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Gender Differences in 16-Year Trends in Assault- and Police-Related Problems Due to Drinking

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Abstract

This study examined the frequency and predictors of physical assault and having trouble with the police due to drinking over 16 years among women and men who, at baseline, were untreated for their alcohol use disorder. Predictors examined were the personal characteristics of impulsivity, self-efficacy, and problem-solving and emotional-discharge coping, as well as outpatient treatment and Alcoholics Anonymous (AA) participation. Women and men were similar on rates of perpetrating assault due to drinking, but men were more likely to have had trouble with the police due to drinking. Respondents who, at baseline, were more impulsive and relied more on emotional discharge coping, and less on problem-solving coping, assaulted others more frequently during the first year of follow-up. Similarly, less problem-solving coping at baseline was related to having had trouble with the police more often at one and 16 years due to drinking. The association between impulsivity and more frequent assault was stronger for women, whereas associations of self-efficacy and problem-solving coping with less frequent assault and police trouble were stronger for men. Participation in AA was also associated with a lower likelihood of having trouble with the police at one year, especially for men. Interventions aimed at decreasing impulsivity and emotional discharge coping, and bolstering self-efficacy and problem-solving coping, during substance abuse treatment, and encouragement to become involved in AA, may be helpful in reducing assaultive and other illegal behaviors.

Keywords

addictions; emotional health; law & psychology; personality; violence; women & men

Alcohol use disorders are closely linked to violence, including physical assault, and to other behaviors, such as property crimes and traffic accidents, that may lead to involvement with the police (Leonard & Quigley, 1999; Rosen, Miller, & Simon, 2008; Stuart et al., 2006). Consensus is growing that acute alcohol effects are at least partially causally related to violence (Fals-Stewart, 2003; MacDonald, Erickson, Wells, Hathaway, & Pakula, 2008). In particular, analyses of the National Alcohol Survey supported a strong and stable relationship between alcohol use and physical assault even after controlling for other variables known to be related to alcohol use and/or aggressive behavior (Scott, Schafer, & Greenfield, 1999). Problematic alcohol use is also associated with illegal activities that bring the attention of the police, such

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as driving under the influence and property crimes such as theft and vandalism (LaBrie, Kidman, Albanese, Peller, & Shaffer, 2007).

This study examined the frequency and predictors of physical assault and having problems with the police due to drinking over 16 years among women and men who, at baseline, were untreated for their alcohol use disorder (AUD). These outcomes are distinct and each is important to examine in the context of alcohol misuse. Physical assault is classified specifically as a personal and violent crime, and may not come to the attention of police officers, whereas problems with the police may arise from a broader array of suspected or actual illegal activities and offenses, some of which are victimless (e.g., disorderly conduct, public drunkenness, vagrancy). To examine these behaviors, this study utilized the conceptual framework initially developed by Moos and Finney (1983; Finney & Moos, 1984; Moos, Finney, & Cronkite, 1990), and since adopted widely by other investigators (e.g., Buri, Moggi, Giovanoli, & Strik, 2007), to examine the context of alcohol-related outcomes over time. The framework suggests that outcomes are influenced by the individual's resources at baseline, including demographic factors, the severity of alcohol misuse, and other aspects of personal functioning, and by the individual's experiences with different sources of help.

1.1 Women and Men's AUDs and Assaultive Behavior and Problems with the Police

Community studies of gender differences in the perpetration of physical assault against spouses or intimate partners have found equal or higher rates of assaults by women, but higher rates of injury-causing assaults by men (Straus, 2006). Consistently, problematic drinking patterns are associated with both male-to-female and female-to-male intimate partner violence among couples in general household samples (Cunradi, Caetano, Clark, & Schafer, 1999; Cunradi, Caetano, & Schafer, 2002). Compared to abstainers, both men and women who were heavy drinkers had a more than six-fold increased risk of perpetrating violence against a partner (Cunradi, 2007). In contrast to the links of drinking to gender and intimate partner violence, there has been little research conducted on gender differences in drinking consequences related to physical assault more generally or having trouble with the police. However, the literature on intimate partner violence informs these outcomes because partner violence, other types of interpersonal violence (e.g., against peers), and other types of crime often co-occur and have consistent predictors over time (Ozer, Tschann, Pasch, & Flores, 2004; Reed, Silverman, Ickovics, Gupta, Welles, Santana, & Raj, 2008; Russo, 2008).

