are engaged in problematic substance use and involved in the criminal justice system. Although HEAT focuses primarily on the experiences of African Americans, clinical experience suggests it may be delivered effectively to other young men of color who share comparable experiences of racial or ethnic discrimination and negative cultural stereotypes, including some individuals of Hispanic or Latino ancestry.

The curriculum does not assume that participants are dependent on illicit drugs or alcohol. For participants who do not meet diagnostic criteria for a moderate or severe substance use disorder, HEAT may be provided in place of traditional substance use disorder treatments that are commonly administered in drug courts and other correctional rehabilitation programs. It may also be provided in conjunction with other substance use disorder treatments for participants who require those services. Drug courts in a few jurisdictions are reportedly using HEAT as the primary treatment for participants with serious substance use disorders, and anecdotal evidence suggest it may potentially be effective as a stand-alone substance use treatment.

The intensive curriculum is delivered over a period of approximately 9 months. Because topics are presented in a cyclical format, participants may be admitted to the HEAT group on a rolling basis. Prior to entering the group, participants complete a 12-hour orientation process involving two 4-hour orientation sessions and a 4-hour learning assignment. Because many participants are unmotivated or pre-contemplative of change, the orientation sessions are geared toward resolving potential barriers to treatment success, including distrust or resentment of authority figures. Strength-based messages are delivered that focus on the resilience of the African American community in the face of longstanding and systemic injustices, including but not limited to slavery, racially discriminatory laws and policies, and intergenerational trauma stemming from these chronic and progressive injuries. Historic and current injustices are considered as explanatory factors to help participants understand their predicaments, but are not viewed as excusing destructive actions that perpetuate harms to participants, their families, or their communities.

In setting the stage for the treatment experience, the strength-based orientation focuses on African Americans' will, determination, spirit and intellect to confront and overcome barriers to success. Thus, the program promotes a positive self-image and may be the first time that many of these

young men have been offered a socially sanctioned view of themselves, which tells them that they are competent, capable, smart and worthy. This process may serve as the strongest incentive to complete the program and overturn high rates of attrition and unsuccessful discharge commonly seen in this at-risk population. The orientation process culminates with the completion of a peer-learning assignment. The learning assignment typically involves researching a culturally relevant issue related to a substance use or mental health topic, writing or dictating a report, and presenting the information to fellow group members. One purpose of the learning assignment is to gauge and enhance participants' readiness to contribute productively to the group peer-learning process. The HEAT facilitator helps participants locate relevant resources to complete the assignment, such as audiotapes, pamphlets or books, which are suitable for their learning style, reading ability, and educational background.

Upon entering the group, participants attend approximately 36 group counseling sessions, which typically meet twice per week for 90 minutes each session. The HEAT curriculum is carefully documented in a Facilitator's Guide for group leaders (Turpin & Wheeler, 2012a) and an accompanying Participant Workbook for group members (Turpin & Wheeler, 2012b). The Facilitator's Guide describes the agenda and topic(s) to be covered in each session, concrete learning objectives, educational materials needed to complete in-session exercises and homework assignments, and post-quizzes to gauge knowledge acquisition. Sample scripts are provided to help facilitators introduce topics, lead group discussions, assist participants to complete in-session exercises, assign homework assignments, and review progress on those assignments.

The curriculum is divided into three broad areas focusing on the self, the family, and the community. Some sessions apply traditional cognitive-behavioral treatment (CBT) strategies that are familiar to most substance use disorder treatment providers, such as identifying risk factors or triggers for substance use and criminal activity, reconsidering irrational thought patterns, and practicing drug-

refusal skills. However, the interventions do not assume that participants are dependent on or addicted to drugs or alcohol. Rather, interventions focus on generic triggers for substance misuse and delinquent activity, such as anticipating a "rush" from stealing cars or dealing drugs.

Other interventions focus specifically on issues confronting young African American males. In the section focusing on the self, sessions explore prevalent myths, stereotypes and misconceptions of African American manhood that are commonly presented in the media and held by society at large and often by the participants themselves. The group collectively chips away at maladaptive images and beliefs concerning Black manhood, separates fact from fiction, and examines how mainstream images such as themes of misogyny, profanity, and homophobia depicted in hip hop culture negatively shape society's perceptions of African American men and their own self-perceptions. Through group discussions, in-session exercises, and homework assignments, participants are encouraged to deconstruct and reconsider these images, decide which images they should keep, and which ones should be discarded.

