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Factors Affecting the Retention of Individuals as Important People for Ex-Offenders in Early Recovery

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Abstract

Objective—Few studies consider the retention of the individuals (alters) comprising the social networks of people in recovery. We conducted a longitudinal study exploring several possible factors predicting whether alters were retained six months after participants completed treatment.

Method—The Important Person Inventory was given to 270 ex-offenders (224 men, 46 women) transitioning from treatment to Oxford House residences, Safe Haven therapeutic communities, or to usual aftercare. A 6-month follow-up was completed by 176 participants (137 men, 39 women).

Results—We found that alters who were related to the participant, did not use drugs, were embedded in smaller networks, and had more frequent contact with the participant were significantly more likely to be retained as important people over 6 months, but found no effects based on alters' drinking or criminal history.

Conclusions—Certain characteristics of important people are related to their retention in a social network. Understanding these relationships is essential for creating effective social interventions for addictions.

Many studies addressing the social networks of individuals in recovery from substance dependence focus on the structural and functional characteristics of network members and their correlation with the individual's success in recovery (e.g. Jason et al., 2012; Groh et al., 2011; Zywiak et al., 2002). Several studies examine the effects of change in alcohol-specific network support, with a focus on the addition of abstinent or heavy-drinking network members (e.g. Litt et al., 2009; Longabaugh et al., 1998) but do not address whether

or not the individuals comprising each social network have changed. Jason et al., (2013) explored the development and dissolution of trust and confidant relationships between individuals in Oxford House residences. Their findings detailed how the characteristics of recovering individuals influenced social network change. The aim of our study is to expand upon those findings as we examine the stability of the social networks of recently incarcerated individuals in recovery as they transition from inpatient treatment to aftercare settings. We hope to better describe turnover in social network members over time and the potential factors influencing turnover.

In the context of social networks, stability describes continuity in the relationships of an individual (referred to hereafter as “ego”) with members (alters) of his or her social network. Higher stability in a social network reflects the ego’s tendency to list the same alters as significant relations at multiple time points. A stable relation is an alter who is consistently listed as an important person over consecutive measurement points. Turnover describes the rate at which alters listed at one point in time cease to be listed at subsequent times (i.e., the percentage of alters listed at time A but not at time B). Higher turnover indicates less network stability, while lower turnover indicates greater network stability. When referring to individuals, turnover refers to the tendency of baseline alters with certain characteristics (e.g., drug use status, criminal status) to be omitted at a later time.

In a meta-analysis of social network studies using normative samples, Wrzus et al. (2013) addressed which types of relationships are most subject to turnover. They found that the size of an individual’s social network decreased on average by about one person per decade after young adulthood, but the size of the family network remained stable. While life-event-related change (e.g. getting married, becoming a parent) did not appear to be significantly different in effect size from age-related change (e.g. puberty, menopause), non-normative events (e.g. death of a relative, relocation, divorce) were consistently significantly associated with reduced network-size. Each of these non-normative events was associated with a unique pattern of network reorganization. Divorce was associated with a decrease in the size of the family network. Relocation was associated with decrease in the size of the friend network. The death of a relative was associated with a decrease in global network size but an increase in the size of the closer personal network.

The non-normative events detailed by Wrzus et al. (2013) varied in how they affected network composition. Some events affected the size of friend-networks, while some affected the size of family-networks. We are interested in how the stability of friend relationships compares to the stability of family relationships in the context of the non-normative life-events (e.g. being paroled, entering and leaving treatment, relocating to different aftercare settings) unique to our population of interest.

In addition to consanguinity of alters as a potential predictor of stability, we are also interested in how the drinking/using behaviors of these network members relate to their being retained in the network across a six-month period. These changes are important, as each drinking alter presents additional risk that the ego will drink (Rosenquist et al., 2010). Studies indicate that the drinking behavior of an individual’s network members may be the most significant social predictor of that individual remaining abstinent (Groh et al., 2011,

2007), even outweighing the influence of network support for drinking (Zywiak et al., 2002; Groh et al., 2007). While there are fewer studies examining the impact of alters' drug use in comparable populations, Buchanan and Latkin (2008) found that heroin and cocaine cessation was associated with a reduced number of drug-using network members, and we assumed that the effects of drug-users within the social network would be similar to the effects of alters who drank. We aim to explore the extent to which the network change described by participants supports maintained abstinence.

