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Creating Lasting Family Connections: Reducing Recidivism With Community-Based Family Strengthening Model

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Abstract

There is increasing evidence of the effectiveness of continued care after reentry for those who have participated in prison-based substance abuse treatment. This article presents results from analyses of program and comparison group data from two community-based programs that implemented a culturally adapted version of the Creating Lasting Family Connections (CLFC) curriculum. Both programs sought to strengthen individuals (and their families) recently reentering the community after incarceration. Results suggested that the first program had effects on increasing HIV knowledge and spirituality, while reducing intentions to binge drink and recidivism. The second program similarly showed effects on recidivism, and participants also showed an increase in nine separate relationship skills. The policy implications of the results are discussed.

Keywords

recidivism, reentry, substance abuse, family strengthening, relationship skills

Over three decades, the United States has expended excessive amounts of resources and time building prisons as a primary means for handling drug offenders. As the costs for this approach have increased without the expected decrease in criminal offenses,

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new strategies in addressing the problem of drugs and crime have become necessary. Starting in 2005, the national trend to improve outcomes and reduce costs, initiated through the Second Chance Act, opened the door for nontraditional methods for working with reentry populations (Pogorzelski, Wolff, Pan, & Blitz, 2005). Throughout the nation, and specifically in Kentucky, this trend represented a shift in focus from punishment to rehabilitation in an effort to reduce both costs and recidivism. This article describes and discusses one such nontraditional method, and the authors propose policies predicated on the findings of the reported studies.

Background

Most drug-involved offenders return to society from prison without having received any substance abuse treatment (Taxman, Perdoni, & Harrison, 2007). Many in this group commit technical violations of parole within 3 years (24% nationally and 20% in Kentucky), which represents half of those returning to prison in Kentucky (PEW, 2011). Efforts to reduce the cycle of recidivism with substance abusing offenders place greater attention on connecting reentry prisoners with addiction treatment providers in the community (Sung, Belenko, & Feng, 2001). Outcome studies examining drug use and recidivism of participants in corrections-based substance abuse treatment programs have documented successful reductions in both areas over the last two decades (e.g., Burdon, Dang, Prendergast, Messina, & Farabee, 2007; Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Knight, Simpson, Chatham, & Camacho, 1997; Prendergast, Hall, Wexler, Melnick, & Cao, 2004). Moreover, offenders who participate in prison-based treatment and continued care after community reentry experience reduced relapse and recidivism above and beyond that of prison-based treatment alone (Burdon et al., 2007; Hiller, Knight, & Simpson, 1999; Inciardi et al., 1997; Martin, Butzin, Saum, & Inciardi, 1999).

Studies of cognitive-behavioral treatments (including treatment provided specifically to drug users) were shown to be effective among offender populations (Lipsey, Chapmen, & Landenberger, 2001). Related studies of cognitive behavioral approaches delivered in prison-based treatment programs that follow inmates to community release have demonstrated success, defined as abstinence from substance use and a reduction in recidivism (Pelissier, Motivans, & Rounds-Bryant, 2005). A review of evidence-based approaches has found an association between treatment modality and other treatment components (e.g., having staff training specialists, the provision of ancillary services) and outcomes (Schildhaus, Gerstein, Dugoni, Brittingham, & Cerbone, 2000). Other studies of cognitive behavioral approaches with criminal offenders demonstrate similar positive results (Roberts-Lewis, Parker, Welch, Wall, & Wiggins, 2009). Dowden and Andrews (1999) conducted a systematic review on effective correctional treatment for adult offenders through the use of meta-analysis. On the basis of their statistical review, they found cognitive-behavioral interventions and social learning methods were more effective correctional interventions than those based on nonbehavioral approaches. Cognitive-behavioral approaches have also been

found to be effective with populations of adolescents with a substance use disorder (Dennis et al., 2004; Waldron, Slesnick, Brody, Turner, & Peterson, 2001), and those with co-occurring substance use and other mental health disorders (Kaminer, Burleson, & Goldberger, 2002).

Because of prison overcrowding and the expense of incarceration, many states have aggressively developed early release initiatives and established policies to reduce recidivism (Anglin, Brown, Dembo, & Leukefeld, 2009). Research on treatment of substance abusing criminal offenders and outcomes supports the need for effective treatment approaches. This research further identified the importance of policy revision related to the successful diversion from prison and effective postrelease strategies for inmates exiting prison to ensure continued treatment at reentry (Jolley & Kerbs, 2010). Taxman (2009) provides further support in testimony before the Congressional Subcommittee on Commerce, Justice, Science, and Related Agencies, where it was concluded, "the community component is critical to sustained results"(p. 3).

To this end, many states initiated a policy shift from a punishment focus to balancing punishment and treatment (Taxman, 2008). The Second Chance Act of 2005 acknowledged that the 600,000 inmates exiting prison each year need access to resources and opportunities that allow and encourage positive participation in society to reduce recidivism and increase public safety (Pogorzelski et al., 2005). Kentucky Governor Steve Beshear (March 4, 2011) signed into law revisions to the penal code with the goal of reducing recidivism to help lower the cost of incarceration through the combination of diversion programs, substance abuse treatment, and early release programs that enhance community supervision and collaboration with community service providers. This legislation identified the need to address excessive recidivism that peaked at 44% in 2003 and stood at 40% in 2007 (Pew Center, 2011). According to the Pew Center report (2011), recidivism in Kentucky is described as prisoners returning within 3 years.

Description of the Intervention

In 2000, The Kentucky Department of Corrections (KDOC) began addressing the recidivism problem by increasing the availability of substance treatment programs: six prison programs (increased from four programs) and 18 regional jail programs (increased from two programs; Staton-Tindall et al., 2009). During the same period, the Kentucky Department of Corrections increased collaboration with community-based treatment and prevention organizations to expand support of reentry populations with the goals of reducing recidivism and increasing community protection. In particular, the KDOC sought to find partners that offered community-based programming designed to advance aftercare services using evidence-based approaches identified as effective in addressing deficits in multiple domains (e.g., psychiatric, employment, and family problems; Huebner & Cobbina, 2007). This search resulted in the KDOC developing a partnership with the Council on Prevention and Education: Substances, Inc. (COPES, Inc.).

Between 2005 and 2011, COPES, Inc. implemented two separate collaborative, community-based efforts to strengthen individuals (and their families) recently reentering the community after incarceration. The projects were designed specifically to (a) reduce substance abuse, prison recidivism, and HIV/Hepatitis infection rates and (b) promote fatherhood and relationship skills and healthy sexual practices among adult males reentering the Louisville, Kentucky Metro community. The two projects especially targeted services for those individuals who had received substance abuse treatment while incarcerated.

Both projects implemented the same culturally adapted version of the evidence-based model program, Creating Lasting Family Connections (CLFC), which included a thoroughly integrated HIV/Hepatitis preventive intervention component. CLFC is listed on Substance Abuse and Mental Health Services Administration's (SAMHSA; 2011) National Registry of Evidence-based Programs and Practices (NREPP).