1.2 Personal Predictors of Assault and Police Trouble

This study examined characteristics of initially untreated women and men with AUDs as predictors of having physically assaulted someone and having had trouble with the police due to drinking. The personal characteristics examined were impulsivity, self-efficacy, and problem-solving and emotional-discharge coping.

Substance use disorder treatment samples tend to be more inclined to impulsive risk-taking and aggression than the general population (Cherpitel, 1999; Conway, Swendsen, Rounsaville, & Merikangas, 2002). Self-reports of being more impulsive (i.e., making decisions rapidly with carelessness and a lack of reflection) were related to a higher likelihood of violence among people in treatment for alcohol and drug use disorders (MacDonald et al., 2008). National Alcohol Survey analyses found that people with high impulsivity scores were more likely to have perpetrated physical assault (Scott et al., 1999).

In an examination of a wide range of baseline patient characteristics as potential predictors of AUD treatment outcome, self-efficacy – an individual's confidence in avoiding problematic

alcohol use – emerged as the most consistent predictor of positive drinking-related outcomes (Adamson, Sellman, & Frampton, 2008). However, associations of self-efficacy with outcomes related to violence or illegal behaviors among women and men with AUDs have not been examined.

With regard to coping, strategies are often grouped into approach (i.e., problem-solving, involving making a plan and taking action) and avoidance (i.e., venting negative feelings, wishful thinking) types (Amirkhan, 1990). Studies relating coping to a variety of psychological and physical health outcomes typically find that problem-solving is related to better outcomes, and avoidance strategies, such as emotional discharge coping, are related to poorer outcomes (Moos & Holahan, 2003). Among men responding to relationship problems, problem-solving coping was associated with less problem drinking, and avoidance coping was associated with both problem drinking and perpetration of physical abuse (Snow, Sullivan, Swan, Tate, & Klein, 2006). Women who relied more on problem-solving coping when handling a recent relationship problem or conflict also used less violence; in contrast, reliance on avoidance coping was positively correlated with violence (Swan & Snow, 2006). The expression of feelings and emotions and the release of tension or anger often motivate both men's and women's physical aggression (Hamberger, Lohr, Bonge, & Tolin, 1997).

1.3 Help-Related Predictors of Assault and Police Trouble

We also examined participation in outpatient treatment and Alcoholics Anonymous (AA) as predictors of potential reductions in the drinking-related consequences of assault and police trouble. Substance use disorder treatment is often associated with reductions in assaultive and illegal behaviors (Groppenbacher, Bemis, & White, 2003). We wondered whether this would be true in a previously untreated sample and whether it would hold for women and men. Participation in 12-step self-help groups, such as AA, has been associated with positive drinking outcomes (Moos & Timko, 2008). However, it has yet to be studied in relation to a reduction in drinking consequences such as violence and crime.

1.4 Gender as a Moderator of Personal- and Help-Related Predictors of Drinking Problems

There have been few studies of gender as a moderator between personal- or help-related factors and the drinking-related consequences of assault and having trouble with the police. A study of people treated for substance use disorders found that women and men were comparable on persistence of violence perpetration after discharge (Walton, Chermack, & Blow, 2002). Time series analyses over 23 years found that, among men, higher AA membership rates were related to lower homicide rates, but that this association did not hold among women (Mann, Zalcman, Smart, Rush, & Suurvali, 2006). Due to the lack of previous studies examining how gender moderates associations of impulsivity, self-efficacy, coping, treatment, and AA participation with drinking-related consequences, we did not form specific hypotheses in this regard.

