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Predictors of High Level of Hostility among Homeless Men on Parole

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Abstract

High levels of hostility present a formidable challenge among homeless ex-offenders. This cross-sectional study assessed correlates of high levels of hostility using baseline data collected on recently-released male parolees (N=472; age 18-60) participating in a randomized trial focused on prevention of illicit drug use and recidivism. Predictors of high levels of hostility included greater depressive symptomatology, lower self-esteem, having a mother who was treated for alcohol/drugs, belonging to a gang, more tangible support, having used methamphetamine and having a history of cognitive difficulties. These findings highlight the need to understand predictors of hostility among recently released homeless men and how these predictors may relate to recidivism. Research implications are discussed as these findings will shape future nurse-led harm reduction and community-based interventions.

Keywords

Hostility; Reentry; Ex-Offender; Homeless; Substance Use; Forensic Nursing

Introduction

The United States (US) has the largest population of men and women behind bars, outranking the rest of the world (International Center for Prison Studies, 2012; Liptak, 2008). As of 2010, there were over 1.5 million prisoners in the US, and in California, over 165,000 were under correctional provision (Guerino, Harrison, & Sabol, 2011). High rates of incarceration result in high volumes of prisoner reentry and, hence, competition for the allocation of scarce correctional resources. According to the (Pew Center on the States, 2011), despite a steady drop in the national crime rate over the last 20 years, a survey of 33 states capturing three year recidivism data in 1999 and 2004 revealed a nearly 12% increase in recidivism resulting from new crimes. However, the three year recidivism rate overall dropped by nearly 5% due to a decline in recidivism based on technical violation (Pew Center on the States, 2011).

For men and women released from prisons and jails and placed on parole and probation, time in the community is punctuated by frequent rearrests. In fact, approximately 74% of felons in California recidivate within three years of release (California Department of Corrections and Rehabilitation, 2011). Considering the fact that California operates one of the largest prison systems in the country (a close second only to Texas) and makes about 120,000 releases to parole each year, the high re-incarceration rates present serious challenges for policy makers and agency administrators alike on how best to allocate correctional resources and reduce recidivism.

One of the main undercurrents of incarceration is violence. One report found that the most frequent offenses included homicide (27%), followed by robbery (41%), assault (24%) and sexual assault (17%)(Mumola & Karberg, 2006). Published literature reveals that hostility is associated with risk for sexual and violent recidivism (Firestone, Nunes, Moulden, Broom, & Bradford, 2005), where the offender was charged or convicted for a repeated sexual or violent offense. Among formerly incarcerated populations, hostile behaviors may be learned and reinforced, issues which few researchers have investigated. Researchers have determined that hostility is rooted in anger and defined this construct as multidimensional motivating aggressive tendencies which destroy and injure others (Spielberger et al., 1983). In fact, hostility may range from overt acts, i.e. physical and verbal to subtle behavior (Keltikangas-Jarvinen & Heinonen, 2003). Yet, despite the fact that nearly 60% of the US prison increase was due to violent offenders (Sabol, Couture, & Harrison, 2007; West, Sabol, & Greenman, 2010), limited data exist on hostility among individuals who are both homeless and on parole.

Because of fiscal crisis in recent years, California can no longer afford to house its large inmate population. Through legislative maneuvering, the state government is starting to shift low-level offenders to local county jails. As parolees reenter the community, many must cope with significant stressors including adverse childhood events including abuse and violence, homelessness, unmanaged mental illness, and substance abuse (A. Nyamathi et al., 2011; Phillips & Lindsay, 2011). The main aim of this paper is to understand correlates of high levels of hostility among homeless parolees to inform multidisciplinary harm reduction interventions aimed at reducing recidivism among this population.

Hostility: Antecedents and Role in Leading to Aggressive Behavior

For over five decades, researchers have been investigating hostility through varied perspectives. Hostility, an attitudinal construct (Eckhardt, Norlander, & Deffenbacher, 2004) can be defined as the dislike or negative evaluation of others (Berkowitz, 1993) which may lead to an unfavorable judgment and motivate aggressive behavior (Spielberger et al., 1983). Features of hostility include cynicism, mistrust, and denigration; which are antecedents to anger (Miller, Smith, Turner, Guijarro, & Hallet, 1996). (Spielberger et al., 1983) indicated that there is a range of hostility which begins with irritation and leads to rage. Other authors contend that anger is composed of a constellation of cognitions which can manifest verbally or through bodily reactions (Kassinove & Sukhodolsky, 1995).