The CLFC program was further adapted by Ted N. Strader (COPES, Inc. Executive Director and CLFC program developer) for cultural sensitivity for this specific reentry target population in 2004. The adapted CLFC program is designed to increase skills that individuals and families find useful in reestablishing strong family harmony and support for recovery and reentry, and to assist parents in gaining deep insight in providing effective prevention for their children. The adapted intervention addressed multiple challenging and interconnected issues (family strengthening, substance abuse [and recovery support], violence, HIV/Hepatitis, and prison recidivism) with a multifaceted approach. This approach was specifically designed to cultivate an atmosphere of inclusion, respect, and cultural sensitivity to an at-risk audience traditionally considered to be somewhat resistant and difficult to recruit and retain in a program of significant scope and duration.

This adaptation of CLFC included the three (multisession) adult facilitator-led, group-learning CLFC modules, plus a brief new module on HIV and other sexually transmitted disease prevention and sexual health. Collectively, these four components involved 20 sessions delivered in 2-hr classes provided once or twice per week. Because program sessions were often held immediately after working hours (from 6:00 to 8:00 p.m.), light meals and informal contact with the program staff were available for any participant who was interested one-half hour before each session. The meals and contact with staff served as both a convenience for participants and an incentive for participation. Typically, two state Certified Substance Abuse Prevention Specialists and/or Certified Alcohol and Drug Counselors (CADC) cofacilitated the program sessions. The intervention was offered at multiple times (i.e., morning, afternoon, and evening) at the COPES, Inc. office and at various local sites throughout the Metro Louisville, Kentucky area accessible to the target population.

The four highly interactive CLFC program modules represent a growing body of research regarding the role of family in recovery and changing family systems to support recovery. Studies on family and concerned others of substance abusing persons have consistently demonstrated in replicated randomly controlled trials that involvement of family in interventions on resistant addicts (Landau et al., 2000, 2004; Meyers,

Miller, Smith, & Tonigan, 2000; Meyers, Smith, & Lash, 2005) and in treatment that teach behavioral skills to reduce enabling and support the addict in recovery (McCrady, 1989; McCrady, Epstein, & Hirsch, 1996; Meyers et al, 2000; Miller, Meyers, & Tonigan, 1999; Rotunda & O'Farrell, 1998; Stanton, 2004; Stanton & Heath, 2005; Stanton & Shadish, 1997; Staton-Tindall, McNees, Walker, & Leukefeld, 2007; Velleman, 2006; Yoshioka, Thomas, & Ager, 1992) significantly reduce substance abuse across the following year.

Furthermore, best practices call for the use of a combination of family systems and functional analysis for assessment provided with cognitive and behavioral methods to initiate change in family members and/or the substance abuser (e.g., Kelley & Fals-Stewart, 2002; McCrady, Epstein, & Hirsch, 1999; Nelson & Sullivan, 2007; O'Farrell et al., 1996a, 1996b; O'Farrell & Fals-Stewart, 2000; Powers, Vedel, & Emmelkamp, 2008). Studies of substance abuse treatment identify positive outcomes following CBT interventions, coping skills training, identification and elimination of cognitive distortions, and development of refusal skills (Marlatt & Donovan, 2005; Monti, Abrams, Kadden, & Cooney, 1989). Other studies note the role of relapse prevention and development of self-control skills (Marlatt, Parks, & Witkiewitz, 2002). In addition, assessment scales, functional analyses, and feedback are ideally suited as group methods, and cognitive and behavioral skills training are currently delivered as primary interventions across a variety of inpatient and outpatient settings (Dennis, Foss, & Scott, 2007).

Finally, the CLFC program is based on Risk and Resiliency Theory with an emphasis on strengthening resiliency factors for individuals, their families, and their communities (Strader, Collins, & Noe, 2000). Much research has been devoted to factors that may account for successful outcomes for individuals who face high risks (Garmezy, 1985; Hawkins, Catalano, & Miller, 1992). Risk factors can include early and persistent problems such as substance use, delinquent/criminal behavior, association with peers that model problem behavior, and poor family relationships. Braverman (1999, 2001) has noted that there is a great deal of overlap between research on resiliency and research on substance abuse prevention. The resilience literature tends to take a broader view, focusing not just on substance abuse, but on the larger issues of adjustment and adaptation. Resnick (2000) has also noted that the resiliency paradigm, which emphasizes strengths, resources, and assets as opposed to the "restatement of pathology" that has characterized much of the research on communities of color, resonates with and often finds acceptance among minority constituents.

The CLFC modules, "Developing Positive Parental Influences," "Raising Resilient Youth," "Getting Real," and "The ABC 3D Approach to HIV Prevention," represent a delivery method that includes elements of each of the aforementioned approaches. A brief description of each module is outlined below:

- "Developing Positive Parental Influences" is a training that promotes a deep awareness of personal thoughts, feelings, attitudes, beliefs, and experiences along the continuum of chemical use, abuse, and dependency. This module

also examines effective approaches for intergenerational family prevention, along with providing a practical understanding of intervention, referral procedures, and treatment options including ongoing aftercare. In addition, the Developing Positive Parental Influences training includes an in-depth look at the dynamics of chemical dependency and its impact on families, and the promise of abstinence and recovery for the entire family.

- "Raising Resilient Youth" is a training on a broad range of relationship skills for individual and family strengthening. In this component, individuals (and their families) are asked to learn and practice effective communication skills, including listening and validating others' thoughts and feelings, and to learn and practice how to successfully manage their own thoughts and feelings. Individuals and families are also asked to examine and enhance their ability to develop and implement expectations and consequences with others including spouses, coworkers, friends, and children in all areas of interest and concern. Parents are taught how to include their children's active participation in setting both expectations and consequences on a wide variety of important issues of interest or concern to the parent, including alcohol and drugs. This encourages dialogue, which enhances a sense of competence, connectedness, and bonding between parent and child.
- "Getting Real" is a training that invites participants to examine their responses to the verbal and nonverbal behavior they experience in their interactions with others, and offers personalized coaching on effective communication skills, including speaking with confidence and sensitivity, listening to and validating others, sharing feelings, and matching body language with verbal messages. The Getting Real module promotes the skills of self-awareness and mutual respect, while focusing on helping participants combine thoughts, feelings, and behavior in a way that leads them to generate powerful and meaningful messages to others.
- "The ABC 3D Approach to HIV Prevention" is a serious, yet often humorous and candid, examination of the primary modes of transmission of HIV, hepatitis, and other sexually transmitted diseases. This training concludes with effective preventive measures to reduce or eliminate risk of infection. Healthy sexual expression is recognized, discussed, and supported. During this component, participants are also offered voluntary, free, rapid, confidential, and on-site HIV testing.

Operating under the theory that effective reentry programs both reduce risk factors and promote resilience factors, the CLFC program focused on enhancing the conditions and experiences (resiliency or protective factors) that appear to protect individuals from initiating or reengaging in alcohol, tobacco, and other drug use. The operational factors may vary drastically for individuals across the spectrum of socioeconomic status. Our past research and experience has shown that resilient individuals

can avoid drug use, abuse and prison recidivism even when multiple and severe risk factors are present. Because these two projects served minority adult ex-offenders who had received substance abuse treatment while incarcerated, the program focused on relapse and prison recidivism prevention and broadly enhancing other strengths and positive resiliency factors.