In summary, this study examines four issues among people initially untreated for an AUD who were followed for 16 years: (1) How do women and men compare on changes in assault- and police-related problems due to drinking over a 16-year interval? (2) Do the personal factors of impulsivity, self-efficacy, and coping predict one-year and 16-year assaultive behavior and police trouble? (3) Is participation in treatment and/or AA associated with a reduction in assaultive behavior and problems with police? (4) Is gender a moderator of personal- and help-related predictors of assault and police trouble? That is, we examined whether the strength and direction of associations of personal and help-related characteristics with these drinking-related consequences differed between women and men.

2.0 Methods

2.1 Sample and Procedure

The participants were individuals with AUDs who, at baseline, had not received treatment for their disorder. These individuals had an initial contact with the alcoholism treatment system via Information and Referral (I&R) centers or detoxification (detox) programs that were under contract to the counties in which they were located. At each facility, only individuals who were seeking help for their own drinking problems and had not had prior treatment, as screened by on-site staff, were approached about the study. All of the facilities referred clients to treatment; about 60% of the clients actually entered treatment within the next year (Timko, Finney, Moos, Moos, & Steinbaum, 1993). (For more details on recruitment, see Finney & Moos, 1995.)

After providing informed consent, 628 eligible individuals completed a baseline inventory. Individuals who entered the study confirmed the lack of previous treatment and had an AUD as determined by one or more substance use problems, dependence symptoms, drinking to intoxication during the past month, and/or perception of alcohol abuse as a significant problem. At one, three, eight, and 16 years after entering the study, participants were located and contacted by telephone and asked to complete an inventory that was essentially identical to the baseline inventory. Response rates at follow-ups were 82%, 77%, 80%, and 80%, respectively, among participants not known to have died. The only significant differences between individuals who were or were not followed, were that followed participants were more likely to be women and to be employed at baseline ($p < .05$).

The 628 individuals were almost evenly divided between women (47.1%; $N=296$) and men (52.9%; $N=332$). Most were Caucasian (81.4%) or African-American (6.8%), unmarried (79.0%), and unemployed (59.6%). On average, at baseline, these individuals were in their mid-30s (Mean = 34.7; $SD = 9.4$) and had 13 years of education (Mean = 13.1; $SD = 2.3$) and an annual income of \$12,225. They consumed an average of 13.1 ounces of ethanol ($SD = 11.2$) on a typical drinking day, were intoxicated an average of 13.7 days ($SD = 10.8$) in the last month, and had an average of 3.9 dependence symptoms ($SD = 6.8$) and 3.8 drinking problems ($SD = 6.1$).

2.2 Measures

Assault and police trouble—At baseline and at the 16-year follow-up, participants were asked: “In the last six months, how often have you had the following problems as a result of your drinking: (a) assaulted (hit) someone, and (b) had trouble with the police.” Responses were coded on 5-point scales (0=never, to 4=often). These items are similar to those contained in the National Alcohol Survey (Cherpitel & Ye, 2008).

Personal characteristics—In addition to obtaining respondents’ demographic information, we assessed quantity of alcohol consumption and the personal characteristics of impulsivity (Jackson & Messick, 1986), self-efficacy (Annis & Graham, 1988), and problem-solving and emotional-discharge coping (Moos, 1993; Moos & Holahan, 2003) at baseline.

Participants were asked how much wine, beer, and hard liquor they usually drank on the days during the past month that they drank each type of alcoholic beverage. Responses were coded as ounces of ethanol and summed to obtain the average quantity of alcohol consumption on drinking days. Impulsivity is the sum of 10 four-point items (e.g., I usually act on the first thought that comes into my head, 0=strongly disagree, 3=strongly agree; Cronbach’s $\alpha = .74$) adapted from the Personality Response Form (Jackson & Messick, 1986). Self-efficacy is the sum of 14 items rated on a six-point scale (e.g., I would be able to resist the urge to drink

heavily if I had an argument with a friend, 0=not at all confident, 5=very confident; $\alpha = .93$) adapted from the Situational Confidence Inventory (Annis & Graham, 1988).

