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Social Influences on Abstinence Self-Efficacy among Justice-Involved Persons

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Abstract

Social influences (social support for alcohol/drug use and social support for abstinence) were examined in relation to abstinence self-efficacy among a sample of 250 justice involved persons exiting inpatient treatment for substance use disorders. Hierarchical linear regression was used to examine social influences in relation to abstinence self-efficacy. Social influences were significantly related to abstinence self-efficacy when examined independently. However, only social support for alcohol/drug use was significant when both social influences were entered into the model. Findings suggest social support for alcohol/drug use compromises abstinence social support, particularly among justice involved persons who are early in their recovery from substance use disorders.

Keywords

justice involved persons; abstinence social support; social support for alcohol/drug use; substance use; abstinence self-efficacy

Persons recovering from substance use disorders typically develop social networks based in support for abstinence. Such social support networks are comprised of abstinent persons (i.e., abstinence social support) that are instrumental in helping persons with substance use disorders maintain abstinence (Longabaugh, Wirtz, Beattie, Noel, & Stout, 1995).

Zywiak et al. (2009) found persons with substance use disorders who remained abstinent at six months reported significant increases in abstinence social support and significant decreases in the proportion of persons involved with substances within their overall social networks. Although the simultaneous increase of abstinence social support and decrease of

non-abstinent members within social networks might be characteristic of changes in social networks among persons in recovery (Litt, Kadden, Kabela-Cormier, & Petry, 2009), abstinence social support has been demonstrated to be one of the best post-treatment prognostic indicators at 18 months compared to other characteristics of social support networks among persons with substance use disorders (Zywiak, Longabaugh, & Wirtz, 2002). However, other social influences such as support for drinking and using drugs might pose a threat to this recovery resource early in one's recovery.

Social networks consisting of members who encourage or support substance use have been demonstrated to negatively impact outcomes among persons with substance use disorders. For instance, support for alcohol use predicted significant decreases in cumulative alcohol abstinence rates at one-year (Jason, Davis, & Ferrari, 2007), whereas support for cocaine use was negatively related to transitioning into cocaine abstinence over a two-year period (McKay et al., 2013). However, these investigations examined social support for using a specific substance (i.e., alcohol, cocaine) while the influence of social support for any alcohol/drug use is unknown. In addition, there is a dearth of literature on the role of abstinence social support among persons with incarceration histories who have substance use disorders, and there is a need to examine the roles of both abstinence social support and social support for alcohol/drug use in relation to other recovery resources such as abstinence self-efficacy.

Abstinence social support is a recovery resource demonstrated to increase positive affect that could invigorate cognitive-behavioral change among persons with substance use disorders (Carrico et al., 2013), thereby fostering self-efficacy for abstinence. Persons recovering from substance use disorders cope with high-risk relapse situations by utilizing abstinence self-efficacy (Annis & Davis, 1991). Abstinence self-efficacy is a recovery resource that has been conceptualized as the extent one is confident in effectively engaging in behaviors to maintain abstinence, based on Bandura's (1997) cognitive-behavior self-efficacy theory. It is regarded as an important resource for relapse prevention (Marlatt & Gordon, 1985) that has been found to predict abstinence (Chavarria, Stevens, Jason, & Ferrari, 2012; Greenfield et al., 2000; Johnson, Finney, & Moos, 2006; McKay et al., 2013).

Research investigations have demonstrated a link between abstinence self-efficacy and abstinence social support (Bogenshutz, Tonigan, & Miller, 2006; Ilgen, McKellar, & Moos, 2007; Majer, Jason, Ferrari, & Miller, 2011; Moos & Moos, 2007). Abstinence social support might increase abstinence self-efficacy because persons who are newly abstinent acquire effective coping skills modeled by peers (Finney, Noyes, Coutts, & Moos, 1998; Litt et al., 2009; Longabaugh, Beattie, Noel, Stout, & Molloy, 1993; Morganstern, Labouvie, McCrady, Kahler, & Frey, 1997). However, little is known about the relationship between abstinence social support and support for alcohol/drug use on the one hand, and abstinence self-efficacy on the other hand among justice involved persons who have substance use disorders.

Examining social influences of abstinence self-efficacy among justice involved persons would have important treatment and research implications because of the high rates of substance use among this population (Belenko, 2006; Epperson et al., 2014; Proctor, 2014).