A key factor in our theoretical approach to effective treatment and prevention is human "connectedness." Research on adolescents identifies family connectedness as one of the most important factors for psychological well-being and positive outcomes (Blum & Reinhardt, 1997; Doll & Lyon, 1998; Field, Diego, & Sanders, 2001). Similarly, social support systems represent an important variable in treatment compliance and outcomes for men (Booth et al., 1992). Other studies (Knight & Simpson, 1996) found that improved personal relationships during treatment improved outcomes, such as reduced drug use and greater program compliance.

Connectedness means feeling emotionally close, cared about, and listened to in one's family, with significant others outside of our family, and with others in the broader community. Furthermore, when "connected," one is able to express personal thoughts and feelings, and to discover that one's self and one's family are rooted in—and connected to—a community of "others" in significant and meaningful ways. Feeling or perceiving one's self to be connected (to self, family, and community) appears to create a protective shield of resiliency and strength to resist problem behaviors. The CLFC model proposes that connectedness is a critical protective and healing force in human beings—young or old, rich or poor, male or female. Deep, healthy human connections build strong protective shields (or immunity) to prevent harm and provide both nurturing and healing support, even when challenges penetrate this shield. From this reference came the title, "The Connect-Immunity Project." For a complete review of the underlying beliefs embedded in the CLFC intervention, please see *Building Healthy Individuals, Families, and Communities: Creating Lasting Connections* (Strader et al., 2000, p. 124).

Another key component of the CLFC intervention included comprehensive, compassionate, and culturally sensitive case management services to participants. Case managers provided caring support, advice, and referral to other services in the community to address a wide range of barriers to recovery and reentry, and to promote retention (i.e., job search skills, child care issues, transportation, etc). Case management services were offered to the individual and their family during the initial assessment, prior to and during the program, and for up to a year after enrollment into the program.

Prior to implementing the CLFC intervention, COPES, Inc. conducted a comprehensive, year-long community needs assessment to discover gaps in services, built organizational and community capacity by developing a coalition of community agencies to equip the community to fill service gaps discovered during the needs assessment process, initiated strategic planning for the program based on findings of the needs assessment process with our program partner agencies, and included input from

focus group members of the target population. COPES also selected, employed, and trained staff in both the preventive intervention and in cultural competency for local reentry populations.

Therefore, under the leadership and supervision of COPES staff, the Kentucky Department of Corrections (KDOC), Dismas Charities, the KDOC Social Service Clinicians and Probation and Parole representatives created the Joint Intervention Meeting (JIM) where key partner agency staff representatives met both privately and jointly with selected reentry clients to provide a collective and consistent message of strong support, cultural sensitivity, respect, understanding, and accountability. Reentry participants responded very favorably to an increasingly respectful, positive, affirming, culturally sensitive and uplifting strengths-based approach. Rather than waiting until negative behaviors escalated into criminal violations where severe consequences were required, these JIM meetings were designed to address early warning signs of behavioral slippage and redirect participants onto a positive path of reentry and recovery in a proactive and supportive manner prior to the need for major sanctions. During planned JIM meetings, a collective group of interagency staff representatives met with clients to review client complaints and client compliance or manageability concerns (including absences, tardiness, positive drug screens, low motivation, unemployment, housing issues, etc). The meetings were designed to provide a wide safety net of both support and personal accountability for each participant's successful reentry and recovery, while encouraging healthy decision making and long-term personal and family stability.

In addition, COPES established a quasi-experimental evaluation design with participants and comparison groups to evaluate the efficacy of the program by administering baseline, exit, and follow-up surveys, and by administrating retrospective surveys following each facilitator-led, group-learning module. COPES also administered an annual Collaborating Partner Survey, and collected HIV testing and prison recidivism data using verifiable recorded data from the Kentucky Department of Corrections. Program participants were given the opportunity to provide feedback at the end of each of the three primary group-learning modules and at the end of each complete program run for real-time quality control. Finally, COPES incorporated comprehensive, long-term planning for sustainability with project partner agencies. The following two studies use a quasi-experimental methodology to examine (Study 1) the effects of CLFC on antisocial behavior and recidivism and (Study 2) the effects of CLFC on relationship skills and recidivism. These studies are reported in turn.

Study 1

Method

Participants. The participants for the present study were 249 individuals who participated in the intervention group and 96 individuals who participated in the comparison group. The participants were predominately male in both the intervention (76%) and

comparison (78%) group and in their mid-30s (intervention: 34.68 and comparison: 37.13). About half of the participants were African American (53% in both groups) and very small proportions were Hispanic (intervention: .44% and comparison: 2%). The participants were predominately of low socioeconomic status, as about one quarter were independently housed (intervention: 23% and comparison: 27%), about one half were employed (intervention: 51% and comparison: 53%), and the majority of participants had an income at or under US$30,000 (intervention: 80% and comparison: 82%). The majority of participants had either a high school diploma or a GED (intervention: 82% and comparison: 81%). The majority of participants reported that they had a heterosexual sexual orientation (95% in both groups).

Selectivity biases. Two alternative explanations for putative study findings are that (a) intervention effects could be due to nonrandom assignment of individuals to the intervention and comparison groups (i.e., a quasi-experimental design) and (b) intervention effects could be due to participants who are likely to exhibit negative outcomes being more likely to drop out of the study, especially in the intervention group. Both of these potential sources of selectivity biases were addressed using a Heckman two-step procedure (Heckman, 1976, 1979). This approach involves regressing either (a) intervention group or (b) attrition status on participant background characteristics in the first step using a probit regression model. The second step involves producing predicted scores, where these scores are transformed to an inverse Mill's ratio (IMR), and the IMR is included in all inferential analyses. These methods are not subject to the same biases that characterize propensity methods.

Prior to performing the first step probit models, missing background characteristic data were imputed using the Expectation Maximization (EM) algorithm in SPSS 18.0. EM employs maximum-likelihood estimation to ensure consistency between the variance-covariance matrix derived from the observed data and the imputed data (Dempster, Laird, & Rubin, 1977). All background characteristics mentioned in the participants section were used as predictors and outcomes in the EM model. As the amount of missing data were minimal (less than 5% for any variable) and due to the necessity of eliminating any case with any missing background characteristic, we felt that imputation posed fewer inferential risks than eliminating entire cases.

Our first probit model examined selectivity biases due to assignment to the intervention or comparison group. There was no evidence to suggest that any of the background characteristics predicted intervention group assignment (ps > .05) and the overall model did not predict intervention group assignment, $\chi^2(335) = 345.29, p = .34$. As there was no evidence of bias due to assignment to the intervention or comparison group, we did not create an IMR representing this source of selectivity bias.

Our second probit model examined selectivity biases due to attrition. Of the 345 participants, 70% completed all three waves of the study, 2% completed waves one and two of the study, and 28% completed only wave one of the study. Our model suggested that individuals without a high school education or GED were more likely to drop out of the study, $z = –2.26$, $p = .02$; however, the overall model did not predict attrition, $\chi^2(335) = 341.20$, $p = .40$. As we did have one significant predictor of

attrition, we did produce an IMR representing selectivity bias due to attrition, which was included as a covariate in all of our inferential models.