Problem solving coping is the sum of five items rated on a four-point scale (e.g., I made a plan of action and followed it, 0=did not do this to deal with an important problem in the past year, 3=did this fairly often to deal with the problem; $\alpha = .75$) adapted from the Coping Responses Inventory (CRI; Moos, 1993). Emotional discharge coping, also adapted from the CRI, is the sum of six items rated on the same scale (e.g., I let my feelings out somehow; $\alpha = .57$). Although the internal consistency of the emotional discharge scale was somewhat low, we retained the scale due to the conceptual importance to drinking and the drinking-related consequences of physical assault and police trouble of this coping strategy (Hamberger et al., 1997).

Help obtained—At the one-year follow-up, participants were asked, “Have you gone to anyone, anyone at all, about your drinking habits or drinking-related problems,” since they completed the baseline questionnaire. The month and year the baseline questionnaire was completed were provided. If participants answered yes, they were asked to record the following information about each source of help: person, agency, or type of help; month and year; number of weeks of help; and number of sessions or meetings attended. Because treatment programs often include an AA component, participants were specifically instructed to record each type of care separately. There is good support for the reliability and validity of self-reports regarding participation in substance abuse treatment (Adair, Craddock, Miller, & Turner, 1996) and in AA (Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997; Tonigan, Miller, Juarez, & Villanueva, 2002).

2.3 Analyses—Analyses were conducted using SPSS (11.5). First, we computed correlations between responses to the items on assault and trouble with the police and participants’ demographic characteristics. Then, to ascertain gender differences on assaulting someone and having trouble with the police due to drinking, we conducted doubly multivariate ANCOVAs (MANCOVAs). When the overall F test for gender or for time was significant, post hoc univariate ANCOVAs comparing women to men, baseline to one year, one year to three years, three years to eight years, or eight years to 16 years were conducted.

We conducted multiple regression analyses predicting the one-year and 16-year outcomes of assaulting someone and having trouble with the police as a result of drinking. Block 1 entered the baseline value of the outcome and education, block 2 entered gender, and block 3 entered baseline quantity of alcohol consumption. Block 4 entered one baseline personal characteristic or characteristic of help obtained during the first year. Block 5 entered the interaction of gender by the variable entered in block 4.

3.0 Results

3.1 Demographic Characteristics and Assault and Police Trouble

We computed correlations between responses to the items on assault and trouble with the police at baseline, and demographic characteristics: age, marital status (married or not married), years of education, annual income, ethnicity (white or not white), and employment status (employed or unemployed). More years of education and higher annual incomes were related to less assault and less trouble with the police ($p < .05$). Because education and income were even more strongly related to each other ($r = .38, p < .001$) than to the outcomes, we controlled only for education in subsequent analyses.

3.2 Comparisons of Women and Men on Assault and Police Trouble Over 16 Years

To ascertain differences between women and men in terms of assaulting someone and having trouble with the police due to drinking, we conducted MANCOVAs with education as the covariate. For these analyses, the outcomes were dichotomized (never assaulted someone, or never had trouble with the police, versus did so). The MANCOVA indicated significant effects for gender (Wilks lambda = .92, $F(2,306)=12.62$, $p=.000$) and time (Wilks lambda = .88, $F(8,300)=4.77$, $p=.000$). Univariate analyses and examination of group means revealed that, in comparison to men, women were similar on assaulting someone due to drinking on each occasion, but were less likely to have had trouble with the police at baseline and the one-, eight- and 16-year follow-ups (Table 1).

At baseline, fully 38% of women and 30% of men had assaulted someone in the past six months due to drinking; a total of 34% of women and 42% of men had had trouble with the police due to drinking. Assaulting someone due to drinking decreased substantially between baseline and one year (when education was controlled) ($F=13.80$, $p=.000$), as did having trouble with the police ($F=13.29$, $p=.000$). Assaulting someone and having trouble with the police did not significantly decrease from one year to three years, three years to eight years, or eight years to 16 years ($p>.05$).