We also examine whether or not network members' criminal histories affected stability over the six-month period. Wolff and Draine (2004) suggested that due to shared experiences ex-offenders may be more likely to socialize and rely on connections with others with criminal backgrounds upon reentry, at the cost of mobilizing other social resources. Indeed, studies examining predictors of recidivism have found that having criminal associates is a strong risk factor for reoffending (Gendreau et al., 1996). We therefore investigate if the turnover rate of alters with criminal history is significantly different from the turnover rate of alters with no criminal history.

We conducted an exploratory analysis of how the frequency of baseline contact with an alter affects the likelihood of that alter being named at wave two. Analyses by Zywiak et al. (2009) suggested that individuals with more daily-contacted alters had lower frequencies of drug and alcohol use over six months. Thus we are interested in the prevalence and predictors of stability of relationships with daily-contacted alters over time.

Finally, we tested whether the size of the ego's network (the "degree") affected alters' stability at wave two. Degree is equivalent to the number of alters listed in a participant's IP. In social network research, the number of alters in an ego network is the most commonly used measurement of social resource availability (Knoke and Yang, 2008). Jason et al. (2012) found that larger social networks predicted abstinence behavior in participants recovering from addiction, and Zywiak et al. (2009) found that larger networks predicted less frequent drug use six months post-treatment. Describing the stability of alters in larger networks will help to clarify if and how the benefits of a having a large network at a given time are sustained later on.

A preliminary study of endogenous network dynamics was conducted by Jason, Light, Stevens and Beers (2013). They found that for Oxford House residents, trust was selective, in that the more alters trusted by ego, the less likely ego was to add others to his/her "circle of trust". This raises the question of how network size is related to network stability. For example, perhaps larger personal networks are less stable, but contain core elements that are relatively more stable. It is also possible that larger networks are more stable, suggesting individual differences in ability to maintain these relationships. . By analyzing the effect of network size on the retention of individuals within social networks, we hope to find if the resources required to maintain a larger quantity of relationships are sustainable or if an abundance of ties limits the salience of each.

In consideration of the existing literature on social networks, we expect to see alters' network statuses to vary according to relationship-type (e.g. friend or relative), drug status,

drinking status, and criminal history. Specifically, we expect that relatives of ego will be more likely to be named again at a six-month follow up. This pattern would be consistent with the social relationship and other changes in participants going through relocation (Wrzus et al., 2013). The non-normative events studied by Wrzus et al. included divorce, death of a relative, and relocation. Although we did not determine whether a study participant had experienced recent divorce or a death of a relative, we do know that each participant relocated at least once (at the end of inpatient treatment) between interviews. Therefore, we predict that alters related to participants will be more likely than friends of the participants to be named at follow-up.

Second, we hypothesize that alters who were abstinent from alcohol and alters who were abstinent from drugs will be more likely to be named at six months. Changes in this direction would reflect the ego's engagement in the recovery process. Likewise, we also predict that alters with criminal histories will be less likely to be named at six months, illustrating the participant's investment in avoiding reincarceration.

We are not certain how frequency of contact between an alter and ego or how the ego's network size will affect stability in the context of early recovery and aftercare. We hope to create a better understanding of the role those factors play in sustaining relationships over time.

Method

Participants

A total of 270 adults (224 men, 46 women) participated in our study. Participants were randomly assigned into one of three treatment groups: Oxford House, Safe Haven, and Usual Aftercare. Oxford Houses are democratic, self-governed recovery residences. Residents are required to pay rent, contribute to the maintenance of the home, abstain from using alcohol and other drugs, and avoid disruptive behavior (Oxford House Manual, 2011). There are over 10,000 people currently residing in over 1,600 Oxford House recovery homes (Jason et al., 2007). Safe Haven represents the standard therapeutic model of aftercare for drug and alcohol addiction, run by professionals. Safe Haven residents are required to abstain from drugs and alcohol (Sober Living Homes, n.d.). Participants in the usual aftercare condition made post-treatment arrangements on their own.

Each group consisted of 90 participants. The Oxford House condition was comprised of 68 men and 22 women, the Safe Haven condition included 76 men and 14 women, and the usual aftercare condition was made up of 80 men and 10 women. Of the 270 participants, 74.1% identified as black/African American, 21.1% identified as white/Caucasian, about 3.3% identified as Hispanic/Latino, and 1.5% identified as "other." The average participant was 40.4 years-old ($SD = 9.5$) and had completed 10.9 years of education ($SD = 1.9$). Seventy-five percent of participants had never been married, 18.3% were divorced, separated, or widowed, and 6.9% were married or remarried.