Primary contributors to hostility include having been exposed to violence (Moses, 1999), which may be both physical and psychological. One study found that among inner city high

school youth (N=337), being exposed to violence was predictive of hostility. Exposure to violence may similarly be significant among homeless populations (Spence et al., 2006). In a retrospective analysis of homeless clients referred to psychiatric care (N=148), nearly 13% and 6% reported a history of physical abuse and sexual abuse, respectively. Further, approximately 34% had a history of violence towards others (Spence et al., 2006).

Other studies have found that childhood physical and sexual abuse and assault by intimate partners are significant among those who have been incarcerated (Maeve, 2000). In fact, among incarcerated populations, nearly 20% reported ever experiencing both physical and sexual abuse in their lifetime (Glaze & Maruschak, 2009). Incarcerated populations are similarly exposed to violence in the correctional system. Criminality does not end within prison walls; in fact, violent acts, prison gangs and rioting are commonplace (Butler & Kariminia, 2006), potentially contributing to hostility.

Hostility, Illicit Drug Use, and Gang Affiliation

Although decades old, investigators have argued that there is a close connection between hostility and substance use and dependency (M. Gossop & Roy, 1977; M. R. Gossop & Roy, 1976); in fact, being under the influence of alcohol or drugs may be associated with hostility. A study published over three decades ago found that high levels of hostility were found among barbiturate users, followed by opiate users and amphetamine users (M. R. Gossop & Roy, 1976).

Another potentially significant contributor to hostility may be gang affiliation, which frequently potentiates criminality and incarceration. A qualitative study among Mexican Americans who were involved with 26 active gangs (N=160) in Texas found that when compared to non-gang affiliated members, gang members were more likely to use drugs (Valdez & Sifaneck, 2004). Valdez et al. (2004) contend that members of gangs are expected to be involved in violent acts and those who do not meet those expectations likewise face physical violence and other repercussions.

Hostility, Reentry Stress and Coping

Hostility, whether manifesting itself in attitudes or behavior, can create significant blockage to successful reentry efforts. A hostile parolee is unlikely to conform to social expectations, let alone following instructions from those who may be perceived as representatives of authorities and government agencies. Furthermore, hostility is easily magnified through stress-inducing events and circumstances, which will stretch a parolee's coping capacity. Among inmates who are scheduled to reenter into the community, stressful events (e.g., lack of stable shelter, unemployment, lack of education and skills, abusive relationships, and experiencing violence) may lead to poor coping outcomes. It was hypothesized over a decade ago that individuals may engage in criminality due to their inability to cope (Zamble & Quinsey, 1997). In a study of parolees in residential drug treatment, violence was found to be related to inadequate coping and other variables. More specifically, violent behaviors were positively associated with disengagement coping ($p=.004$), and depression ($p=.04$), and inversely related to self-esteem ($p=.005$) (A. Nyamathi et al., 2011).

Coping likewise has been found to be related to drug use and violence. In an earlier study among homeless women (N=1,179), positive coping was related to less drug use and physical drug dependence and avoidant coping was positively associated with drug-related problems (Galaif, Nyamathi, & Stein, 1999).

The role of family drug use and dependency among currently incarcerated populations

The role of family drug use and dependency behavior impacts incarceration among prisoners. Mumola and Karberg (2006) contend that among prisoners, individuals who had drug dependence or a history of abuse were more likely to have parents or guardians who had ever abused drugs. In particular, among Federal prisoners, when compared to other inmates, individuals with a history of drug abuse or dependence were more likely to have a parent or guardian who abused alcohol (23.8% vs 13.3%), drugs (2.3% vs 1.4%), or both alcohol and drugs (10% vs 2.6%). Thus, individuals who had a mother or father with a history of being drug abusers were more likely to have drug use or dependency themselves (Mumola & Karberg, 2006).

Methods

Design

In this cross-sectional study, baseline data collected from an intervention study of recently released incarcerated men were analyzed to assess correlates of hostility. The study was approved by the Institutional Human Subjects Committee; data were collected from February 2010 to April 2012.

Sample and Site

A convenience sample of 472 parolees released from prison were eligible for the study if they: a) had been released from prison and entered the participating residential drug treatment (RDT) facility within a thirty-day period; b) had a history of drug use prior to their incarceration; c) were 18-60 years of age; and d) identified themselves as homeless on their prison exit form. The majority of participants were released from prisons in southern California.