3.3 Personal- and Help-Related Predictors of One-Year Outcomes

Before the multiple regression analyses were conducted, we examined associations between (1) the outcomes at baseline, (2) the personal functioning predictors at baseline, and (3) the help-related predictors at one year, using partial correlations that controlled for baseline education, gender, and alcohol quantity. As expected, baseline assault and police trouble were moderately positively related ($r = .37$), as were baseline personal characteristics of impulsivity, self-efficacy, problem-solving coping, and emotional-discharge coping (r s ranged from $-.02$ to $.31$; average r [absolute value] = $.25$), and the number of outpatient sessions and AA meetings, and the duration of outpatient treatment and AA attendance (r s = $.18$).

Table 2 shows results of regression analyses predicting assault and trouble with the police at one year from personal functioning and coping at baseline. More assaultive behavior and alcohol consumption at baseline predicted more assaultive behavior at one year. After the baseline value, education, gender, and alcohol quantity were controlled, more impulsivity and emotional-discharge coping, and less problem-solving coping at baseline, were associated with more assault at one year.

In addition, gender moderated associations of baseline impulsivity, self-efficacy, and problem-solving coping with assault at one year. Specifically, when baseline assault, education, and alcohol quantity were controlled, the association between more impulsivity and more assault was stronger for women ($b=.229$, $p=.000$) than for men ($b=.006$, $p=.913$). In contrast, the association of more self-efficacy with less assault was stronger for men ($b= -.121$, $p=.039$) than for women ($b=.021$, $p=.730$). Similarly, the association of more problem-solving coping with less assault was stronger for men ($b= -.172$, $p=.002$) than for women ($b=-.012$, $p=.845$).

With regard to trouble with the police, more of this behavior at baseline, and less education, were associated with more police trouble at one year. Men had more trouble with the police at one year than women did, and more alcohol consumption at baseline was related to more police trouble at one year. Less self-efficacy and reliance on problem-solving coping were associated with having more trouble with the police. Gender moderated the association of self-efficacy with police-related trouble due to drinking. Specifically, the association between more self-efficacy was stronger for men ($b= -.178$, $p=.002$) than for women ($b=.049$, $p=.435$).

Table 3 shows results of regressions using the help received between baseline and one year to predict one-year outcomes. Participation in outpatient treatment and AA was unrelated to changes in assault frequency. Participation in treatment was also not associated with the outcome of police trouble; however, attending more AA meetings during the year was associated with having less trouble with the police.

Gender moderated associations of number of AA meetings and duration of AA attendance with having trouble with the police. That is, when baseline variables were controlled (corresponding value of outcome, education, alcohol quantity), there was a stronger association between attending more AA meetings and having less trouble with the police due to drinking among men ($b = -.142$, $p = .011$) than among women ($b = -.059$, $p = .337$). There was also a stronger association between the duration of AA attendance and having less trouble with the police due to drinking among men ($b = -.139$, $p = .014$) than among women ($b = .032$, $p = .603$).

3.4 Personal and Help-Related Predictors of 16-Year Outcomes

Table 4 shows results of regressions predicting 16-year outcomes from personal and coping characteristics at baseline. More assaultive behavior and alcohol consumption at baseline continued to predict more of this behavior at 16 years. Otherwise, personal characteristics at baseline did not predict subsequent assault frequency. Gender moderated the association between reliance on emotional discharge coping and assault. For women, more emotional discharge coping was related to more assault, although with marginal significance ($b = .111$, $p = .057$), whereas this was not true for men ($b = -.009$, $p = .280$).

Having more trouble with the police at baseline predicted having more trouble with the police 16 years later (Table 4). Being male and consuming greater quantities of alcohol also predicted more police trouble at the 16-year follow-up. In contrast, more reliance on problem-solving coping at baseline was related to having less trouble with the police at 16 years. However, gender did not moderate associations of baseline personal characteristics with subsequent police trouble.