Support persons. There were 23 individuals in the intervention condition who participated at all three waves; however, they were support persons of the participants who were previously incarcerated. We performed all inferential analyses reported later with and without these individuals. The pattern of results and all statistical significance decisions were the same when we included or excluded these individuals. Due to these 23 persons not necessarily being the intended targets of treatment and due to their not being a comparable subsample of individuals in the comparison group, the remainder of this report only reports inferential analyses excluding these 23 individuals.

Procedure. Initial relationships were developed with the Kentucky Department of Corrections prior to implementing a system of acquiring participants for the intervention and control conditions. Participants were assigned the intervention and comparison conditions using a semirandom process. Due to assignment not being completely random assignment (i.e., every participant did not have an equal probability of being assigned to the intervention or comparison condition), this study must be considered as a quasi-experimental study.

As there is a constant stream of individuals being released from the prison system, individuals released within a span of several months were clustered together into cohorts for a total of 15 cohorts. These participants were released from prison between the years of 2006 and 2010. The only thing defining cohort is when individuals were released from prison, which is a function of sentencing. Thus, there is nothing to suggest that there should be variability among cohorts, such as a violation of the stable use treatment value assumptions (SUTVA; Rubin, 1974). For large cohorts, every other person was assigned to the intervention group.

The survey was administered to all participants at baseline, exit, and follow-up. Surveys were administered by program staff. Informed consent was first required from all participants before completing the survey. All participants were informed that their participation in the survey was voluntary and their decision to not complete the survey would not affect their participation in the program. Additionally, participants were informed that their responses were anonymous and would not be shared, except in aggregate form for reporting purposes. Full proctoring (i.e., staff reading the survey to participants) was offered to those participants who had difficulty reading. Completed surveys were placed in a sealed envelope and sent to the evaluator for data entry and analysis.

Measures. Participants completed a questionnaire at each of the three waves of the study, which inquired about various antisocial outcomes (e.g., attitudes, behaviors, cognitions) and criminal outcomes (i.e., recidivism). We examined whether all items purported to measure an underlying construct were measuring the same underlying construct by calculating Cronbach's alpha at Time 1. Furthermore, scores for multi-item scales were calculated by taking the average of responses to items comprising the scale, unless otherwise noted. The specifics of these measures appear in Table 1. Among other measures not reported here, the questionnaire included measures of the following constructs.

Table 1. Psychometrics for Outcome Measures

	No. of Items	Range	Alpha Time 1
No. of days cigarettes used (in past 30)	1	0-30	n/a
No. of days other tobacco used (in past 30)	1	0-30	n/a
No. of days alcohol used (in past 30)	1	0-30	n/a
No. of days drunk (in past 30)	1	0-30	n/a
No. of days marijuana used (in past 30)	1	0-30	n/a
No. of days other illegal drugs used (in past 30)	1	0-30	n/a
Perceived great risk of substance use	3	1-4	.72
No. of types of unprotected sex acts (last time)[a]	3	0-3	.69
No. of types of risky sexual behaviors (past 3 months)[a]	5	0-5	.34
Perceived risk of risky sexual behavior	6	1-4	.82
Knowledge	18	0-100	.78
Future high likelihood of safe sex	1	1-5	n/a
Future intentions to binge drink	1	1-4	n/a
Future intentions to use illegal drugs	1	1-4	n/a
Sexual self-efficacy	6	1-4	.90
Family cohesion	6	1-4	.86
Social support[a]	4	0-4	.80
Spirituality	3	1-4	.85
Recidivism Time 2	1	0-1	n/a
Recidivism Time 3	1	0-1	n/a

a. These scales more reflect a count of occurrences, so we would not necessarily expect these scales to follow traditional psychometric theory and have a high alpha (see Bollen & Lennox, 1991).

Substance use was measured with six items inquiring about substance use in the past 30 days, where participants indicated the number of days they had used the substance or engaged in the behavior in the past 30 days. Specifically, participants were asked about cigarette use, other tobacco use (e.g., smokeless tobacco), alcohol use, drunkenness, marijuana use, and other illegal drug use.

Perceived great risk of substance use ($\alpha = .72$) was measured with three items assessing the degree to with which participants thought people would risk harming themselves if they engaged in a moderate level of cigarette, alcohol, and marijuana use. Participants responded to items using a 1 (*no risk*) to 4 (*great risk*) scale.

Number of types of risky sexual behaviors was assessed with five items inquiring about whether a risky sexual behavior (e.g., Have you ever had unprotected sex with someone whom you knew was, or suspected of being, an injected drug user?) had occurred in the past 3 months. A count of yes responses was taken for these items. *Number of types of unprotected sex acts* was measured with three items where participants indicated if they had unprotected oral, vaginal, or anal sex the last time they engaged in sexual activities. A count of yes responses was taken for these items. Using barrier methods becomes less important with a single and consistent sex partner, especially if the goal is to reduce the likelihood of sexually transmitted diseases. As such,

participants who indicated they had only one sexual partner were assigned a value of zero, even if they indicated having engaged in unprotected sex acts. This did not affect the pattern of results, as no significant intervention effects emerged when analyzing the data using this logically recoded variable or analyzing the data using the unrecoded variable.

Perceived risk of risky sexual behavior (α = .82) was measured with three items assessing the degree to with which participants thought people would risk harming themselves if they engaged in risky sexual behaviors (e.g., if they share nonsanitized needles/works when using drugs).

Participants responded on a 1 (*not at all likely*) to 4 (*very likely*) response scale, where an additional response option was provided if they wished to indicate, "will not do."

Knowledge (α = .78) obtained during the intervention was assessed with 18 true/false items (e.g., only people who look sick can spread the HIV/AIDS virus—false). Knowledge was analyzed as the percentage of correct responses.

Future high likelihood of safe sex was assessed with one item where participants indicated the likelihood that they would engage in safe sex in the next 6 months. Participants responded on a 5, "will not do," or 1 (*not at all likely*) to 4 (*very likely*) response scale. Again, unprotected sex acts become less of a concern when participants are with a single and consistent sex partner. As such, participants who indicated they were in a sexual relationship with only one partner were assigned a value of five. This did not affect the pattern of results, as no significant intervention effects emerged when analyzing the data using this logically recoded variable or analyzing the data using the unrecoded variable.

Future intentions to binge drink and *future intentions to use illegal drugs* in the past 6 months were each assessed with single items where participants responded on a 1 (*not at all likely*) to 4 (*very likely*) response scale.

Sexual self-efficacy (α = .90) was assessed with six items assessing their comfort in asserting their opinion in sexual situations (e.g., refuse to engage in sex practices you didn't like). Participants responded using a 1 (*not at all*) to 4 (*very much*) response scale.

Family cohesion (α = .86) used six items (e.g., members of my family ask each other for help) to assess whether there was a strong sense of attachment in the participant's family. Participants responded on a 1, "no family," or 2 (*not true*) to 5 (*always true*) response scale.

Social support (α = .80) was measured with four items where participants indicated whether they had persons available to talk to about life issues (i.e., sex, alcohol/drugs, health, personal matters). A count of yes responses was calculated for analysis.

Spirituality (α = .85) was measured with three items (e.g., how spiritual or religious would you say you are) using different Likert-type response scales. All items were transformed to a one to four response scale prior to calculating the mean.

Recidivism was assessed by determining at waves two and three whether each participant had a revocation, was arrested, or absconded. Recidivism data were provided

directly from the Department of Corrections for each participant, and these data were not collected using the questionnaire.