Procedure

In this study, research staff and RDT leadership worked together to ensure a smooth and closely coordinated relationship between the research study and the facility. Once informed consent had been approved, information about the study was provided by means of flyers posted in the RDT facility. In addition, research staff who frequented the facility provided information, both in group sessions and one-on-one, to parolees who expressed interest in participating in the study. These meetings occurred on-site in private locations. Among persons interested in participating, informed consent was provided for administration of a brief screener that assessed eligibility for the study. Once eligibility was established, a second informed consent was provided with full details of the study. A structured questionnaire was then administered by the research staff to all interested and eligible parolees. All respondents who had completed the baseline questionnaire received \$20.

Instruments

Sociodemographic questions collected data on date of birth, race/ethnicity, educational and family background, marital status, children, history of childhood abuse, history and type of arrests, current gang affiliation, and general health using a 5-point scale ranging from 1) poor to 5) excellent.

Coping behaviors were assessed using six subscales of the Brief Cope (Carver, 1997). The six two-item subscales were: self-blame coping (reliability in this study .62), denial coping (reliability .65), disengagement coping (reliability .73), planning coping (reliability .72), instrumental support coping (reliability .77), and religious coping (reliability .79). Sample items are “I blame myself for things that happen”, “I refuse to believe that it is happening”, “I give up trying to deal with it”, “I think hard about what steps to take”, “I get help and advice from other people”, and “I pray or meditate”, respectively. Reliabilities for all six subscales exceeded the .5 level recommended by (Nunnally, 1978). A 4-point Likert scale was used to rate the 12 items with options ranging from “not at all” to “a lot.” Mean-item scales were formed for analysis.

Childhood Family Relationships were assessed by items from a Texas Christian University (TCU Institute of Behavioral Research, 2011) instrument asking about closeness of family (measured on a 5-point Likert scale ranging from “very close” to “not close at all”). Respondents were also asked whether they had been raised in a two-parent family and whether their mother and father had been treated for alcohol problems and for drug problems.

Lifetime serious depression, serious anxiety, cognitive problems and serious suicidal thoughts were measured by asking the following: “Not counting the effects from alcohol or other drugs, in your lifetime, have you ever experienced.” This statement was followed by the four items above with yes/no responses. The depression item inquired about depression for two weeks or more at a time and the cognitive problems item included “trouble understanding, concentrating or remembering?”

Social Support was measured by the Medical Outcomes Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). This 18-item scale includes 4 subscales: emotional support (8 items, reliability in this sample .94), tangible support (3 items, reliability .88), positive support (3 items, reliability .89) and affective support (3 items, reliability .89). Items had a 5-point Likert scale response options ranging from 1) “none of the time” to 5 “all of the time”. Responses were summed for subscale formation with higher scores indicating more support. Respondents were also asked how many close friends they had outside of prison.

Depressive Symptoms were assessed with the 10-item short form of the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977), which has been validated for use in homeless populations (A. Nyamathi et al., 2008; A. M. Nyamathi, Christiani, Nahid, Gregerson, & Leake, 2006). The 10-item self-report instrument is designed to measure depressive symptoms in the general population (Andresen, Malmgren, Carter, & Patrick, 1994) and measures the frequency of a symptom in the past week on a 4-

point response scale from 0) “rarely or none of the time (less than 1 day)” to 3) “all of the time (5-7 days)”. Scale scores range from 0 to 30, with higher scores indicating greater symptom severity. The internal reliability of the scale in this sample was .80.

Emotional Well-Being was measured by the 5-item mental health index (MHI-5), which has well-established reliability and validity (Stewart, Hays, & Ware, 1988). Cronbach’s alpha for the scale in this study was .81. Following convention, scores were linearly transformed to a range of 0-100, with higher scores signifying greater emotional well-being.

Self-Esteem was measured using the revised 23-item Self-Esteem Inventory (SEI) (Coopersmith, 1967). Internal consistency in this study, as measured by Cronbach’s alpha, was .80. Adolescent Self-esteem was assessed by an item asking respondents how they felt about themselves as teenagers. Responses on a 5-point Likert scale ranged from 1) “liked yourself a great deal” to 5) “disliked yourself a great deal”.

Men were considered to have a history of violent crime if they were convicted for assault/aggravated assault/battery, kidnapping/hostage taking, terrorist threats/acts, homicide/manslaughter/attempted homicide or rape/aggravated assault involving a minor.

Problem drinking was measured by the CAGE questionnaire (Ewing, 1984), a series of four questions about alcohol use, with “yes/no” responses. Men who had the conventional two or more “yes” responses were coded as problem drinkers.