In addition, it is important to examine social networks among persons with substance use disorders who have been recently released from prison, as this population might lack effective social networks prior to prison entry and lack positive social support resources upon prison release (Pettus-Davis, 2014). Although it is reasonable to expect high levels of abstinence social support would predict increases in abstinence self-efficacy, it is important to examine this relationship while controlling for the potential influence of social support for total (alcohol and/or) drug use. Such relationships have yet to be investigated.

The present study examined abstinence social support and social support for alcohol/drug use in relation to abstinence self-efficacy among a sample of justice involved persons who have substance use disorders. We hypothesized that high levels of abstinence social support and low levels of social support for alcohol/drug use would be significantly related to increases in levels of abstinence self-efficacy.

Methods

Participants

Two hundred, twenty-four men and 46 women ($n = 270$) with an average age of 40.4 ($SD = 9.5$) years were recruited from inpatient treatment centers based on a complete-abstinence model of recovery in northern Illinois, in the United States. In terms of previous substances used, participants reported a history of heroin/opiates (43.2%), cocaine (28.9%), alcohol (14.7%), cannabis (7.1%), poly-substance use (5.6%), and amphetamine/crystal methamphetamine (.4%), with an average of 3 previous treatments for substance use disorders.

The majority (74.1%) of participants were African-American, 21.1% were White, 3.3% were Hispanic, and 1.5% reported other racial groupings. Most participants (74.9%) were single, reported having been unemployed (32.7%), in a controlled environment (27.7%), or employed either part-time (25.4%) or full-time (11.2%) in the past three years. Participants reported an average total monthly income of \$367.85 ($SD = 709.66$) and an average of 10.9 ($SD = 1.9$) years of education. Participants reported a history of being incarcerated an average of 9.9 times with a most recent incarceration averaging 15.4 months, and that their average length of time since release from prison/jail was 144.3 days ($SD = 119.2$).

Procedures

The present investigation was proposed to and approved by an institutional review board at DePaul University, Chicago, IL, USA. All participants were recruited through inpatient substance abuse treatment facilities or reentry/case management programs. Ninety-three percent of the sample ($n = 251$) were recruited from inpatient substance use treatment facilities where participants were completing treatment. Seven percent ($n = 19$) were obtained through chain-referral sampling although they all had recently completed inpatient treatment for substance use disorders.

Recruitment of participants started in March 2008 and ended in May 2011. Study eligibility included being in (or recently discharged from) inpatient treatment for a substance use disorder, having been incarcerated (in prison or jail) in the past 24 months, and agreeing to

be randomly assigned to an experimental-design in a separate investigation (Jason, Olson, & Harvey, 2015). Exclusion criteria consisted of not meeting eligibility criteria and/or a legal history of violent crime. Forty-one were excluded from the study: 26 were excluded for eligibility violations (no substance use, no criminal history, convicted of violent crimes, etc.) and 15 were excluded for refusing their random condition assignment. Thirteen others were not interested in the study, resulting in an 83% overall response rate of all participants approached. Due to missing data, we had a total of 250 cases for analyses. All participants were engaged in a process of informed consent and completed face-to-face interviews by interviewers who had bachelor's degrees and prior interviewing experience. The vast majority (93%) completed interviews prior to or on day of completing their inpatient treatment program, and all participants received \$40 for their involvement.

Measures

Social Influences—The *Important People Inventory* (*IP*, Clifford, Longabaugh, & Beattie, 1992) is a measure adapted from the *Important People and Activities Inventory* (Clifford & Longabaugh, 1991), and has been used in previous research to assess abstinence social support from alcohol/drugs, and support for alcohol/drug use among persons recovering from substance use disorders. The *IP* asks participants to describe characteristics of their social networks within the past six months in terms of the amount of contact, the number of people, and the most important people within their networks. The *IP* also asks respondents to describe network members' drinking/drug use status, frequency with which network members drink/use drugs, and their reactions to respondents' use of alcohol and drugs. Participants rated characteristics of their social networks on a five-point Likert-type scale that distinguished users and non-users (i.e., abstainers or persons in recovery) to assess abstinence social support, and network member's reaction to participants' use of alcohol and drugs to assess social support for alcohol/drug use.