In the section dealing with the family, emphasis is placed on traumas inflicted on the Black family, such as enforced separations during slavery, reverberations of which may continue in an intergenerational cycle of paternal absenteeism, intimate partner violence, child neglect, or other unrecognized and unacknowledged traumatic sequelae. The facilitator introduces mnemonic devices as shorthand descriptions of syndromes or interpersonal patterns that are discussed in the sessions. For example, the term "Baby Mama Drama" refers to problems commonly experienced by single-mother-headed households, financial burdens and child alienation syndrome encountered by absentee fathers, and lasting intergenerational damage caused to children and the community by the breakdown of the family unit. Participants consider their own reactions to issues such as paternal absenteeism and inter-parental violence, and consider ways to break the intergenerational cycle of these destructive patterns.

Finally, the section dealing with the community focuses on issues threatening the physical and emotional health of African American neighborhoods, such as limited access to healthy groceries, sparse and unaffordable healthcare, abandoned or boarded-up homes, inadequate educational resources, and rampant crime and drug availability. Rather than accept or exacerbate these problems, participants are encouraged to take responsibility for healing their communities through appropriate grassroots activism, youth mentoring, crime-watch programs, and community cleanup activities.

Throughout their enrollment in HEAT, participants are encouraged to reconsider self-destructive values and attitudes, and engage in prosocial behaviors that contribute productively to the health and welfare of the African American community. Emphasis is placed on enhancing vocational and educational skills, and participants are paired with a peer or vocational mentor from their community who has a minimum of seven years of desistance from crime and substance misuse. The mentor serves as a personal steward, teacher and resource to link participants with employment and educational opportunities and maximize their chances of long-term success in new adaptive roles.

Study 1 (Feasibility)

The objectives for Study 1 were to examine the feasibility of implementing the 9-month HEAT curriculum in a drug court program and determine whether participants were satisfied with the intervention. In line with these objectives, the primary outcome measures were retention in the HEAT intervention, completion of the HEAT curriculum, completion of the drug court program, and satisfaction with the HEAT curriculum.

Study 1 Recruitment. Participants for Study 1 were recruited from the Fayette County Drug Court located in Lexington, KY. This drug court had previously received grant funding from the Center for Substance Abuse Treatment (CSAT) to deliver enhanced residential and inpatient treatment

primarily for female drug court participants, and to evaluate the effects of the service enhancements. Evaluation activities for the HEAT study were performed in conjunction with the larger grant evaluation activities. All study procedures were reviewed and approved by the Institutional Review Board (IRB) of Morehead State University. A Federal Certificate of Confidentiality was also obtained to shield sensitive information disclosed in research interviews from a court order or subpoena.

All study procedures and data collection occurred between August 2013 and June 2014. The short 11-month funding period for the study made it necessary to rapidly recruit at least 10 participants to provide a sufficient "critical mass" to maintain a stable counseling group. The coordinator for the drug court program identified participants meeting HEAT eligibility criteria (male, African American, between 18 and 29 years of age), and a research assistant approached those individuals about potential participation in the study. In addition, three young Caucasian males who were already under-performing in the program and in danger of being terminated from the drug court were also informed about the HEAT study. Although HEAT was not designed for Caucasian participants, these three individuals indicated an interest in the intervention, and their inclusion allowed the group to commence quickly with 10 group members. The HEAT curriculum was not tailored or adapted for the Caucasian participants; however, the group leader was sensitive to their presence and offered opportunities for them to discuss issues from their perspectives. Study recruitment yielded a high acceptance rate with 100% of those approached about the study agreeing to participate. The follow-up rate was also 100% with outcome data being obtained on all 10 participants.

Study 1 Data Sources. Participants were interviewed by trained research staff at entry into HEAT and 9 months after enrollment. The face-to-face interviews took approximately 45 minutes and were conducted in a private location at the drug court office or elsewhere in the community

depending on participant preference. Participants were not compensated for participation in the baseline interview; however, they received $20 for completing the 9-month follow-up interview.