Participants had an average of 6.3 prior convictions at baseline ($SD = 13.7$), had been treated for alcohol abuse an average of 0.7 times and for drug abuse an average of 3 times over their lifetime ($SD = 1.9$ and 3.4 , respectively).

Procedure

Participants completed baseline interviews either several days prior to or on the day of completing their treatment programs. Participants assigned to Oxford House or Safe Haven were given rides to placements, while participants assigned to usual aftercare made their own post-treatment arrangements. Participants received \$40 for completing their baseline interviews and for all subsequent waves.

Follow-up interviews were conducted every 6 months over a 2-year period, yielding five assessments in total. This study focuses on the assessments collected at wave one and wave two (i.e., at baseline and at 6 months).

Follow-up interviews were conducted on-site whenever possible, and participants received 24-hour CTA passes in addition to the \$40 for on-site interviews. In cases where on-site interviews were not possible, participants completed phone interviews or were met by interviewers at off-site locations. Off-site interviews were conducted in private when possible, but on occasion it was necessary to conduct interviews in restaurants, libraries, or other public locations. The limited privacy in those cases may have increased desirable responding and participants' reluctance to disclose sensitive information, despite having consented to the interview setting.

Measures

Information on network stability and network characteristics across waves was collected using the Important People Inventory (IP, Clifford and Longabaugh, 1991), administered at each wave. Strong construct validity has been demonstrated across *IP* subscale indices (0.80) based on respondents' verbal self-reports when compared to information collected from significant others (Longabaugh et al., 1993; Longabaugh et al., 1995). The *IP* has 2–3 day test-retest reliability of 0.95 (Longabaugh et al., 1998).

The IP is a structured interview adapted from the Important People and Activities Inventory to exclude the items from the Activities portion. We further adapted the IP to include items regarding drug use in addition to alcohol use, as only 12% of the participants in our study reported that alcohol was their main substance of choice. Participants completing the IP were asked to identify important members (alters) of their social network, over the age of twelve, who they had frequent contact with in the past month.

In the first part of the IP participants were asked to name up to 12 alters. For each of these alters, participants reported the nature of the relationship (i.e., spouse, child, parent, sibling, other family, ex-intimate partner, boyfriend/girlfriend, work friend, AA/NA friend, or other friend), the duration of the relationship in years, and how often they communicated on average over the past six months. Participants were also asked to classify each network member's drinking status and drug use status (i.e., heavy, moderate, light, abstainer, or recovering), how often the member drinks and how often the member uses drugs, as well as

the maximum number of drinks consumed on a drinking day and maximum amount of times using drugs on a using day. Participants were then asked how each alter felt about their receiving drug and alcohol treatment (e.g. strongly supports, strongly opposes). Participants were also asked whether or not each important person had a criminal background (yes or no).

The second part of the IP, the Most Important People (MIP) section requires participants to choose four most important alters from the first section. Participants were asked to rate the importance of each member, rate how much they liked each member, and predict how each member would react to the participant drinking, the participant using drugs, the participant not drinking, and the participant not using drugs. Because each alter from the first part of the IP was considered, we did not use any measures from the second part of IP in our analyses.

Results

Descriptive Analyses of the Social Network

Of the 270 participants interviewed at baseline, 176 were located for the wave 2 interview. A binomial logistic regression was conducted to examine any demographic differences between participants who completed their wave two interviews and those who did not. The dependent variable measured was completion; a value of “1” was given if the participant had completed the wave two interview, and a value of “0” was given otherwise. We found no significant differences on the basis of race, drug of choice, age, or treatment condition, but we found that women were significantly more likely than men (at a $p < 0.01$ level) to complete wave two interviews. No significant differences in baseline network characteristics were found between participants who completed wave two interviews and those who did not.

At baseline participants provided the names of an average of 3.9 alters ($SD = 2.4$). Family members (i.e. spouse, children, parent, sibling, other family) made up 72.5% of the average participant's social network ($SD = 33$). An average of 4.3% of people per network were heavy drinkers ($SD = 12.2$), and an average of 70.6% were abstaining or recovering alcoholics ($SD = 33.3$). Participants described an average of 3.2% of their social network as heavy drug users ($SD = 12.7$) and an average of 91.6% as abstinent or recovering drug users ($SD = 18.4$). An average of 15.2% of participants' important people had a known criminal history ($SD = 24.4$).