We computed a percentage of abstinence social support by dividing the number of non-using persons (i.e., those who were identified as abstinent from alcohol and drugs, or in recovery) by the sum total of all persons identified as important persons. This scoring method has been demonstrated as one of the best indicators of abstinence social support (Zywiak et al., 2002), and has been used in previous investigations on abstinence social support where high levels have been associated with increased abstinence/decreased substance use (Groh, Jason, Ferrari, & Halpert, 2011; Majer, Jason, Ferrari, Venable, & Olson, 2002; Zywiak et al., 2009). In addition, our assessment of social support for alcohol/drug use consisted of a summary score of across items regarding network members' reaction to respondents' alcohol/drug use, consistent with previous investigations that found greater social support for alcohol and/or drugs was related to the use of alcohol (Jason et al., 2007) and cocaine (McKay et al., 2013). The *IP* has good internal consistency (Cronbach's $\alpha = .80$, Longabaugh et al., 1993), and the internal consistency of the *IP* in the present study was very good (Cronbach's $\alpha = .83$).

Abstinence Self-efficacy—The *Drug-Taking Confidence Questionnaire* (*DTCQ*, Annis & Martin, 1985), was administered to assess participants' confidence in resisting the urge to use alcohol and drugs across 50 hypothetical situations. The *DTCQ* is based on antecedents

of substance use relapse (Annis & Davis, 1991) and it is rooted in Bandura's (1997) cognitive behavioral self-efficacy theory. The DTCQ has been used among people with different substance use disorder typologies (Sklar, Annis, & Turner, 1999). Scores range on a scale from 0% (not at all confident) to 100% (very confident), with higher scores indicating greater levels of abstinence self-efficacy. Sample items of the DTCQ include, "If I were anxious or tense about something," "If I had a headache or was in physical pain," "If I felt confident and relaxed," "If I met some old friends and we wanted to have a good time." The DTCQ had excellent reliability with the present sample (Cronbach's $\alpha = .98$).

Substance Use—We administered Miller's (1996) *Form-90* to collect a record of alcohol and drug use in the past six months. The Form-90 provides a retrospective time frame for assessment and has excellent test-retest reliability (Miller & DelBoca, 1994). The internal consistency of alcohol, drug use, and both alcohol and drug use items was very good (Cronbach's $\alpha = .85$) in the present study.

Demographics—We created a brief survey to collect sociodemographic characteristics. This brief survey solicited participants' information regarding their previous treatments for substance use disorders and incarceration histories.

Data Analysis

Results of the present study are a secondary analysis of a previous investigation (Jason et al., 2015). A hierarchical linear regression was used to test for the influence of predictors (sociodemographic variables, substance use, social support for alcohol/drug use, abstinence social support) on levels of the outcome variable (abstinence self-efficacy), entering predictors sequentially in three steps in a manner that approximated their temporal relationship to abstinence self-efficacy. Sociodemographic variables (gender, race) were entered in the first step to control for their potential effects. Substance use (number of days in the past six months) was included in the second step, and social support for alcohol/drug use and abstinence social support were included in the third step.

Descriptive analyses were conducted to provide sociodemographic characteristics of the sample in addition to describing rates of social support for alcohol/drug use, abstinence social support, abstinence self-efficacy, and substance use in the past six months. Chi-square tests were conducted to examine proportional differences among participants based on categorical sociodemographic characteristics.

Missing Data

A pairwise deletion approach was used to evaluate data and calculate analyses. Participants with missing data on any analytic model variable (7.4% of the entire sample) were excluded from analyses. A missing values analysis of all the independent and dependent variables indicated that the data were missing completely at random (Little's MCAR test; $X^2(31) = 42.65, p = .08$).

Results

Preliminary Analyses

Participants reported an average score of 68.86 ($SD = .35$) for abstinence social support, 12.03 ($SD = 5.82$) for social support for alcohol/drug use, and an average score of 77.11 ($SD = 23.60$) for abstinence self-efficacy. They reported an average number of days using alcohol 20.0 ($SD = 40.7$) and drugs 44.7 ($SD = 57.4$) for a combined alcohol/drug use average of 33.33 days ($SD = 41.21$); ranging from 1–180 days over the past six months. There were proportionately more men than women [$X^2(1, N = 270) = 117.34, p < .01$], and African-American participants than those from other racial groupings [$X^2(4, N = 270) = 532.59, p < .01$] in the sample.

Primary Analyses

A hierarchical regression model was employed to test our hypotheses, and results of this model are presented in Table 1. We assessed the quality of our data with respect to assumptions of linearity in our regression model, and these assumptions were met in a several ways. Scatter plots in terms of standardized residuals by predicted values did not resemble patterns indicative of heteroscedasticity. There were no obvious outliers among partial plots to suggest undue influence on predictors' regression coefficients, and there was no correlation among adjacent errors (Dubin-Watson value = 1.99). In terms of multicollinearity, the range of tolerance values (.947–1.000) and variance inflation factor values (1.000–1.111) were acceptable.