Outpatient treatment and AA participation during the first year did not predict assault or police trouble at the 16-year follow-up (not tabled). However, gender moderated the association between the duration of outpatient treatment and trouble with the police ($b = .142$, $p < .05$). The association of a longer treatment duration with less trouble was not significant for women or men considered separately, but was stronger for men ($b = -.127$) than for women ($b = -.011$).

4.0 Discussion

Women and men were similar on rates of perpetrating assault due to drinking, with approximately one-third having done so at baseline. In contrast, men were more likely than women to have had trouble with the police due to drinking. Similarly, in an analysis of arrested individuals, 23% of both men and women were classified as interpersonally violent alcoholics, whereas public disorder offending (e.g., nuisance inebriation) occurred mainly among men (Seigny & Coontz, 2008). Hamberger et al. (1993) noted that, with regard to assault, women's violence perpetration may have less impact than men's; for example, men reported that women's violence was often irritating and annoying but did not provoke the fear or injury that women frequently experience in response to men's violence. We found that both assault and police trouble decreased substantially between baseline and one year, but did not decline further over the next 15 years. This is consistent with previous findings from this sample in which drinking outcomes improved mainly during the first year the women and men were followed (Timko, Moos, Finney, & Lesar, 2000).

4.1 Personal Characteristics, Assault, and Police Trouble

In this study, respondents who, at baseline, were more impulsive and relied more on emotional discharge coping, and less on problem-solving coping, assaulted others more frequently during the first year of follow-up (even with baseline assault, education, gender, and alcohol quantity controlled). Similarly, less self-efficacy and less problem-solving coping at baseline was related to more frequent trouble with the police due to drinking during the same period. Furthermore, less problem-solving coping at baseline was related to having had more trouble with the police due to drinking at 16 years. As might be expected, impulsivity and emotional discharge coping, both of which reflect lack of impulse control, were more closely associated with assault and violent behavior than with other drinking-related behaviors that became police matters. In contrast, less problem-solving coping, which reflects a general lack of reliance on effectively handling a range of high-risk situations, was associated with both assault and a broader range of problem behaviors, involving person, property, and victimless offenses. Other studies have also found that individuals seeking treatment for substance abuse who tended to utilize avoidance coping and make little use of problem-solving or other approach coping strategies scored higher on indices of aggression (McCormick & Smith, 1995). Together, findings highlight the important role that avoidance coping may play in the occurrence of violence, and that under-utilization of approach coping may play in violent and illegal behavior, among people with AUDs.

We found that the association between impulsivity and more frequent assault was stronger for women, whereas associations of self-efficacy and problem-solving coping with less frequent assault and police trouble were stronger for men. Among young adults, high levels of impulsivity have been associated with high levels of alcohol-related problems (e.g., got into fights, acted bad, or did mean things). In addition, among women, more sensation seeking (which is often combined with impulsivity into a single construct) was associated with more alcohol-related problems, but this association did not hold among men (Magid, MacLean, & Colder, 2007). Similarly, in a treatment sample, impulsivity was related to heavier substance use among women, but not among men (Lejeuz, Bornovalova, Reynolds, Daughters, & Curtin, 2007). According to Lejeuz et al. (2007), impulsivity may lead women who abuse substances, more so than men, to select more dangerous social contexts, which may explain the stronger impulsivity-assault association for women. In contrast, low self-efficacy may be a stronger risk factor for problem behavior and relapse among men, perhaps due to its association with low social support (Greenfield, Hufford, Vagge, Muenz, Costello, & Weiss, 2000). And, according to Snow et al. (2006), men who were more likely to engage in active, problem-solving coping strategies with respect to stressors were less likely to be abusive.