Analysis. Our primary analysis of interest is concerned with examining whether (a) the changes in the intervention group between waves one and three were more positive than the changes in the comparison group between waves one and three, and (b) whether changes in the intervention group were predicted by intervention dosage. Thus this design reflects a quasi-experimental or correlational research design.

HLM was used to deal with multiple observations being nested within each participant (i.e., multiple wave repeated observations) for nearly all analyses for Question 1. Although simpler general linear models can be used to handle these data, HLM performed in this manner confers the benefits of being able to use all of the data, regardless of whether a participant has all three repeated observations (cf. Raudenbush & Bryk, 2002). This method is more consistent with an intent-to-treat approach. All models were posed as random intercept models, which assume that variability may arise among individuals due to nesting. More specifically, at Level 1 (i.e., the repeated observation level), all outcomes were seen as being predicted by orthogonally coded linear (–1, 0, 1) and quadratic (1, –2, 1) time contrasts:

$$\text{Outcome} = \pi_0 + \pi_1(\text{Linear}) + \pi_2(\text{Quadratic})$$

At Level 2 (i.e., the individual level), the Level 1 intercept was seen as being predicted by a coded contrast (–1 vs. 1) representing the intervention group and our correction for selectivity biases due to attrition:

$$\pi_0 = \beta_{00} + \beta_{01}(\text{Intervention}) + \beta_{02}(\text{Inverse Mill's Ratio}) + r_0$$

The remaining Level 2 equations represented the cross-level interactions between time and intervention group:

$$\pi_1 = \beta_{10} + \beta_{11}(\text{Intervention})$$

$$\pi_2 = \beta_{20} + \beta_{21}(\text{Intervention})$$

This approach was used to examine antisocial outcomes; however, our criminal outcome, recidivism, was examined using a simple, multiple logistic regression model. These models regressed recidivism status at Times 2 and 3 in separate analyses on intervention status and our correction for selectivity biases. All models were run using SPSS 18.0.

Results. In the interest of brevity, only statistically significant findings are graphed and discussed in the prose of the report. Our analysis of intervention effects suggested that there were some antisocial outcome intervention effects for knowledge, future intentions to binge drink, and spirituality, as well as intervention effects on recidivism (i.e., criminal behavior) at wave three. The cell means/percentages for these effects

Table 2. Unadjusted Study Cell Means and Percentages for Outcomes

	Comparison			Intervention		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
n_{max}	96	77	75	226	157	155
No. of days cigarettes used (in past 30)	20.65	20.03	16.46	19.22	16.40	15.11
No. of days other tobacco used (in past 30)	5.15	6.88	6.68	7.46	7.67	6.25
No. of days alcohol used (in past 30)	.48	.40	1.39	.40	.69	.70
No. of days drunk (in past 30)	.47	.14	.68	.17	.53	.37
No. of days marijuana used (in past 30)	.57	.14	1.33	.54	.15	.29
No. of days other illegal drugs used (in past 30)	.16	.26	.75	.38	.45	.39
Perceived great risk of substance use	3.19	3.27	3.29	3.32	3.45	3.47
No. of types of unprotected sex acts (last time)	1.43	1.38	1.24	1.47	1.53	1.53
No. of types of risky sexual behaviors (past 3 months)	.32	.31	.27	.35	.32	.25
Perceived risk of risky sexual behavior	3.50	3.49	3.45	3.44	3.50	3.45
Knowledge	56.77	60.97	58.59	56.56	67.23	66.92
Future high likelihood of safe sex	3.38	3.41	3.51	3.19	3.31	3.36
Future intentions to binge drink	1.14	1.17	1.32	1.18	1.20	1.17
Future intentions to use illegal drugs	1.11	1.15	1.29	1.13	1.15	1.17
Sexual self-efficacy	2.85	3.03	2.98	2.91	3.08	2.92
Family cohesion	4.10	4.00	4.00	3.80	3.88	3.84
Social support	3.81	3.71	3.65	3.73	3.77	3.74
Spirituality	3.12	3.05	3.01	3.08	3.13	3.19
Recidivism Time 2 (%)	14.58	—	—	13.72	—	—
Recidivism Time 3 (%)	17.71	—	—	6.64	—	—

appear in Table 2, and a summary of the statistical models appears in Table 3 for the antisocial outcomes and Table 4 for the criminal outcomes. As can be seen in Tables 2 and 3, knowledge exhibited a larger increase between Times 1 and 3 in the intervention group, relative to the change between Times 1 and 3 in the comparison group. Thus this suggests that the intervention did inform participants about sexually transmitted diseases, and these knowledge gains persisted between program exit and follow-up. Changes were also observed for future intentions to binge drink, which increased over time in the comparison group but remained relatively constant in the intervention group. Spirituality tended to decrease in the comparison group, but spirituality increased in the intervention group. As can be seen in Table 4, there was no evidence that the program had a statistically significant effect on reducing recidivism by program exit; however, at follow-up there was evidence to suggest that program participants were 3.7 times more likely than comparison participants not to recidivate.

Whereas Study 1 suggests positive program effects on outcomes such as antisocial behavior and recidivism, it does not speak to the relationship skills that the

Table 3. Intervention Effect Unstandardized Regression Coefficients, Effect Sizes, and Statistical Significance

	Intercept	Attrition Selectivity Correction	Linear Change	Quadratic (U-Shaped) Change	Intervention	Intervention X Linear	Intervention X Quadratic
No. of days cigarettes used (in past 30)	19.87 (.63)**	−1.04 (−.07)	−1.56 (−.16)**	−.26 (−.05)	−.75 (−.06)	.26 (.03)	.38 (.07)
No. of days other tobacco used (in past 30)	8.09 (.38)**	−.87 (−.07)	.17 (.02)	−.26 (−.05)	.29 (.03)	−.80 (−.08)+	.00 (.00)
No. of days alcohol used (in past 30)	.75 (.20)**	−.05 (−.02)	.31 (.09)*	.06 (.03)	−.09 (−.04)	−.15 (−.05)	−.11 (−.06)
No. of days drunk (in past 30)	.42 (.09)*	−.02 (−.01)	.10 (.03)	.03 (.02)	−.04 (−.01)	.00 (.00)	−.12 (−.06)+
No. of days marijuana used (in past 30)	.56 (.17)*	−.04 (−.02)	.13 (.04)	.18 (.10)*	−.18 (−.10)	−.25 (−.08)+	−.09 (−.05)
No. of days other illegal drugs used (in past 30)	.48 (.15)*	−.06 (−.03)	.15 (.06)	.02 (.01)	.00 (.00)	−.15 (−.05)	−.04 (−.03)
Perceived great risk of substance use	3.32 (.94)**	.01 (.01)	.07 (.11)*	−.01 (−.04)	.08 (.12)*	.01 (.02)	.00 (−.01)
No. of types of unprotected sex acts (last time)	1.42 (.59)**	.00 (.00)	−.03 (−.03)	−.01 (−.01)	.06 (.06)	.04 (.05)	.01 (.01)
No. of types of risky sexual behaviors (past 3 months)	.32 (.36)**	.00 (.00)	−.03 (−.05)	−.01 (−.03)	.00 (.00)	−.01 (−.02)	.00 (−.01)
Perceived risk of risky sexual behavior	3.47 (.96)**	−.01 (−.01)	−.01 (−.03)	−.01 (−.04)	.00 (.00)	.02 (.05)	−.01 (−.03)
Knowledge	59.96 (.85)**	1.02 (.04)	3.18 (.22)**	−1.38 (−.17)**	2.63 (.13)*	2.16 (.15)**	−.51 (−.06)
Future high likelihood of safe sex	3.30 (.86)**	.06 (.04)	.08 (.07)	.00 (−.01)	−.05 (−.05)	.02 (.02)	−.01 (−.02)
Future intentions to binge drink	1.20 (.83)**	.00 (.00)	.05 (.08)+	.01 (.02)	−.02 (−.04)	−.05 (−.09)*	−.01 (−.03)
Future intentions to use illegal drugs	1.20 (.82)**	−.02 (−.04)	.06 (.11)*	.01 (.03)	−.02 (−.04)	−.04 (−.07)+	−.01 (−.03)
Sexual self–efficacy	3.00 (.86)**	−.03 (−.02)	.04 (.05)	−.04 (−.10)*	.02 (.02)	−.03 (−.03)	−.01 (−.03)
Family cohesion	3.92 (.96)**	.00 (.00)	−.02 (−.04)	.00 (.00)	−.09 (−.14)*	.04 (.07)+	−.02 (−.06)
Social support	3.75 (.94)**	.00 (.00)	−.03 (−.05)	.00 (−.01)	.02 (.02)	.05 (.07)	−.01 (−.03)
Spirituality	3.03 (.92)**	.03 (.04)	−.02 (−.04)	.01 (.03)	.04 (.05)	.05 (.13)**	.00 (.00)