Information concerning participants' demographic characteristics, criminal history, and substance use history was obtained from the Health Services Research Questionnaire (HSRQ) (Chitwood et al 1998), the Addiction Severity Index (ASI) (McLellan et al., 1992), and the Government Performance and Results Act (GPRA) assessment instrument (Mulvey et al., 2005). The Texas Christian University (TCU) Criminal Justice Client Evaluation of Self and Treatment Scale (CJ-CEST) (Joe et al., 2002; TCU, 2005a) was used to assess participants' self-reported treatment satisfaction, peer support, treatment participation, and counseling rapport. The CJ-CEST was administered 9 months following participants' entrance into the HEAT group, which corresponds roughly with the end of the HEAT intervention. CJ-CEST subscales have a range of 10 to 50, with a median of 30. Among male offender populations, a score of 40 falls at approximately the 75th percentile, indicating an above-average score compared to other male offenders in substance use disorder treatment (TCU, 2005b). Studies involving more than 3,200 males in corrections-based treatment reported excellent reliability for these CJ-CEST subscales, with Cronbach alphas ranging from .84 to .94 (TCU, 2005c). Finally, information related to participants' during-program performance in the drug court program (e.g., sessions attended, completion rates) was obtained from the Kentucky Drug Court Management Information System.

Study 1 Results. Participant characteristics and outcomes for Study 1 are presented in Table 1. In line with the intended target population for HEAT, the participants were all male and approximately 25 years of age (mean = 24.9 yrs., SD = 2.38). As mentioned earlier, three participants were Caucasians who were performing poorly in the drug court and indicated a desire to participate in HEAT. The remaining participants were African American. Most participants

reported being unemployed (60%), never having been married (90%), having children (80%), and having earned at least a high school diploma or GED (70%).

Insert Table 1 about here

Participants reported serious criminal and substance use histories. They averaged more than 10 prior criminal convictions and nearly two years of previous incarcerations. In addition to drug possession (90% of participants) and drug trafficking (80%), other criminal charges included a range of serious felonies, misdemeanors, major traffic violations, and probation violations. Use of illicit drugs and alcohol was also prevalent in the sample, with all participants (100%) reporting lifetime use of alcohol and marijuana, and substantial percentages reporting illicit use of cocaine (90%), benzodiazepines (80%), or opioids (60%). Unfortunately, diagnostic information was not available from the program to indicate whether participants were dependent on these substances or suffering from a severe substance use disorder.

Retention in HEAT was excellent. As indicated earlier, the HEAT curriculum is designed to be administered over 36 weeks (approximately 9 months) and includes a maximum of 80 counseling sessions. As shown in Table 1, participants attended 81% of their scheduled HEAT appointments, averaging 65 sessions over 264 days (8.8 months). Of the 10 participants, 9 (90%) completed the entire HEAT curriculum. No participant dropped out of HEAT; however, one Caucasian participant was transferred out of the drug court to long-term residential treatment before he could complete HEAT. This participant still attended over 60 HEAT sessions before being transferred.

Participants' perceptions of treatment were quite favorable. At the 9-month follow-up interview, average scores exceeded 40 on the CJ-CEST treatment participation, counseling rapport,

treatment satisfaction, and peer support scales. As described earlier, scores over 40 fall at approximately the 75th normative percentile for males in corrections-based treatment, indicating higher-than-average satisfaction with the program and perceived rapport with the group counselor and fellow group members.

By the conclusion of the study period, three participants (30%) had graduated successfully from the drug court and two additional participants (20%) were still active in the program and entering the aftercare phase. Four participants (40%) were discharged unsuccessfully from the drug court despite having successfully completed the HEAT curriculum, and one participant (10%) was transferred to long-term residential treatment. Among the African American participants, 57% (4 out of 7) graduated from the drug court or entered the aftercare phase, and the remaining three participants (43%) were discharged unsuccessfully from the program. In contrast, one of the three Caucasian participants (33%) graduated from the drug court, one (33%) was transferred to long-term residential treatment, and one (33%) was discharged unsuccessfully from the program. Given the small samples, it is not possible to draw conclusions about the relative effectiveness of HEAT for Caucasian vs. African American participants. Seemingly poorer outcomes for the Caucasians might be explained by the fact that HEAT is culturally tailored for African Americans; however, it might also reflect the fact that these individuals were already performing poorly in the drug court before entering HEAT.