Sociodemographic characteristics in the first step were not significant. The inclusion of substance use in the second step accounted for 6.9% of the (adjusted) variance. The inclusion of social support for alcohol/drug use and abstinence social support accounted for an additional 7.4% of the variance; with social support for alcohol/drug use predicting significant decreases in abstinence self-efficacy. However, abstinence social support did not predict significant increases in levels of abstinence self-efficacy.

To better understand the role of social influences, we ran separate models using only one social influence variable (social support for alcohol/drug use, abstinence social support) in the third step of each model. Social support for alcohol/drug use ($\beta = -.254, t = -4.31, p < .000$) and abstinence social support ($\beta = .161, t = 2.59, p = .01$) were significant predictors of abstinence self-efficacy when examined in separate models.

We also ran this model with the inclusion of interaction terms to better understand the influence of main effects. The interaction term based on main factors (social support for alcohol/drug use $\times$ abstinence social support) was not a significant predictor of abstinence self-efficacy. In addition, we tested for interaction effects of substance use on social support for alcohol/drug use and abstinence social support, and each of these interaction terms did not significantly predict abstinence self-efficacy. Lastly, we ran this model with the inclusion of participants' number of days since release from their most recent incarceration in the second step of the model to examine its potential extraneous influence in the model. The results were similar and number of days since release was not a significant predictor ($\beta = -.037, t = -.48, p < .603$).

Discussion

Social support for alcohol/drug use, but not abstinence social support, was a significant negative predictor of abstinence self-efficacy when both of these social influences were included in our analytic model. Social support for using alcohol (Jason et al., 2007) and cocaine (McKay et al., 2013) have been related to decreased abstinence, and the present study extends this body of knowledge in two specific ways: accounting for support for any alcohol/drug use (and not one drug type), and analyzing this social influence concurrently with abstinence social support. Taken together, our findings suggest abstinence social support might not be a robust resource when other social influences such as social network members' encouragement, support, or apathy toward recurrent alcohol/drug use are present upon discharge from inpatient treatment.

For example, abstinent network members, such as intimate partners have been related to decreased drug use over time (Riehm, Wechsberg, Zule, Lam, & Levine, 2008), yet such abstinent social network members could lend support for alcohol/drug use through enabling behaviors (Rotunda, West, & O'Farrell, 2004). In addition, incarcerated persons tend to have low levels of effective social supports prior to incarceration and low levels of perceived support prior to release (Pettus-Davis, 2014), and it is possible that the results of the present study might be limited to those with incarceration histories even though number of days since release from incarceration was not a significant predictor. Certainly, these claims can only be verified through additional investigations and findings in the present study warrant the examination of social influences in relation to abstinence social support when investigating recovery resources.

However, abstinence social support was significantly related to increased abstinence self-efficacy when examined independently, a finding that partially supports our hypothesis. Although justice involved persons who have substance use disorders might have lower levels of abstinence social support compared to those without incarceration histories (Majer et al., 2002), the significant relationship to abstinence self-efficacy in the present study suggests that abstinence social support is a recovery resource for this population. Nonetheless, it might be compromised by social influences such as support for alcohol/drug use.

Findings in the present study suggest the effects of social influences might be particularly salient when persons with substance use disorders exit inpatient treatment. Persons with substance use disorders tend to have network members consisting of both using and abstinent persons, and there is a trend of increased abstinent members related to abstinence outcomes over time (Buchanan & Latkin, 2008; Litt et al., 2009; Zywiak et al., 2009). The lack of a significant interaction effect between both social influences and abstinence self-efficacy in the present investigation suggests that having abstinent/recovering others as part of one's social network is not sufficient in maintaining self-efficacious beliefs and behaviors for continued abstinence for this population. Likewise, the lack of a significant interaction effect between substance use and social influences suggests that being abstinent yet maintaining networks consisting of others who support alcohol/drug use could threaten one's abstinence self-efficacy.

Little is known about the effects of various social influences in relation to recovery resources such as abstinence self-efficacy across important time-points, and it would appear that persons with substance use disorders are more vulnerable to social influences that support substance use than empowered by abstinent network members who support their ongoing abstinence early in their recovery. Examining these social influences in relation to time would help us better understand how these mechanisms have an impact on intrapersonal factors associated with social dynamics including trust (Jason, Light, Stevens, & Beers, 2014) and executive function outcomes (Buckman, Bates, & Morgenstern, 2008).