Note: Unstandardized regression coefficients listed first, and in parentheses *t*-values with accompanying degrees of freedom were transformed to an effect size *r*, using the formula presented in Cohen (1988).
+$p < .01$. *$p < .05$. **$p < .01$.

program attempts to foster in participants. Study 2 was designed explicitly to address this limitation.

Study 2

Method

Participants. The participants for the present study were 500 male individuals who voluntarily participated in the CLFC program (i.e., intervention group) or one of the

Table 4. Intervention Recidivism Effect Unstandardized Regression Coefficients, Odds Ratios, and Statistical Significance

c	Intercept	Attrition Selectivity Correction	Intervention
Recidivism Time 2	–.61 (.55)	–.75 (.47)	–.21 (.81)
Recidivism Time 3	–1.00 (.37)+	–.23 (.80)	–1.33 (.27)**

Note: Unstandardized coefficients come first and odds ratios appear in parentheses.
+$p < .01$. *$p < .05$. **$p < .01$.

programs typically offered for those being released from prison (i.e., the comparison group). It is important to note that the majority of clients were released from prison at the time of their participation ($n = 389$ or 78%); however, the remainder of the participants were still incarcerated at the time of their participation. Of the 500 clients, 387 participated in the intervention condition and 113 participated in the comparison condition. The clients were in their 30s ($M = 33.85$) and predominately White (62%) or African American (36%), with very few Hispanic clients (2%) being represented in the sample. Examining the background characteristics of these clients, about one quarter lived with a relationship partner (25%), were independently housed (27%), and had children living with them (27%); however, most clients reported having a child (77%). Most clients had a high school diploma or a GED (94%); however, less than half (43%) were employed.

Selectivity Biases. As in Study 1, two alternative explanations for putative study findings are that (a) intervention effects could be due to nonrandom assignment of individuals to the intervention and comparison groups (i.e., a quasi-experimental design) and (b) intervention effects could be due to participants who are likely to exhibit negative outcomes being more likely to drop out of the study, especially in the intervention group. Again, these potential sources of selectivity biases were addressed using a Heckman two-step procedure (Heckman, 1976, 1979).

Our first probit model examined selectivity biases due to assignment to the intervention or comparison group. Our model suggested that individuals who were Hispanic were more likely to be in the comparison group, $z = –2.12$, $p = .03$; however, the overall model did not predict assignment, $\chi^2(489) = 501.45$, $p = .34$. As we did have one significant predictor of assignment, we did produce an IMR representing selectivity bias due to assignment. We performed our analyses initially including the IMR as a covariate in all of our inferential models; however, it was not a statistically significant predictor in any model (ps > .05). As such, all final models reported here excluded the IMR as a predictor.

Our second probit model examined selectivity biases due to attrition. Considering attrition, 136 clients (or 27%) did not participate at posttest or follow-up. Of the 500 participants at pretest, 385 (or 77%) participated at posttest and 364 (or 73%) participated at follow-up. There was no evidence to suggest than any of the background

Table 5. Psychometrics for Outcome Measures

	No. of Items	Range	Alpha Time 1
Communication skills	8	1-5	.78
Conflict resolution skills	6	1-5	.52
Intrapersonal skills	9	1-5	.66
Emotional awareness	9	1-5	.78
Emotional expression	9	1-5	.85
Interpersonal skills	8	1-5	.80
Relationship management skills	8	1-5	.59
Relationship satisfaction	7	1-5	.89
Relationship commitment	7	1-5	.77
Recidivism Time 2	1	0-1	n/a
Recidivism Time 3	1	0-1	n/a

characteristics predicted attrition (*p*s > .05) and the overall model did not predict attrition, $\chi^2(489) = 498.37$, $p = .38$. As there was no evidence of bias due to attrition, we did not create an IMR representing this source of selectivity bias.

Procedure. The procedures were identical in all respects to the procedures reported for Study 1.

Measures

Questionnaire. Clients completed a questionnaire at each of the three waves of the study that included 71 items inquiring about various relationship skills using a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. Some of the relationship skill items, developed by McGuire and Associates for this project, were adapted from scales by Olson and colleagues (Barnes & Olson, 2003; Olson, 2006; Olson, Fournier, & Druckman, 1986; Olson & Schaefer, 2000) to more closely align with the content and principles of CLFC. Nine facets of relationship skills were assumed to be measured by these items. We examined whether all items purported to measure an underlying construct were measuring the same underlying construct by calculating Cronbach's alpha at time one for each scale. Scale scores were calculated by taking the average of responses to items comprising each scale. The psychometric properties of these measures appear in Table 5. The nine scales measured in the data with example item content were as follows.

- Communication Skills (α = .78, *n* items = 8). Example item: I am able to express my true feelings to those whom I trust.
- Conflict Resolution Skills (α = .52, *n* items = 6). Example item: Even when in a conflict with someone I trust, I can respectfully share my thoughts and feelings.
- Intrapersonal Skills (α = .66, *n* items = 9). Example item: I am honest with myself about what I feel and need.

- Emotional Awareness (α = .78, *n* items = 9). Example item: Those I trust can really understand my hurts and joys.
- Emotional Expression (α = .85, *n* items = 9). Example item: I often let others know what I am feeling.
- Interpersonal Skills (α = .80, *n* items = 8). Example item: I'm open and honest with what I say to those I trust.
- Relationship Management Skills (α = .59, *n* items = 8). Example item: I know I can count on some of the people in my life.
- Relationship Satisfaction (α = .89, *n* items = 7). Example item: I am happy with how conflict is resolved in my relationships.
- Relationship Commitment (α = .77, *n* items = 7). Example item: I trust my partner enough to stay with them.