Possibly, treatment-related interventions aimed at decreasing impulsivity and emotional discharge coping, and bolstering self-efficacy and problem-solving coping, may be helpful in reducing assaultive and other illegal behaviors. Among a sample of people treated for AUDs, increases in approach coping and decreases in avoidance coping during treatment were associated with fewer subsequent psychological, interpersonal, and alcohol-related problems (Chung, Langenbucher, Labouvie, Pandina, & Moos, 2001). Reliance on problem-solving coping skills involves identifying and finding out more about the problem, generating solutions, considering likely consequences of each solution, selecting a response, following that plan of action, and evaluating outcomes of that action. Decreasing reliance on emotional discharge coping, which involves venting negative feelings in destructive ways, entails learning greater awareness of one's own emotions and the physical states that accompany them, and then self-control and relaxation techniques. In addition, increasing self-efficacy through vicarious learning, verbal persuasion, and the accumulation of mastery experiences may decrease both alcohol abuse and violent or illegal behavior (Chung et al., 2001; Snow et al., 2006).

We found that attending more AA meetings during the first follow-up year was associated with having less frequent trouble with the police. Increasing self-efficacy and problem-solving coping, which were related to a lower frequency of police trouble, may be learned in AA as well as in treatment settings (Moos, 2008). Associations between attending more AA meetings for a longer duration and less police trouble were stronger for men than for women. Overall, with respect to drinking-related outcomes, attendance at AA tends to be as beneficial for women as for men (Timko et al., 2002). However, male AA members may be more likely to share practical advice on how to avoid police-related consequences of drinking and begin to feel more self-efficacious as they see the success of following this advice.

Gender-specific interventions tailored to the needs of women and men who perpetrate assault and other problem behaviors may be of benefit to encouraging behavior change (Swan, Gambone, Caldwell, Sullivan, & Snow, 2008). Women may benefit from efforts to reduce impulsivity and emotional discharge coping, and men from increasing self-efficacy and problem-solving coping. However, improving these personal factors may not achieve benefits for all people treated for AUDs. A study of repeat offenders for driving under the influence found that those whose criminal history extended beyond substance use-related problems did not respond well to substance use disorder treatment. More extensive treatment approaches should be developed to directly address criminal activity involvement in this group (LaBrie, Kidman, Albanese, Peller, & Shaffer, 2007).

4.2 Limitations and Conclusions

It is important to clarify the limitations of this study. Perhaps the main limitation is that we had little or no information about the contexts in which assaults and police-related troubles occurred. Context includes the reason or motivation for behaviors. For example, women often report using violence to defend themselves, escape from attack, or retaliate for previous harm, whereas men report violence motivations related to domination and control (Hamberger et al., 1997; Swan & Snow, 2006). Context also includes the relationship of the perpetrator to victims of violence or crime. In this regard, both alcohol and drug problem severity were associated with perpetrating violence outside of an intimate relationship, but drug use severity was more important than alcohol use severity in the perpetration of intimate partner violence (Chermack, Fuller, & Blow, 2000).

Another limitation is that all of the participants in our study had already taken an initial step in getting help by contacting an I&R or detox center. An initial contact with alcoholism services reflects recognition of a problem and some motivation to change and may itself be a catalyst for improving one's drinking (Timko, Moos, Finney, & Moos, 1994). We cannot state that results would generalize to people who have never had contact with the AUD treatment system. Such individuals may have less severe problems and/or more personal and social resources that can help them initiate and sustain natural recovery (Moos & Moos, 2006). Finally, although we asked respondents to report on assault or police trouble that was *due to* their drinking, it is possible that some reports may have reflected behaviors that were not directly associated with their drinking.

Despite these limitations, given the lack of existing information about the prevalence and predictors of violent behavior among individuals with AUDs, and our 16-year follow-up, we believe our findings contribute to a better understanding of this area. Perhaps most important from a clinical perspective, it appears possible that impulsivity and emotional discharge coping may carry more risk for assaultive behavior among women, whereas self-efficacy and problem-solving coping may be more protective against violence and trouble with the police among men.

More generally, among both men and women with AUDs, assaultive and other possibly illegal behaviors should be approached in a holistic manner that considers context, and the potentially important personal factors of impulsivity, self-efficacy, and coping skills. These factors may contribute to our understanding of violence and criminal issues in the context of alcoholism. If future research supports our findings, these factors can be targeted in treatment and mutual support group settings as part of encouraging abstinence and relief from the consequences of alcohol misuse.