Furthermore, the significant negative relationship between substance use and abstinence self-efficacy extends previous research (Jason et al., 2007; McKay et al., 2013) in that justice involved persons might utilize abstinence self-efficacy as a cognitive resource to support their abstinence. Although a general sense of self-efficacy was not found to be an effective resource in terms of promoting aftercare completion in a sample of justice involved persons with substance use disorders (Houser, Salvatore, & Walsh, 2012), the significant negative relationship between substance use and abstinence self-efficacy suggests that self-efficacy for abstinence is an effective recovery resource, most likely because it is specific to the goal of sustained abstinence.

Limitations

Although the relationship between abstinence social support and abstinence self-efficacy might be better understood when accounting for support for alcohol/drug use, there are some limitations in the present study. For instance, participants' levels of abstinence social support and abstinence self-efficacy were most likely increased by their treatment experiences, whereas such levels might be lower among newly abstinent persons who do not experience professional treatment. Social support for alcohol/drug use was probably fairly high as most participants were early in their recovery. In addition, our results could have varied by examining alcohol and drug use separately, and by including other measures of social support (e.g., tangible, belonging, appraisal, self-esteem; Cohen & Hoberman, 1983) that were not assessed in the present study. However, examining alcohol/drug use collectively is theoretically important as participants were grounded in a total abstinence approach to their recovery. Our sample was comprised mostly of African-American men that might limit generalizability to women and ethnically diverse persons. In addition, investigations that concurrently assess social influences with familial support (e.g., family gatherings, faith-based groups), which are often an additional source of social support among African American individuals in reentry programs, might help us better understand social dynamics in relation to recovery resources among persons with incarceration histories who have substance use disorders. Rates of substances used in the present study were an average of any substance use (including alcohol) in the past 180 days, and a more accurate assessment of total abstinence from all psychoactive substances than retrospective self-report measures might provide better insight in relation to social influences. Likewise, we did not control for participants' abstinence prior to (or during) their most recent incarceration. It was not known whether participants were presently receiving alcohol/drug treatment under coercion in that their treatment was identified by agents of the criminal justice system (e.g., a condition of parole), and if this had an impact on their responses.

Finally, a repeated measures design might have provided more information in relation to changes (e.g., time since discharge from treatment) in variables related to social influences and substance use/abstinence rates over time. Although results in the present study have implications for future research, practitioners and service providers working in criminal justice settings should consider interventions designed to decrease social networks that support alcohol/drug use while simultaneously encourage the development of abstinence social support networks among persons with incarceration histories who have substance use disorders; particularly among those who are reintegrating into their communities from jails and prisons.

Conclusion

Very few investigations have examined social influences and self-efficacy among persons with substance use disorders, and the present study adds to this growing body of research by examining the role of support for alcohol/drug use in relation to abstinence social support and abstinence self-efficacy among persons with incarceration histories who have substance use disorders. Our findings draw attention to social support for alcohol/drug use as a salient social dynamic among justice involved persons with substance use disorders who are exiting inpatient treatment. Findings from the present investigation also suggest researchers should examine cognitive factors when investigating social factors that promote abstinence and substance use among justice involved persons who are receiving substance use treatment while incarcerated in addition to other populations of persons with substance use disorders.

Our investigation is innovative in that it examined two types of social influence and found abstinence social support was not a significant recovery resource when social support for alcohol/drug use was present. Social workers should target the deconstruction of social networks that support alcohol/drug use in addition to the development of abstinence social support networks when devising reentry plans among incarcerated persons who have substance use disorders. Overall, findings in the present investigation suggest that abstinence specific recovery resources should be considered when assessing relapse prevention, with particular attention to social networks that support alcohol/drug use.

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Table 1
Hierarchical Regression Analyses of Social Influences Predicting Abstinence Self-Efficacy

Predictor	R ²	B	SE B	β
Step 1	-.005			
Gender		-.37	3.87	-.006
Race		-1.09	1.36	.051
Step 2	.078***			
Substance use		-.16	.04	-.279***
Step 3	.080***			
Support for alcohol/drug use		-1.00	.24	-.25***
Abstinence social support		7.01	4.19	.10
Total R ²	.241***			
<i>n</i>	250			

Note.

 $p < .001$.