At wave two participants named an average of 3.7 alters ($SD = 2.2$) of whom an average of 63% were family members ($SD = 34.7$). Participants described an average of 4.2% of their important people as heavy drinkers ($SD = 12.3$) and an average of 71.9% as abstainers or recovering alcoholics ($SD = 31.8$). The average participant at wave two described 2.9% of his social network as heavy drug users ($SD = 9.2$) and 90.8% as abstaining or recovering drug users ($SD = 18.4$). An average of 16.5% of participants' important people at wave two had a criminal history ($SD = 23.6$). A side by side summary of network characteristics at baseline and at wave two is presented in table 1.

Analyses of Social Network Stability

To begin the process of describing social network stability across baseline and wave two, we compared the names and corresponding relationship classifications (e.g. parent, spouse) of the alters listed by each participant in the baseline IP to those listed in each participant's wave two IP, excluding participants who had not completed wave two interviews. If a network member listed by the participant at baseline had the same relationship classification and same name (or phonetic approximation) as a network member listed by the same participant at wave two, then that network member was marked as "stable". Network members appearing at baseline but not at wave two were counted as "dropped." Finally, network members appearing at wave two only were categorized as "added."

The average participant at wave two had 1.3 stable network members ($SD = 1.1$), had dropped 2.6 network members ($SD = 2.3$), and had added 2.5 network members ($SD = 2.2$). These numbers, when considered alongside the average network size at baseline indicate an average turnover rate of 63.4% over the six month period ($SD = 33.2$). Only the networks of individuals completing both Wave 1 and Wave 2 were included in the analysis.

Predictors of stability

We found that baseline alters with "recovering drug user" or "abstinent" drug statuses, alters who were related or married to the ego, alters with more frequent contact with the ego, and alters embedded in smaller ego networks were significantly more likely than their respective counterparts to be listed again at wave two. Differences in stability rates were not found on the basis of the drinking status or criminal history.

Multilevel modeling was used to examine what factors predicted the stability of social networks over the six-month period, with alters nested within egos. Each alter listed at baseline was coded as "stable" if present at both waves, and "not stable" otherwise. This approach controlled for ego-level clustering on the stability of alters, as well as validly utilizing both ego and alter characteristics as predictors. For example, degree or number of alters was used as a ego-level predictor to test whether overall network size was associated with differences in the likelihood of an alter being dropped. But also each alter had individual values for relationship type, drinking status at baseline, drug status at baseline, criminal history at baseline, contact frequency, and stability at wave two. The two level model was estimated as a binomial model using full PQL (penalized quasi-likelihood) estimation.

The dependent variable measured the stability of network members over six months. A value of "1" was given if the alter was named again at six months. A value of "0" was given otherwise.

Degree was the only participant-level fixed effect in our study. Degree was coded as the number of alters named by the ego at baseline. Initially we included treatment condition as a participant-level predictor. Treatment condition was removed from the model, as it did not yield any significant results.

Relationship type was included in our model as an alter-level predictor. For our analyses, relationship types were reduced to “related/married to” (i.e., spouse, child, parent, sibling, or other relative) or “not related” (i.e., ex-intimate partner, boyfriend/girlfriend, work friend, AA/NA friend, or other friend).

Drug-use status and alcohol status were entered as separate alter-level predictors. For both predictors, responses were collapsed into two response-types. Drug-use status was reduced to “no drug use” (i.e., abstinent or recovering) and “any drug use” (i.e., light, moderate, or heavy use). Alcohol status was reduced to “no alcohol consumption,” (i.e., abstinent or recovering alcoholic) and “any alcohol consumption,” (i.e., light, moderate, or heavy drinker).

In our initial analysis, criminal history was entered as either “yes” or “no,” with “yes” indicating that the alter had prior criminal history and “no” indicating that the alter had no criminal history. Criminal history was later removed from the model, as it did not produce any significant results.

The final alter-level predictor included was frequency of contact between an alter and ego. The frequency of contact between an alter and ego was entered as a scale from zero to seven (zero being “no contact in the past six months,” and seven being “daily contact”).