Study 1 Conclusions. The objectives of Study 1 were to examine the feasibility of implementing the 9-month HEAT curriculum in a drug court program and determine whether participants were satisfied with the intervention. Results confirmed that participants with serious criminal and substance use histories were willing and able to complete the HEAT curriculum, were satisfied with the program, and reported having good rapport with the group leader and fellow group members. Half of the HEAT participants, including four out of seven (57%) African American

participants, ultimately graduated from the drug court or were proceeding on schedule to complete the program. Previous studies have consistently reported a statewide graduation rate of approximately 35% for Kentucky drug courts (Marlowe et al., 2016; Shannon et al., 2016). This suggests that HEAT may substantially improve drug court graduation rates for young African American men; however, better-designed studies are needed to compare graduation rates between HEAT participants and comparable drug court participants not receiving HEAT to shed further light on this issue.

Study 2 (Effect Size)

The objective of Study 2 was to determine whether HEAT shows promise for increasing retention of young African American men in drug court and reducing otherwise high attrition rates for this at-risk population. If the estimated effect size for HEAT on retention is in at least the moderate range, this will justify more complicated and costly efforts to examine its effectiveness in fully powered experimental trials. The study protocol was approved and monitored by the IRB of Indiana University.

Study 2 Recruitment. Participants were recruited from the Marion County Reentry Court (MCRC) located in Indianapolis, IN. Analyses conducted by the current investigators found that in the two years immediately preceding implementation of the HEAT curriculum, African American males between 18 and 29 years of age (n=166) were significantly more likely to be terminated unsuccessfully from the MCRC and have their parole revoked than other MCRC participants (n=126) (46% vs. 33%; χ^2 =5.23, $p < .05$, Cramer's V = 0.13). This significant disparity underscores the need for a culturally proficient intervention to improve MCRC outcomes for this at-risk population.

The MCRC applies the drug court model to address the needs of formerly incarcerated inmates reentering the community. It primarily targets inmates with substance use problems and

excludes those with a history of serious violent or sex crimes. Participants serve their parole under MCRC supervision, and successful graduates receive an early release from parole. To graduate from MCRC, participants must complete a regimen of substance use disorder treatment or other indicated services, remain arrest-free, abstain from using illicit drugs and alcohol for several consecutive months, obtain regular employment, pay applicable fines and fees, and obey other parole conditions. Some participants may not satisfy all conditions for graduation from MCRC before their mandatory parole period expires. These individuals receive an administrative discharge from MCRC, indicating that they successfully completed parole but did not meet the more stringent requirements for graduation from reentry drug court before their parole expired.

Study 2 HEAT Condition. The experimental HEAT condition was comprised of two group-counseling cohorts. The first group consisted of 10 MCRC participants who entered the program in December 2014, and the second group consisted of 12 participants who entered in February 2015. Of these 22 HEAT participants, two absconded during the first month of the MCRC program before receiving any HEAT or other MCRC services, and were dropped from the analyses. One additional participant died early in the study, resulting in 19 participants who engaged in the HEAT intervention. The IRB determined that the participant's death was not study-related and therefore no changes were required to the study procedures. The consent rate for the HEAT group was 100% with all individuals approached about the intervention agreeing to participate. The follow-up rate was 100% with completion data being available on all HEAT participants. Just over two-thirds (68%) of the HEAT participants completed the entire HEAT curriculum, and the remaining participants attended between 3 and 10 months of the intervention.

Study 2 Comparison Groups. Two comparison groups were constructed to estimate an effect size for HEAT compared to MCRC treatment as usual (TAU). The first TAU comparison

group consisted of 38 MCRC participants who met eligibility criteria for HEAT (male, African American, between 18 and 29 years of age), but participated in the program within a few months immediately preceding implementation of the HEAT curriculum. This comparison group, referred to as the *Contemporary TAU Group*, was treated in the MCRC during nearly the same period as the HEAT participants, which helps to reduce potential time effects or cohort effects that may have arisen if changes were introduced over time to MCRC practices or procedures.