Drug use was assessed retrospectively by self-report for the six months prior to the participant’s latest imprisonment by a modified version of the Texas Christian University (TCU) Drug History form (Simpson & Chatham, 1995). This modified form captured the participants’ history of drugs used by injection and orally prior to incarceration by means of yes/no and frequency of use items. Drugs assessed included marijuana, crack cocaine, heroin, methamphetamine, and hallucinogens.

Hostility, the outcome measure, was assessed by the 5-item Brief Symptom Inventory hostility subscale (Derogatis & Melisaratos, 1983). The items inquire about distress caused by feeling easily annoyed or irritated, uncontrolled temper outbursts, having urges to beat, injure or harm someone, having urges to break or smash things, and getting into frequent arguments. Each item has a 5-point response scale ranging from 1) “not at all” to 5) “extremely”. A mean-item scale was formed. Cronbach alpha was .81.

Data Analysis

Frequencies and percent or means and standard deviations were used to describe the sample measures and continuous variables were checked for normality. Because of its highly skewed distribution, hostility was dichotomized; the upper quintile was selected as the cut-point to ensure that correlates of fairly high levels of hostility would be examined. The coping subscales had similarly skewed distributions and were dichotomized at their medians for analysis. Active coping, self-blame coping, disengagement coping, planning coping and religious coping were coded as 1 if they were greater than 3, 2.5, 1.5, 3 and 3, respectively, and 0 otherwise. Those were the median values for these scales in the sample. Hostility was divided at the upper quintile of 2, to ensure that we were addressing high values of hostility

in the sample and the outcome was rare enough that odds ratios could be used to describe the magnitudes of effects. Other variables, like number of close friends and teenage self-esteem, were also categorized for regression analysis since transformations failed to mitigate their skewness. For unadjusted analysis of socio-demographic and other potential correlates of high hostility, we used chi-square tests or two-sample t and Wilcoxon tests, depending on underlying distributions.

Staged logistic regression analysis was then used to identify correlates of high hostility when other covariates were controlled. In Stage 1, the coping subscales were predictors in a stepwise backward logistic regression analysis for high hostility. Coping subscales in the resulting model were then forced to remain in Stage 2 while variables that were related to high hostility at the .10 level in unadjusted analysis were included initially and then selectively removed via stepwise backward selection. For both of these steps, the retention level was .10. In stage 3, predictors from the previous step that were not significant at .10 were removed sequentially according to the highest p value. Finally, in stage 4, variables that had been eliminated in stage 2 were tested in the model one at a time to see if their partial correlations with high hostility increased with fewer covariates in the model or their significance level increased with fewer subjects omitted from analysis due to missing values. Those that were significant at the .05 level were added to the final model, which was examined for multicollinearity; goodness of fit was assessed with the Hosmer-Lemeshow test.

Results

The sample averaged 40 years of age (SD 10.2) with 11.5 years of education (SD 1.7). The majority were either African American (47%) or Latino (30%) (Table 1). The majority of men were never married (66%); fewer were separated or divorced (23%). Nevertheless, almost two thirds (63%) reported having children. Nearly 70% of the men in the sample had a history of violent crime. On average, the hostility score was found to be 1.6 (SD 0.8; data not shown).

When childhood family structure was assessed, 41% reported being from a two-parent family, and over half (57%) reported experiencing a group living situation, such as orphanages or juvenile detention. Eleven percent of participants reported that their mothers had been treated for substance use and 13% said their fathers had been similarly treated. Childhood abuse was not uncommon and consisted of physical abuse (35%), sexual abuse (16%) and verbal abuse (48%). Violent crime was reported by close to 70% of the participants and about 20% reported currently being a member of a gang.

In terms of psychosocial issues and resources, over one-third reported serious anxiety and 30% reported serious depression. Over one-third also reported cognitive problems, while 12% reported serious suicidal ideations. The mean of the 10-item CES-D questionnaire was 8.7 (SD 6.2), the mean emotional well-being score was 66.7 (SD 22) and the mean self-esteem score was 13.8 (SD 4.6). Planning, religious, and instrumental coping had the highest mean coping scores among the sample; however, self-blame coping was also notable. Denial

and disengagement coping both had relatively low mean scores. Mean number of friends was 7.3.

Problem drinking was found among 41% of the sample. In terms of drug use, the most common drugs reported six months prior to incarceration included marijuana (85%), followed by crack (61%), and cocaine (57%).

Associations of Sociodemographic and Background Variables with a High Level of Hostility

Race/ethnicity, marital status and having children were not related to a high level of hostility; however, a number of other background variables were associated with high hostility (Table 2). These included being a member of a gang (34% vs 17%), having been in group care as a child (25% vs.14%), having had a mother who was treated for substance use problems (42% vs. 17%), and having experienced physical, sexual or verbal abuse in childhood. Having been convicted of a violent crime was also related to high hostility (24% vs 13%).