Multilevel model results are presented in table 2. We found significant effects for alter’s relationship to the ego, alter’s drug-use status, the frequency of contact between the ego and alter, and ego’s network size as predictors of stability. Baseline alters being related to ego predicted an increased likelihood (odds ratio = 3.022) that the same alter would be listed as an important person at wave two i.e. non-family members were three times as likely as non-relatives to be named as important persons at both waves. An alter being described as a drug user at baseline significantly predicted the likelihood (odds ratio = .266) that said alter would be dropped as an important person at wave two. Network members who were not believed to use drugs were 3.76 times more likely than their counterparts to be stable across the six-month period. More frequent contact between the ego and alter at baseline significantly predicted the likelihood (odds ratio = 1.32) that the alter would be named at wave two. Ego-network size significantly predicted alter stability at wave two (odds ratio = .804). The smaller the ego’s network, the more likely the nested alters were to be named at wave two. No significant differences in the likelihood of a network member remaining stable were found on the basis of network member drinking status, criminal history, or on the treatment condition the participant was assigned to (i.e., Oxford House, Safe Haven, or Usual Aftercare).

Discussion

The reappearance of our participants’ baseline alters at wave two was predicted by the drug use, the consanguinity, frequency of contact with the ego, and the network size of those alters. Alter’s drinking status and criminal history did not significantly affect the alter’s stability.

Of the alters named at baseline, those who were related or married to their egos were significantly more likely than friends or other non-relative alters to be named again at wave two. This supports our first hypothesis that members of the family-network would have greater stability than members of the friend-network over six months. The non-normative events experienced by our participants appear to affect network stability in a way that is comparable to relocation in normative populations (Wrzus et al., 2013). These participants transitioned from treatment settings to therapeutic communities or other settings, sometimes relocating additional times after assignment to their conditions. Relocation was a major component of participants' reentry process. Whatever mechanisms are acting to maintain family relationships throughout this process are not occurring in relationships with friends.

Our finding that relationships with family are withstanding the turbulence of the participant's reentry process better than friend relationships indicates the salience of the family-network. These results implicate the family-network as an important target for interventions facilitating the mobilization of social resources. Family ties, if healthy, contribute considerable social capital for ex-offenders reentering the community. Family may provide financial, emotional, and moral support, may provide motivational social capital, and generally increase resilience for these individuals (Mills and Codd, 2008). Interventions maximizing these processes have the potential to reduce recidivism and increase wellbeing in this population.

Our hypothesis that an alter's abstinence from drugs and abstinence from alcohol would predict a stable network status at wave two was only partially supported. Alters abstinent from drugs were significantly more likely than alters who used drugs to be named a second time, but alters who drank were just as likely to be named at wave two as alters who did not drink. It is evident that the mechanisms of change promoting the turnover of drug-using social ties are not effectively promoting the turnover of drinking social ties.

We must consider potential reasons that drinking status does not predict stability over the six month period and the implications of this finding. Perhaps there is a greater stigma associated with drug use than with alcohol consumption, contributing to social motivation to cut ties with drug-using network members. It is also possible that the lifestyles associated with drug use differ from those associated with alcohol consumption in ways that could affect the stability of relationships with individuals who use drugs. As future interviews are completed, we will be able to examine if the drug-using ties are simply latent at wave two, or if they have been severed.

That drinking status does not predict stability is potentially problematic. The drinking behavior of network members has been found to be predictive of the drinking behaviors of individuals recovering from addiction in multiple studies (Rosenquist et al., 2010, Litt et al., 2009, Groh et al., 2007). Regardless of cultural perceptions that normalize drinking (Cunningham et al., 2012) and of the general support provided by network members who drink, their being retained across waves puts the participant at greater risk for drinking.

We did not find support for our third hypothesis, that alters with criminal histories would be less likely to appear at wave two. We had predicted that investment in rehabilitation and

avoiding reincarceration would deter relationships with other offenders. It is possible that a correlation between criminal history and drug use among alters eliminated criminal history's independent contribution to stability. Given the dramatically higher prevalence of substance addiction in prison populations (Fazel et al., 2006), it seems likely that any relationship between stability and criminal history was better explained by drug use in comparison to criminal history. It is also possible that shared experiences and reentry into communities with high crime rates or therapeutic communities that provide services to ex-offenders simply make it more likely that participants will form salient ties with other ex-offenders (Wolff and Draine, 2004).

While associating with criminals increases the likelihood of recidivism (Gendreau et al., 1996), these connections may have the potential to provide beneficial social support. The IP does not ascertain alters' current criminal activities or lack thereof. If an alter has a criminal history but is invested in his own rehabilitation, he and the ego may benefit from a relationship based on solidarity and a shared goal of successful reentry. The effects of such relationships ought to be considered before making efforts to promote the turnover of relationships with other ex-offenders.