For the second TAU comparison group, propensity-score matching was used to select individuals who were equivalent to the HEAT participants on variables known to influence MCRC outcomes, specifically participants' age, number of prior arrests, and most serious current criminal conviction. These variables were entered in a logistic-regression model to generate a propensity score for all participants entering the MCRC in the previous two years who would have been eligible for HEAT had it been available when they were in the program. The nearest-neighbor matching method (Smith & Todd, 2005) enabled selection of two participants who had the closest propensity scores to each HEAT participant (n=38). This comparison group is referred to as the *Matched TAU Group*. Because some of these participants entered the MCRC as much as two years before the HEAT participants, program policies and procedures might have changed appreciably over time, which could have differentially affected their performance. However, these participants were matched to HEAT participants on the most influential risk factors known to impact treatment success rates and criminal recidivism.

Study 2 Results. Participant characteristics for Study 2 are reported in Table 2. Consistent with the intended target population for HEAT, participants in the HEAT and comparison groups were all male, African American, and approximately 25 to 28 years of age. Approximately 55% to 60% of the participants in all three groups were high school graduates or had earned a GED. Marijuana was

reportedly the primary substance of abuse for over 80% of all participants. No diagnostic information was available from the program to determine whether participants were dependent on marijuana, alcohol or other drugs, or suffering from a severe substance use disorder. Participants in all three groups had extensive criminal histories, averaging approximately 10 prior arrests; however, HEAT participants were more likely to have been incarcerated most recently for a drug or weapon offense, whereas comparison subjects were more likely to have been incarcerated most recently for a person or property offense.

There were no significant differences between the HEAT and Matched TAU groups in terms of participants' age, number of prior arrests, educational level, primary drug of choice, or most serious current conviction. However, participants in the Contemporary TAU group were approximately 18 months younger, on average, than those in the HEAT group ($p < .05$), and were more likely to have been incarcerated most recently for a property or person offense as opposed to a drug or weapon offense ($p < .01$). Importantly, controlling for these baseline differences had no effect on the results of the between-group outcome comparisons.

Insert Table 2 about here

Outcomes for the HEAT and comparison groups are reported at the bottom of Table 2 and depicted in Figure 2. HEAT participants graduated from the MCRC at a considerably higher rate (42%) than participants in the Contemporary TAU (24%) and Matched TAU comparison groups (29%). They were also far less likely to be terminated unsuccessfully from the MCRC and have their parole revoked (26% vs. 66% and 45%).

Insert Figure 1 about here

An omnibus chi square test revealed that outcomes differed significantly overall between the three groups, $\chi^2 = 8.39$, $p < 0.05$, Cramer's V = 0.38. The effect size (ES) falls in the moderate range, with Cramer's V exceeding 0.30 (Cohen, 1988). Specific cell comparisons indicated that HEAT participants were significantly less likely than participants in the Contemporary TAU condition to have been terminated unsuccessfully from the program and have their parole revoked, $\chi^2 = 7.92$, $p < 0.01$, Cramer's V = 0.37. Again, the ES falls in the moderate range with Cramer's V exceeding 0.30 (Cohen, 1988). The remaining cell comparisons were not statistically significant; however, the absence of significance is most likely attributable to low statistical power for the analyses because there were only about 10 to 15 participants in many of the cells. With a larger sample, these differences in outcomes would most likely have been statistically significant.

Study 2 Conclusions. The goal of Study 2 was to estimate an effect size for HEAT in retaining young African American men in drug court and increasing their graduation rate. Results confirmed that HEAT participants were considerably more likely to graduate from the program and successfully complete their term of parole than comparable participants receiving treatment as usual. The estimated effect size was moderate with Cramer's V exceeding 0.30. These findings provide ample preliminary support for HEAT to justify conducting additional research in fully powered randomized controlled trials.

DISCUSSION

Findings from these two pilot studies provide preliminary support for HEAT in improving success rates among young African American men in drug court. Participants with serious criminal

and substance use histories completed the lengthy 9-month HEAT curriculum, were satisfied with the intervention, and African-American participants graduated from drug court at substantially higher rates than are commonly observed in this at-risk population. A sufficient basis has been established to justify the expense and effort of examining HEAT in fully powered randomized controlled trials.