Psychological health was also related to high hostility. In particular, self-reported lifetime serious anxiety, serious depression, cognitive problems and serious suicidal thoughts were strongly related to high hostility. High levels of denial, disengagement and self-blame coping were also strongly associated with high hostility, while greater religious coping was associated with less hostility. Finally, in terms of substance use, problem-drinking and pre-incarceration, use of methamphetamine and heroin were associated with hostility; there was also a trend for hallucinogens to be related to high hostility. Use of marijuana, crack or cocaine was not associated with high hostility.

Table 3 depicts associations with continuous variables. Younger age and less education were found to be associated with high levels of hostility, as were the psychological variables of depressive symptoms, emotional well-being and self-esteem as an adult and as a teenager. Interestingly, general health, the social support subscales and number of close friends were not found to be associated with hostility. However, less family closeness in childhood was related to a high level of hostility.

Multiple Logistic Regression Modeling

The first stage of the logistic regression modeling examined adjusted associations between the six coping measures and high hostility using stepwise backward selection (Table 4). In the resulting model, denial coping had a strong positive association, while religious coping had a strong negative association with hostility. A somewhat weaker association was found for blame coping. When background characteristics and psychological and substance use were added to the model in the second stage, the coping measures lost importance. Following removal of unimportant predictors in the third stage, denial coping was the only coping measure that remained in the model and its possible association with hostility was weak. In contrast, strong associations were found for depressive symptomatology, gang membership, methamphetamine use and mother having been treated for substance use. In particular, men who reported that their mothers had received treatment for alcohol or drugs had almost 4 times greater odds of having a high level of hostility than those who did not.

Self-esteem was negatively associated with high hostility in the model and tangible support had a weak positive association with hostility. In the final stage, having experienced cognitive problems was added to the model; men who reported these problems had almost twice the odds of having a high level of hostility as those who did not. This model was able to classify 77% of cases correctly.

Discussion

Homeless men on parole are a subpopulation of the homeless community with multiple reentry challenges (Binswanger et al., 2007). This paper assessed the correlates of high levels of hostility among a sample characterized by multifarious vulnerabilities. In this paper, a staged modeling approach is used to assess the independent relationship of coping on hostility, and then the associations of additional variables as they are added into the model. Currently, limited data exists on correlates of hostility among homeless parolees who are at high risk of recidivism. By identifying correlates of high levels of hostility, clinicians can target these variables during treatment in an effort to reduce future crime and reincarceration. The close link between hostility, homelessness and incarceration is notable; research has shown that hostility is related to increased violent acts. Individuals with a history of incarceration may also have experienced frequent episodes of homelessness.

Our findings yielded important results in several domains. First, the introduction of denial, religious and blame coping was significant in the stage 1 model. This relationship is not surprising as data reveal that the majority of parolees who recently recidivated utilized avoidance coping along with engagement in criminal behavior such as stealing, selling drugs, and illegal sexual behavior (Phillips & Lindsay, 2011). Among homeless populations, stressful events may lead to poor coping outcomes. In a study of 157 homeless individuals on parole significant associations were found between active coping, denial coping, blame coping, disengagement coping, instrumental support; and depressive symptomology (Nyamathi et al., 2011). Violent behaviors were positively associated with disengagement coping and depression and inversely related to self-esteem (Nyamathi et al., 2011).

Upon their return to the community, parolees arrive with significant stressors from behind bars and further face a significant array of reentry challenges such as homelessness, employment difficulties, mental illness and substance abuse (Nyamathi et al., 2011; Phillips & Lindsay, 2011). These findings highlight the critical importance of careful clinical assessment and early interventions which might strengthen the coping responses of parolees particularly related to a major and predominant triad—homelessness, mental illness and substance use.

In the staged modeling, denial coping, while only weakly associated with hostility in the final model, was related to other variables that had stronger associations with hostility. The purpose of the staged modeling was to identify types of coping that were related to hostility and then see if other variables could explain the associations.

In the final model, findings revealed that having a mother who was treated for a substance use problem was associated with a high level of hostility. Homeless and incarcerated

populations have high rates of traumatic childhood experiences (Cuomo, Sarchiapone, Giannantonio, Mancini, & Roy, 2008) including physical abuse and psychological abuse which may contribute to hostility levels. A constellation of early childhood and family experiences may be linked to hostility. For instance, Roy (2001) studied childhood trauma and its relation to hostility among 163 cocaine dependent and 131 opiate dependent individuals. Hostility scores were related to physical abuse, sexual abuse, emotional and physical neglect (Roy, 2001). Another study found that parental neglect, one of the most common form of maltreatment, was related to substance use (Dunn et al., 2002).