Alphas were low for the Conflict Resolution Skills and Relationship Management scales; however, alphas were acceptable for the remainder of the scales. The two problem scales were not easily remedied, as alpha was not substantially improved by dropping a small number of items. As such, findings for these two scales should be interpreted with caution.

Preliminary examination of the data indicated that these nine relationship skills were highly correlated at each wave. We performed a factor analysis at each wave using principal axis factoring to determine whether all of these relationship skills loaded on a single relationship skills factor. This was indeed the case, as all loadings were greater than .49 for the factor analysis at each time period. Furthermore, alphas were high at pretest (.91), posttest (.92), and follow-up (.93). As such, we created a relationship skills aggregate, which serves as a summary measure for all of the relationship skills examined.

Recidivism was assessed by determining at waves two and three whether each participant had a revocation, was arrested, or absconded. Recidivism data were provided directly from the Department of Corrections for each participant, and these data were not collected using the questionnaire. Recidivism data were only available for the 389 participants who were not currently incarcerated.

Analysis. Our primary analysis of interest is concerned with examining whether the changes in the intervention group between waves one and three were more positive than the changes in the comparison group between waves one and three. Thus this design reflects a quasi-experimental or correlational research design.

HLM was used to deal with multiple observations being nested within each participant (i.e., multiple wave repeated observations) for nearly all analyses. All models were posed as random intercept models, which assume that variability may arise among individuals due to nesting. More specifically, at Level 1 (i.e., the repeated observation level), all outcomes were seen as being predicted by orthogonally coded linear (–1, 0, 1) and quadratic (1, –2, 1) time contrasts:

$$\text{Outcome} = \pi_0 + \pi_1(\text{Linear}) + \pi_2(\text{Quadratic})$$

Table 6. Unadjusted Study Cell Means and Percentages for Outcomes

	Intervention			Comparison		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
N	387	303	302	113	100	87
Communication skills	3.87	4.33	4.36	4.06	4.12	4.03
Conflict resolution skills	2.98	3.21	3.34	3.14	3.12	3.12
Intrapersonal skills	3.13	3.52	3.58	3.19	3.30	3.21
Emotional awareness	3.42	3.94	4.02	3.54	3.70	3.61
Emotional expression	3.59	4.21	4.26	3.73	3.87	3.86
Interpersonal skills	3.58	4.10	4.14	3.73	3.79	3.78
Relationship management skills	3.65	3.98	4.02	3.75	3.72	3.72
Relationship satisfaction	3.53	4.11	4.20	3.68	3.82	3.80
Relationship commitment	4.12	4.49	4.48	4.21	4.27	4.25
Relationship skills (avg. of 9 prior skills)	3.54	3.99	4.05	3.67	3.75	3.71
Recidivism Time 2 (%)	13.97	—	—	14.86	—	—
Recidivism Time 3 (%)	5.08	—	—	13.51	—	—

At Level 2 (i.e., the individual level), the Level 1 intercept was seen as being predicted by a coded contrast (–1 vs. 1) representing the intervention group:

$$\pi_0 = \beta_{00} + \beta_{01}(\text{Intervention}) + r_0$$

The remaining Level 2 equations represented the cross-level interactions between time and intervention group:

$$\pi_1 = \beta_{10} + \beta_{11}(\text{Intervention})$$

$$\pi_2 = \beta_{20} + \beta_{21}(\text{Intervention})$$

This approach was used to examine relationship skills; however, recidivism was examined using a simple, multiple logistic regression model. These logistic regression models regressed recidivism status at Times 2 and 3 in separate analyses on intervention status. All models were run using SPSS 18.0.

Results

Relationship Skills. We first examined the pattern of means for relationship skills by condition and wave, which appears in Table 6. As can be seen in the table, the pattern of changes in means by condition for most scales is similar. The contrast of changes in the intervention and comparison groups appears in Table 7. Statistically significant effects of particular interest appear in the columns 5 and 6 (i.e., Intervention X Linear

Table 7. Intervention Effect Unstandardized Regression Coefficients, Effect Sizes, and Statistical Significance

	Intercept	Linear Change	Quadratic (U-Shaped) Change	Intervention	Intervention X Linear	Intervention X Quadratic
Communication skills	4.13 (.99)**	.12 (.22)**	–.05 (–.16)**	.06 (.12)*	.13 (.24)**	–.03 (–.09)*
Conflict resolution skills	3.15 (.99)**	.09 (.16)**	–.01 (–.03)	.02 (.04)	.09 (.18)**	–.01 (–.04)
Intrapersonal skills	3.32 (.99)**	.12 (.23)**	–.04 (–.15)**	.09 (.18)**	.11 (.21)**	–.01 (–.04)
Emotional awareness	3.70 (.99)**	.17 (.33)**	–.05 (–.19)**	.09 (.16)**	.13 (.25)**	–.02 (–.07)*
Emotional expression	3.92 (.99)**	.20 (.35)**	–.06 (–.19)**	.10 (.17)**	.14 (.24)**	–.04 (–.12)**
Interpersonal skills	3.86 (.99)**	.16 (.30)**	–.04 (–.15)**	.08 (.15)**	.12 (.24)**	–.04 (–.13)**
Relationship management skills	3.81 (.99)**	.09 (.20)**	–.02 (–.09)*	.08 (.16)**	.10 (.23)**	–.03 (–.12)**
Relationship satisfaction	3.85 (.98)**	.20 (.29)**	–.05 (–.14)**	.09 (.13)**	.14 (.21)**	–.03 (–.08)*
Relationship commitment	4.30 (.99)**	.10 (.20)**	–.04 (–.14)**	.06 (.13)**	.08 (.16)**	–.03 (–.09)*
Relationship skills (avg. of 9 prior skills)	3.78 (.99)**	.14 (.34)**	–.04 (–.19)**	.08 (.17)**	.11 (.29)**	–.02 (–.12)**

Note: Unstandardized regression coefficients listed first, and in parentheses *t*-values with accompanying degrees of freedom were transformed to an effect size *r*, using the formula presented in Cohen (1988).
+$p < .10$. *$p < .05$. **$p < .01$.

and Intervention X Quadratic) of Table 7. The findings for the individual scales and the aggregate relationship skills scale appear in both tables. Findings were in the same direction for all scales; however, the Intervention X Quadratic interaction failed to reach a conventional level of significance for Conflict Resolution Skills and Intrapersonal Skills. As all findings were in the same direction and the majority was significant, we only interpreted the Relationship Skills aggregate in the interest of brevity. The general pattern of results suggested that relationship skills remained relatively constant for the comparison group; however, relationship skills improved for the intervention group. More specifically, relationship skills exhibited a large increase between pre- and posttest for the intervention group; and the level of relationship skills remained high and stable between posttest and follow-up for the intervention group.

Recidivism. Examining recidivism, there were no differences between the intervention and comparison group on recidivism between pre- and posttest; however, as can be seen in Table 8, there was a significant difference between the intervention and comparison group in recidivism between posttest and follow-up. This difference suggested that clients in the comparison group were 2.94 times (or the inverse of the .34 odds ratio in Table 8) more likely to recidivate than clients in the intervention group.