Limitations

The design limitations of the studies are self-evident and stem primarily from their limited aims. The cell sizes were quite small (approximately 10 to 20 participants per condition), the studies were limited to two drug courts, and only proximal during-program outcomes were examined. The impact of HEAT must be evaluated in larger-scale multisite studies and should examine post-program outcomes including criminal recidivism. The comparison groups in Study 2 were also not constructed randomly, and therefore the TAU participants may have differed from the HEAT participants on unmeasured dimensions that could have affected their outcomes. Moreover, the sheer novelty of delivering a new intervention and paying heightened attention to the HEAT participants could have elicited better outcomes irrespective of the specific content of the HEAT intervention. If, for example, drug court staff members were invested in the success of HEAT, they may have interacted more favorably with the HEAT participants during other facets of the program, such as court hearings, thus contributing to better outcomes for reasons having little to do with HEAT. Future studies should include placebo or attention-controlled comparison groups to reduce such biasing effects. Finally, it remains unclear whether comparable benefits can be achieved when HEAT is administered by treatment providers other than one of the original developers of the

intervention. All that can be concluded at this juncture is that there is a reasonable basis to move forward and examine HEAT in better-designed research studies.

Lacking diagnostic information concerning the severity of participants' substance use problems, it is also uncertain under what circumstances HEAT may be administered as a stand-alone intervention, or when it should be administered in combination with other substance use disorder treatments. Participants in Study 1 reported substantial use of a wide range of seriously addictive drugs, including opioids, cocaine, and benzodiazepines; however, participants in Study 2 reporting primarily using marijuana. Future studies should carefully evaluate participants' diagnostic status and primary substances used, and determine whether HEAT needs to be adapted or combined with other interventions for individuals suffering from severe substance use disorders.

Conclusion

Convincing evidence indicates that racial disparities exist in some drug court graduation rates (Finigan, 2009; Marlowe, 2013; Marlowe et al., 2016). As courts of law, drug courts are obliged by constitutional principles of due process and equal protection to provide fair access and equivalent opportunities for success to all eligible persons. Best practice standards require drug courts to examine racial, ethnic and gender disparities in their programs, and implement remedial measures where indicated (NADCP, 2010, 2013). The drug court field has a legal, ethical, and moral obligation to pursue promising avenues of research which may uncover ways to rectify unfair disparities in their programs, and in so doing contribute to public health, public safety, and the equitable administration of justice.

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Table 1. Study 1 (Feasibility) Participant Characteristics and Outcomes (N=10)

Demographics	**% or mean (SD)**
Male	100%
Age	24.90 (2.38)
African-American, non-Hispanic	60%
African-American, Hispanic	10%
Caucasian, non-Hispanic	30%
Unemployed	60%
Never married	90%
12th grade education, GED, or higher	70%
Have children	80%
No. of children	1.60 (.52)
Criminal History	
Convictions	10.40 (5.50)
Months of incarceration	22.30 (22.48)
Any criminal charge	100%
Drug possession	90%
Drug trafficking	80%
Probation violation	80%
Drug paraphernalia	70%
Driving under the influence of drugs or alcohol	60%
Weapons offense	50%
Contempt of court	40%
Disorderly conduct	20%
Major traffic violation	20%
Shoplifting	10%
Forgery	10%
Robbery	10%
Substance Use	
Alcohol	100%
Cannabis	100%
Cocaine	90%
Illicit benzodiazepines	80%
Illicit opioids	60%
Hallucinogens	40%
Other illicit drug use	30%
HEAT Retention	
Session attendance rate	81%
No. sessions attended	65.00 (10.64)
Duration of participation in days[1]	264
Completed HEAT	90%

CJ-CEST[2] Treatment Process Scales: 9 mos. follow-up (range = 10 - 50, median = 30)	
Treatment participation	41.33 (4.22)
Counseling rapport	43.67 (4.89)
Treatment satisfaction	42.00 (5.80)
Peer support	40.40 (5.95)
Drug Court Completion Status	
Graduated	30%
Still actively participating – entering aftercare	20%
Administrative discharge	10%
Terminated unsuccessfully	40%