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Table 1

Women's and men's reports of assaulting someone and having trouble with the police due to drinking at baseline, one year, and three, eight, and 16 years, controlling for education at baseline.

Assault someone	Women % (SD)	Men % (SD)	<i>F</i> (<i>p</i>)
Baseline	38 (48)	30 (46)	3.82
1 year	11 (31)	12 (33)	0.31
3 years	9 (29)	10 (30)	0.03
8 years	4 (21)	8 (27)	2.79
16 years	5 (22)	5 (21)	0.04
Trouble with the police			
Baseline	34 (47)	42 (49)	4.88 [*]
1 year	10 (30)	20 (40)	10.28 ^{***}
3 years	12 (32)	15 (36)	1.33
8 years	5 (23)	11 (32)	6.24 ^{**}
16 years	7 (25)	13 (34)	4.81 [*]

^{*}
p < .05,

^{**}
p < .01,

^{***}
p < .001

Table 2

Baseline personal functioning and coping as predictors of one-year outcomes (N=515)

Block 1	Assaulted someone <i>b</i> (<i>p</i>)	Trouble with police <i>b</i> (<i>p</i>)
Baseline value of outcome	.275 ^{***}	.298 ^{***}
Baseline education	-.069	-.088 [*]
Block 2		
Gender (0=Male, 1=Female)	-.006	-.097 [*]
Block 3		
Baseline alcohol quantity	.093 [*]	.107 ^{**}
Block 4 (one of the following)		
Impulsivity	.114 ^{**}	.070
Self-efficacy	-.047	-.089 [*]
Emotional discharge coping	.088 [*]	.066
Problem solving coping	-.090 [*]	-.123 ^{**}
Block 5 (one of the following, corresponding to Block 4)		
Gender X Impulsivity	.377 ^{**}	-.008
Gender X Self-efficacy	.182 [*]	.345 ^{***}
Gender X Emotional discharge coping	.035	-.086
Gender X Problem solving coping	.160 [*]	.151

*
 $p < .05$,**
 $p < .01$,***
 $p < .001$

Table 3

One-year treatment and AA participation as predictors of one-year outcomes (N=515).

Assaulted someone	Trouble with police	
Block 1	<i>b</i> (<i>p</i>)	<i>b</i> (<i>p</i>)
Baseline value of outcome	.275***	.298***
Baseline education	-.069	-.088*
Block 2		
Gender (0=Male, 1=Female)	-.006	-.097*
Block 3		
Baseline alcohol quantity	.093*	.107**
Block 4 (one of the following)		
Number of outpatient sessions	-.061	-.027
Duration of outpatient treatment	-.055	-.003
Number of AA meetings	-.077	-.104**
Duration of AA attendance	-.040	-.070
Block 5 (one of the following, corresponding to Block 4)		
Gender X Number of outpatient sessions	-.013	.012
Gender X Duration of outpatient treatment	-.033	.069
Gender X Number of AA meetings	.026	.120*
Gender X Duration of AA attendance	.094	.205**

*
 $p < .05$,**
 $p < .01$,***
 $p < .001$

Table 4

Baseline personal functioning and coping as predictors of 16-year outcomes (N=406).

Assaulted someone	Trouble with police	
Block 1	<i>b</i> (<i>p</i>)	<i>b</i> (<i>p</i>)
Baseline value of outcome	.156**	.111*
Baseline education	-.073	-.085
Block 2		
Gender (0=Male, 1=Female)	.004	-.125**
Block 3		
Baseline amount of alcohol use	.116*	.155**
Block 4 (one of the following)		
Impulsivity	.005	.072
Self-efficacy	-.025	-.086
Emotional discharge coping	-.011	.038
Problem solving coping	-.016	-.137**
Block 5 (one of the following, corresponding to Block 4)		
Gender X Impulsivity	.150	-.131
Gender X Self-efficacy	.019	.120
Gender X Emotional discharge coping	.291*	-.006
Gender X Problem solving coping	-.075	.131

*
 $p < .05$,**
 $p < .01$,***
 $p < .001$