Further, parental substance abuse and child maltreatment can co-occur (Goldman, 2003). Research has suggested that prisoners who have a diagnosis of drug abuse or dependence are more likely than their counterparts without drug history to have had a parent or guardian who has abused alcohol (23.8% vs 13.3%), drugs (2.3% vs 1.4%), and both alcohol and drugs (10% vs 2.6%) (Mumola & Karberg, 2006). Further, childhood hostility also has been found to be predictive of substance use (Hampson, Tildesley, Andrews, Luyckx, & Mroczek, 2010).

We also found gang membership was related to high levels of hostility. Data suggest that once incarcerated, street gang members affiliate themselves with established prison gangs due to the need for protection, in part because prison gangs bribe, intimidate and may commit violent acts (Federal Bureau of Investigation, 2011). Upon leaving the institution, individuals who are gang-affiliated may continue to engage in gang-related activities, thus, repeating the cycle and exacerbating hostility if not mitigated. One contemporary author suggests that communities should invest in gang members, by promoting support services, conflict resolution, skill building, role modeling and mentorship (Boyle, 2010). While there is limited data on the relationship of hostility and gang affiliation, future studies should explore this relationship in an effort to mitigate hostility.

Use of methamphetamine prior to incarceration was also highly associated with hostility. Data suggest that methamphetamine-using drug offenders are three times more likely to commit violent offenses when compared to non-methamphetamine users (Mumola & Karberg, 2006). In California state prisons, drugs are readily available; in fact, gangs smuggle drugs into institutions (Federal Bureau of Investigation, 2011; Johnson, 2010), introducing those incarcerated to new drugs and encouraging use. Future studies should take into account that homeless parolees may have unmanaged substance use issues that may influence hostility.

Likewise, we found that individuals who reported higher levels of depressive symptoms were more likely to have high levels of hostility when compared to those with lower levels of depressive symptoms. Depressive symptomology is a significant issue among homeless men on parole (Connor, Ford, Albert, & Doerfler, 2007), and homeless young adults (Maremmani et al., 2007). A prior study of homeless male parolees (N=157) found that 40% of participants had high levels of depressive symptoms (Connor et al., 2007). To our knowledge, no previous research has investigated the relationship between of hostility and depression among homeless men on parole; however, cynical hostility, defined as general cynicism and interpersonal mistrust, has been explored longitudinally in relation to

depressive mood among civil servants aged 35-55 years of age (N=10,308) (Nabi et al., 2010). Authors contend that cynical hostility predicts depressed mood (Nabi et al., 2010).

Low levels of self-esteem and lifetime cognitive problems were also related to a high level of hostility. Among homeless and paroled populations, cognitive problems may also be prevalent (Contrada et al., 2004), as well as low self-esteem (Hammen & Brennan, 2002) and low tangible support. A study published two decades ago among homeless youth (N=27) found that hostility and depression are inversely related to self-esteem (Maxwell, 1992). Thus, it is prudent to note that low self-esteem and lifetime cognitive problems are two additional variables worth exploring in future interventions as they were both found to strongly associated with hostility. For academicians, service agencies and policy makers, these findings point to the need for one-on-one classes to improve self-esteem through skill building exercises and referrals to mental health practitioners. Further, development of integrated services (physical, mental and emotional health) may be needed at RDT sites to meet the needs of this hard-to- reach population post prison release.

Limitations

Several limitations should be noted. First, a cross-sectional design was used, which prevents causal inferences. Next, sampling was limited to one clinical site in Los Angeles, thus, findings cannot be generalized to homeless parolees elsewhere. Further, the sample consisted entirely of men and the findings cannot be generalized to women on parole. In spite of these deficits, these findings point to the need for mental health services and longitudinal interventions to reduce recidivism.

Conclusion

A multiplicity of challenges exist for homeless men on parole attempting to reintegrate into the community. Chiefly important is the fact that successful reentry is difficult when managing hostility as it may continue to lead to aggressive behaviors such as mild irritation to rage precipitating into violent acts. For clinicians and service providers, unmanaged hostility presents an opportunity to initiate interventions which enable the design and deployment of interventions that focus on positive coping, mental health treatment and provision of critical resources for this high-risk population. In terms of translational research, instituting hostility screening tools in RDT sites may be useful in identifying high risk clients in an effort to develop a compendium of services which will focus on mental health, encourage completion of substance abuse programs, improve self-esteem, reduce involvement in gangs, and identify and refer clients for further care in terms of cognitive difficulties. This study should serve as a call to action for investigators, academicians and policy makers to take on the challenge of finding solutions for the entrenched and persistent high rate of recidivism among California parolees.