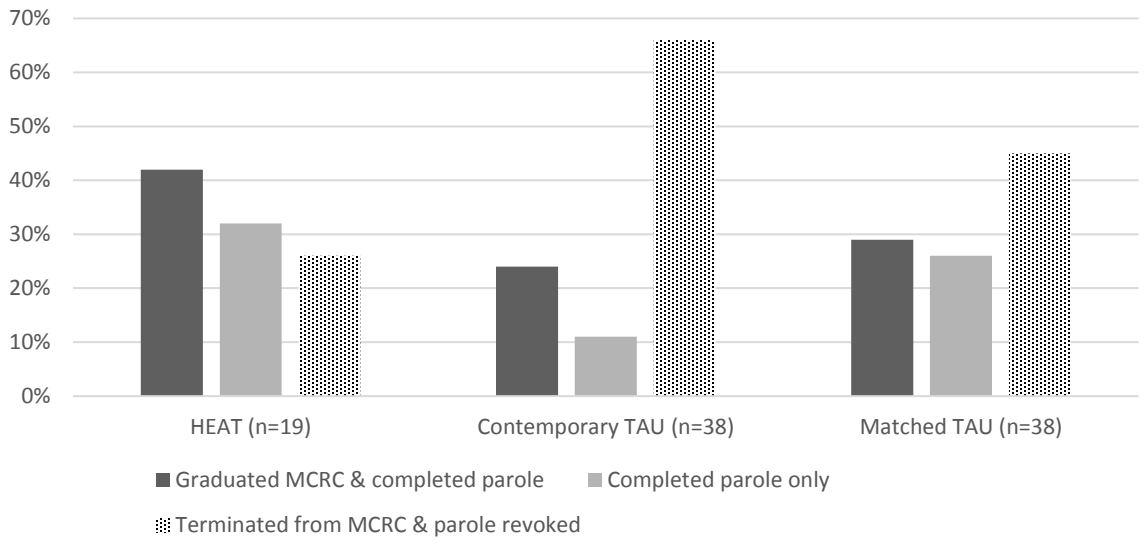
[1] There is no standard deviation for days in the HEAT intervention because no individual dropped out of the protocol.
[2] Texas Christian University Criminal Justice Client Evaluation of Self and Treatment Scale.

Table 2: Study 2 (Effect Size) Participant Characteristics and Outcomes: mean (SD) or N (%)

	HEAT (N=19)	Contemporary TAU (N=38)	Matched TAU (N=38)
Demographics			
African American	19 (100%)	38 (100%)	38 (100%)
Male	19 (100%)	38 (100%)	38 (100%)
Age*	27.2 (2.6)[a]	25.6 (2.7)[b]	26.0 (2.3)
No. prior arrests	10.6 (5.9)	9.5 (5.8)	10.1 (6.2)
High school grad. or GED	11 (58%)	21 (55%)	23 (61%)
Drug of choice			
Alcohol	1 (5%)	1 (3%)	4 (11%)
Marijuana	16 (84%)	34 (90%)	32 (84%)
Cocaine	2 (11%)	1 (3%)	1 (3%)
Illicit opioids	0 (0%)	0 (0%)	1 (3%)
Other drug	0 (0%)	2 (5%)	0 (0%)
Most serious charge leading to recent incarceration**			
Drug offense	14 (74%)[a]	12 (32%)[b]	14 (37%)
Person offense	0 (0%)[a]	12 (32%)[b]	13 (34%)
Property offense	1 (5%)[a]	8 (21%)[b]	8 (21%)
Weapon offense	4 (21%)	6 (16%)	2 (5%)
Other offense	0 (0%)	0 (0%)	1 (3%)
Outcomes**			
Graduated MCRC and completed parole	8 (42%)	9 (24%)	11 (29%)
Completed parole and administratively discharged from MCRC	6 (32%)	4 (11%)	10 (26%)
Terminated from MCRC and parole revoked	5 (26%)[a]	25 (66%)[b]	17 (45%)

*p < .05. **p < .01. TAU: Treatment as usual non-HEAT comparison group. MCRC: Marion County Reentry Court. [a,b] Cells in the same row with different superscripts (a vs. b) are significantly different from each other.

Figure 1. Study 2 Outcomes for HEAT Participants and Comparison Groups



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Conflict of Interest Attestation

Darryl Turpin and Guy Wheeler provide training and technical assistance on HEAT for financial compensation.

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