A greater frequency of contact between the alter and the ego at baseline significantly predicted the alter being retained as an important person at wave two. If sober-living models promote frequent contact with abstinent individuals, they may be able to facilitate the adoption of stable, abstinent relationships. Future studies examining later stages in the recovery process may further clarify if there is a change in which alters have frequent contact with a ego, and if those changes are consistent with the purpose of a recovery community.

Alters embedded in smaller social networks were significantly more likely than those embedded in larger social networks to be named at wave two. This implies that larger networks tend to have greater turnover rates, complicating the interpretation of studies where larger networks were found to predict better outcomes (e.g., Jason et al., 2012). To understand value of having more social ties relative to the value of having social ties with greater stability is beyond the scope of this study and would require the consideration of relevant outcome variables.

We did not include outcome variables in our assessments, in part because of our study's limited timeframe. A limitation of our study is that we examine only the change following the first six months of participants leaving inpatient treatment. While Jason et al. (2012) found that the addition of abstinent network members plateaus around 6 months into recovery, the stability of the individual alters is not explored. We are unable to present a clear picture of how stability changes over time, beyond early recovery. The degree to which the first six months after inpatient treatment are representative of the ongoing recovery process is unknown, and future studies are needed to elucidate our findings.

Additionally, in our decision to make drug-use status and drinking status into binomial categories, we may have lost certain nuances. There are potential differences between alters described as "recovering" and those described as "abstainers." Our decision to combine

categories was driven by the low baseline rates of alters described either as active or recovering alcoholics or drug addicts. Future studies with larger sample sizes will be better able to accommodate these distinctions into analyses. The low baseline rate of alcohol and drug use also limits the sensitivity of our analyses. Studies with larger sample sizes may detect interactions that were not evident with an unmatched sample.

Future studies should examine the IPs collected at later assessments. Using those additional data points, it will be possible to examine whether alters dropped at wave two reappear at later waves (latent alters). It can then be determined if there are differences between alters who are latent at certain waves, alters who are dropped from the IP permanently, and alters who remain stable throughout the study. Whether or not the characteristics of added alters are comparable to those of alters who have been dropped is another potentially interesting research question. Additional assessments will also clarify if turnover increases, decreases, or remains the same over multiple assessments. Patterns of increased turnover could indicate different phases of the reentry process.

Future studies focusing on which mechanisms of change are successfully causing the turnover of drug-using network members could be critical in creating strategies promoting the turnover of network members who drink or network members involved in illegal activities. Insights on how adaptive network changes occur may help in the development of treatments that more effectively support social reorganization. If the process of social reorganization can be further generalized to include the turnover of other risk-increasing alters, we can continue to improve programs for community and social integration post-release from incarceration.

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Table 1

Mean Network Characteristics at Baseline and at Wave Two

Network Characteristics	Baseline N=270	Wave Two N =176
Number of Important People	3.9 (2.4)	3.7 (2.2)
Related or Married to Participant ^a	72.5 (33)	63 (34.7)
Heavy Drinkers ^a	4.3 (12.2)	4.2 (12.3)
Non-Drinkers/Recovering Alcoholics ^a	70.6 (33.3)	71.9 (31.8)
Heavy Drug Users ^a	3.2 (12.7)	2.9 (9.2)
Abstinent or Recovering Drug Users ^a	91.6 (18.4)	90.8 (18.4)
Known Criminal History ^a	15.2 (24.4)	16.5 (23.6)

Note. Baseline and wave two network characteristics^a describe the percentage of alters within the average network who have these characteristics. Standard deviations in parentheses.

Table 2**Predictors of Network Member Stability**

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value	Odds Ratio	Confidence Interval
Participants (Egos)							
Intercept 2	-1.177	0.265	-4.447	142	<0.001	0.308	(0.183,0.520)
Degree	-0.218	0.064	-3.374	142	<0.001	0.804	(0.708,0.914)
Alters							
Contact	0.278	0.067	4.163	355	<0.001	1.320	(1.158,1.505)
Drug Use	-1.325	0.490	-2.702	355	0.007	0.266	(0.101,0.697)
Alcohol							
Use	0.262	0.230	1.141	355	0.254	1.299	(0.827,2.041)
Family	1.106	0.278	3.971	355	<0.001	3.022	(1.747,5.225)