Table 8. Intervention Recidivism Effect Unstandardized Regression Coefficients, Odds Ratios, and Statistical Significance

	Intercept	Intervention
Recidivism Time 2	−1.75 (.17)**	−.07 (.93)
Recidivism Time 3	−1.86 (.16)**	−1.07 (.34)*

Note: Unstandardized coefficients come first and odds ratios appear in parentheses.
+$p < .10$. *$p < .05$. **$p < .01$.

Conclusion

The outcomes of this research indicate substantial improvements in all areas of investigation through producing gains in relationship skills, reductions in substance use, and recidivism. Like other studies, these two studies indicate that building meaningful relationships with offenders and implementing evidence-based interventions increases strengths and reduces risk behavior. These results reflect the findings in other studies that demonstrate the importance of the therapeutic alliance. Substance abuse treatment compliance and retention studies have identified that program attributes that increase engagement in treatment improve treatment outcomes (Barber et al., 2001; De-Weert-Van, Schippers, DeJong, &Schrijvers, 2001; Simpson, 2004; Simpson, Joe, & Rowan-Szal, 2001). Consistent with findings from Corrigan and Bogner (2007), individuals who stay in treatment longer are not only more likely to achieve sobriety but also to develop new behavior and sources of reinforcement that serve to maintain sobriety.

Furthermore, studies on success in treatment identify the positive role of motivation and engagement. Studies indicate that clients with high motivation are more likely than those with low motivation to become actively involved in treatment, to complete the prescribed course of treatment, and to have better outcomes following treatment (Huebner & Cobbina, 2007). It is notable that an adjunctive component to the CLFC program, referred to as the Joint Intervention Meeting (JIM), provides a combination of characteristics of the therapeutic alliance (e.g., the meeting is designed to connect with the client) and aligned with methods to increase and sustain client motivation (the meeting focuses on what is important to the client; Knight, Hiller, Broome, & Simpson, 2000). The utilization of this approach influenced retention and completion, meriting further study.

Why Does CLFC Work With This Population?

The results clearly indicate positive outcomes for participants in the CLFC program. Examination of the CLFC program identified a variety of mediators associated with success described in the substance abuse treatment literature. CLFC contains and delivers interventions that increase coping skills and motivation to change, improve self regulation, and encourage the creation of a social support network. This support network promotes prosocial behaviors and provides ongoing accountability. Notably,

the CLFC program interventions effectively reduce stress and other negative factors associated with relapse, including negative self-talk. The program staff also implement techniques associated with a strong therapeutic alliance that include elements of motivational interviewing (e.g., offering a menu of options). Finally, to ensure optimal performance and consistency of programming, staff and management team members regularly engage in fidelity checks. While the theoretical framework and program concepts reflect activities previously reported in the literature, the comprehensive coordination of these activities among partner agencies distinguishes the program's uniqueness. More specifically, from the very first meeting, each participant is greeted with genuine concern and respect. Regardless of what the participant does or how they act, all staff members are trained to respond with respect and positive regard. This approach appears to be perceived as something new and different for the typical criminal offender. This unconditional positive regard strengthens the relationship and promotes bonding with staff and other participating peers. Along these lines, expectations for participant behavior are clearly communicated and maintained in a firm but caring manner. This approach also appears to be perceived as something new and different for the average participant in this study. Furthermore, those participants who demonstrate an inability to follow the mutually agreed-on program expectations are invited to experience a kind and thoughtful Joint Intervention Meeting (JIM described earlier). The JIM utilizes elements of evidence-based interventions reported in the family treatment of addictions literature (e.g., avoiding expressions of anger, stating the facts regarding behavior, and encouraging positive change). Combined with the consistency of the staff's respectful approach, the JIM proves to be something new, different, and powerful for these reentry participants.

Why does this intervention excel at retention? The consistent treatment of each participant with respect and unconditional positive regard appears to produce a feeling of being wanted, welcomed, and cared about that engenders a desire by participants to keep attending. The COPES staff members are trained to focus on and express high expectations for positive change. Each client's positive movement, no matter how small, receives recognition and support.

How does this intervention produce better outcomes? The CLFC program contains elements identified in the substance abuse treatment literature associated with improved outcomes including increases in coping skills, motivation, self-efficacy, accountability, feedback, and peer support as well as reducing self-defeating behavior including isolation. The content, while not unique or unavailable through other sources, is significantly strengthened by the method of delivery. The COPES staff trains extensively to ensure fidelity of each individual program session and overall program service delivery. Within this framework of fidelity program implementation, the COPES staff collaborated and communicated closely with KDOC and other partners to ensure consistency. The consistency of the staff and community partners reinforces the importance of the content, the value of each individual participant, and the community's investment in each participant's success.

In summary, the Creating Lasting Family Connections (CLFC) program is a combination of strong therapeutic alliance coupled with the implementation of a unique blend of evidence-based practices in an intervention delivered with fidelity and reinforced over time. This process, previously described as "connect-immunity," empowers individuals to first recognize and accept their personal and family responsibility, and to ultimately develop a deeper recognition of both what they contribute to and receive from the larger community. This represents a true model of what has been previously described as placing importance on the individual's well-being as a means of achieving community safety. As a result of this programming, many participants remained in the community and the community remained safe.

These combined positive outcomes endorse the importance of continued implementation and expansion of community-based agencies delivering evidence-based interventions to reentry populations. The outcomes also strongly endorse the consideration of the following recommendations:

1. Consider evidence-based family strengthening programming with reentry populations to reduce recidivism.
2. Examine the mechanism of action within evidence-based practices to increase understanding of how they work with reentry populations.
3. Increase movement toward the policy of connecting reentry populations with community-based organizations trained in evidence-based approaches and cultural awareness with reentry populations, as these two studies show this approach produces positive results.
4. Recognize the importance of programming of significant scope and duration in producing lasting change.
5. Look at cost-effective methods to provide long-term support for reentry populations, and consider the use of technologies such as web-based and cell phone applications to increase opportunities for low-cost and longer term reentry support services.
6. Recognize and endorse the role of interagency collaboration to ensure a unified approach and consistency in programming provided for reentry populations.

The clear limitation of these studies is that firm conclusions are precluded by both (a) the results being based on a quasi-experimental design and (b) a lack of explication of the underlying mechanisms by which the positive outcomes are produced by the program. The former concern is less troublesome, as the reported studies were not based on a purely convenience sample of participants. Also, the robust nature of our findings, especially for recidivism, helps foster faith that the program, as opposed to selectivity biases, produced the observed results. Furthermore, explicit statistical controls were included in our models for such biases. The latter, while it does not impugn the positive program effects on outcomes, underscores the need for future research to explore the *causal* mechanisms by which the CLFC program works. On balance, these

preliminary investigations suggest the CLFC program is a promising and effective tool to aid the prison systems in rehabilitation for reentry populations.

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Bios

Patrick McKiernan is trained in the treatment of addictions has a PhD in Psychology with thirty years experience working in the counseling field. Throughout his career he has developed and directed addiction treatment programs for criminal offenders, veterans, and adolescents. His interest includes developing transitional housing, employment and training, and use of technologies to improve addition treatment outcomes.

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