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Table 1
Sample Characteristics (N = 472)

Characteristics	Mean	SD
Current		
Age	40.2	(10.2)
Education	11.5	(1.7)
General Health	3.3	(11)
	N	%
High Hostility	95	20.1
Race/Ethnicity:		
African-American	220	46.6
White	79	16.7
Latino ^a	142	30.1
Asian/Pacific Islander	8	1.7
American Indian	3	0.6
Other	20	4.2
Marital Status:		
Married	38	3.1
Living as Married	15	3.2
Never Married	309	65.6
Sep/Div/Widowed	109	23.1
Any Children	297	63.2
Gang Member	96	20.4
	N	%
Violent Crime^b	328	69.5
Childhood/Adolescent:		
Two-Parent family	195	41.3
Group Care ^c	268	56.8
Mother Treated for Substances	52	11.0
Father Treated for Substances	60	12.7
Physical Abuse	163	34.5
Sexual Abuse	77	16.3
Verbal Abuse	228	48.3
	Mean	(SD)
Family Closeness	2.3	1.4
Teenage Self-Esteem	2.1	1.1
	N	%
Lifetime^d		
Serious Anxiety	164	34.8
Serious Depression	141	29.9
Cognitive Problems	177	37.5
Suicidal Thoughts	58	12.3

Characteristics	Mean	SD
Psychosocial Resources		
Depressive Symptomatology	8.7	6.2
Emotional Well-Being	66.7	22.0
Self-Esteem	13.8	4.6
Denial Coping	1.8	0.9
Planning Coping	3.1	0.9
Instrumental Coping	2.8	0.9
Disengagement Coping	1.8	0.9
Religious Coping	2.9	1.0
Blame Coping	2.6	1.0
Affective Support	10.1	3.9
Emotional Support	26.1	9.4
Positive Support	10.3	3.6
Tangible Support	9.8	3.8
Number of Close Friends	7.3	17.2
Substance Use		
Problem Drinking ^e	19.1	40.5
Marijuana ^f	397	84.8
Crack ^f	287	61.3
	<i>N</i>	%
Cocaine ^f	267	57.1
Methamphetamine ^e	231	49.4
Hallucinogens ^e	208	44.4
Heroin ^e	166	35.5

^aIncludes Mexican Americans, Mexican nationals and other Latinos

^bConvicted for crime by self-report

^cIncludes orphanages, group care facilities, juvenile hall and residential treatment facilities

^dSelf-report

^eBased on CAGE score of 2 or more

^fIn six months prior to last incarceration

Table 2
Associations Between High Hostility Level and Categorical Variables (N=472)

Variables			
Current	N	Percent	p ^a
Race/Ethnicity:			.252
African American	34	15.5	
Latino	31	21.8	
White	23	29.1	
Asian	2	25.0	
American Indian	1	33.3	
Other	4	20.0	
Marital Status:			.440
Married	12	31.6	
Living as Married	3	20.0	
Never Married	59	19.1	
Separated	8	24.2	
Divorced/Widowed	12	26.7	
Any children:			.628
Yes	58	19.5	
No	37	21.4	
Gang Member:			
Yes	33	34.4	.001
No	62	16.5	
Violent Crime ^b :			.006
Yes	77	23.5	
No	18	12.5	
Childhood/Adolescent			
Two-Parent Family:			.600
Yes	37	19.0	
No	58	20.9	
Group Care ^c :			.005
Yes	66	24.6	
No	29	14.2	
Mother Treated for Substance			.001
Problems:			
Yes	22	42.3	
No	73	17.4	
Father Treated for Substance Problems:			.090
Yes	17	28.3	
No	78	18.9	
Physical Abuse			.001

Variables		
Yes	48	29.5
No	47	15.2
Sexual Abuse		.008
Yes	24	31.2
No	71	18.0
Verbal Abuse:		.001
Yes	60	26.3
No	35	14.3
Lifetime^d		
Serious Anxiety:		.001
Yes	56	34.2
No	39	12.7
Serious Depression:		.001
Yes	48	34.0
No	47	14.2
Cognitive Problems:		.001
Yes	60	33.9
No	35	11.9
Suicidal Thoughts:		.001
Yes	23	39.7
No	72	17.4
High Denial:		.001
Yes	63	28.9
No	32	12.6
High Planning:		.450
Yes	42	18.7
No	53	21.5
High Instrumental		.265
Yes	28	17.3
No	67	21.6
High Disengagement:		.001
Yes	60	27.3
No	35	13.9
High Religious:		.002
Yes	26	13.2
No	69	25.1
High Blame:		.001
Yes	56	27.9
No	39	14.4
Substance Use		
Problem Drinking ^e :		.003

Variables		
Yes	51	26.7
No	44	15.7
Marijuana ^f :		.229
Yes	76	19.1
No	18	25.4
Crack ^f :		.531
Yes	55	19.2
No	39	21.6
Cocaine ^f :		.749
Yes	55	20.6
No	39	19.4
Methamphetamine ^f :		.001
Yes	63	27.3
No	31	13.1
Hallucinogens ^f :		.056
Yes	50	24.0
No	44	16.9
Heroin ^f :		.037
Yes	42	25.3
No	52	17.2

^a Chi-square test for association with high vs. lower level of hostility

^b Convicted for crime by self-report

^c Includes orphanages, group care facilities, juvenile hall and residential treatment facilities

^d Self-report

^e Based on CAGE score of 2 or more

^f In six months prior to last incarceration

Table 3
Associations Between High Hostility Level and Continuous Variables (N= 472)

Variable	High Hostility				p ^a
	Yes		No		
	Mean	SD	Mean	SD	
Current					
Age	36.4	9.4	41.1	10.2	.001
Education	10.9	1.9	11.7	1.6	.001
General Health	3.1	1.1	3.3	1.1	.103
Childhood					
Family Closeness	2.7	1.5	2.2	1.4	.003
Teenage Self-Esteem	2.4	1.3	2.0	1.1	.008
Psychosocial					
Resources					
Depressive Symptomatology	13.5	7.0	7.5	5.3	.001
Emotional Well-Being	52.8	23.2	70.2	20.2	.001
Self-Esteem	11.1	4.5	14.5	4.3	.001
Social Support					
Affective	9.9	3.8	10.1	3.9	.633
Emotional	25.2	9.6	26.3	9.3	.291
Positive	10.1	3.8	10.4	3.5	.466
Tangible	9.9	3.9	9.8	3.8	.760
No. of Close Friends	5.9	10.1	7.6	18.6	.247

^aBased on two-sample t test or Wilcoxon test

Table 4
Summary of Staged Logistic Regression Analysis for High Hostility (N=467)

Adjusted Odds Ratio(AOR)	[95% CI]	<i>p</i> -value
Stage 1		
Denial Coping ^a	2.31 [1.41,3.79]	.001
Religious Coping ^a	0.47 [0.28,0.78]	.003
Blame Coping ^a	1.87 [1.15,3.02]	.011
Stage 2		
Denial Coping	1.55 [0.87,2.76]	.141
Religious Coping	0.88 [0.48,1.60]	.672
Blame Coping	1.41 [0.80,2.48]	.231
Depressive Symptomology	1.13 [1.08,1.19]	.001
Self-Esteem	0.92 [0.85,0.98]	.016
Mother Treated for Alcohol/Drugs	3.87 [1.87,8.03]	.001
Belongs to Gang	2.93 [1.61,5.33]	.001
Tangible Support	1.08 [0.997,1.16]	.060
Methamphetamine Use	2.70 [1.52,4.78]	.001
Stage 3		
Denial Coping	1.64 [0.92,2.90]	.092
Depressive Symptomology	1.14 [1.08,1.19]	.001
Self-Esteem	0.91 [0.85,0.97]	.007
Mother Treated for Alcohol and Drugs	3.97 [1.93,8.20]	.001
Belongs to Gang	2.86 [1.59,5.16]	.001
Tangible Support	1.08 [1.003,1.17]	.042
Methamphetamine Use	2.76 [1.57,4.85]	.001
Stage 4		
Denial Coping	1.67 [0.94,2.97]	.083
Depressive Symptomatology	1.12 [1.07,1.18]	.001
Self-Esteem	0.92 [0.86,0.99]	.021
Mother Treated for Alcohol/Drugs	3.86 [1.86,8.00]	.001
Belongs to Gang	2.96 [1.63,5.39]	.001
Tangible Support	1.09 [1.01,1.17]	.037
Methamphetamine Use	2.54 [1.44,4.50]	.001
Cognitive Problems	1.90 [1.07, 3.36]	.028

^a All coping subscales dichotomized at their medians