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Substance Use, Criminal Activity, and Mental Health Among Violent and Nonviolent Rural Probationers

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Abstract

Differences between violent and nonviolent probationers were examined in the growing, yet understudied, rural probation population. Violent rural probationers had higher rates of substance use, criminal activity, and mental health symptoms than did nonviolent rural probationers. Implications for practitioners are discussed.

Probation as a form of prison diversion has become increasingly more prevalent, in part, because it is significantly less costly than incarceration and because prisons have become overcrowded. Since 1995, the U.S. probation population has experienced an increase of approximately 30%, and in 2003, the number of adults on probation grew to more than 4 million (Glaze & Bonczar, 2007). Glaze and Bonczar (2007) also reported that since 2003, more than 2 million adults were given probation supervision per year.

Overall, 37 states experienced an increase in their adult probation population in 2006. Many of the states with large increases have been rural states. For example, of the 4 states with the greatest percentage increase in probation population between January 1, 2006, and December 31, 2006, 3 are generally classified as rural states (Alabama, +14.7%; Kentucky and Idaho, +11.2%). National statistics also show that of those individuals on probation in 2006, 3% were on probation for sexual assaults, 4% for domestic violence, and 9% for other assault (16% total; Glaze & Bonczar, 2007).

One concern with an increasing number of violent probationers in the community is the negative set of characteristics that have been found to be associated with violent offender populations in general. Correlations have been found between violent behavior and

substance use (Haggård-Grann, Hallqvist, Långström, & Möller, 2006), criminal activity (Piquero, 2000), and mental health problems (Friedman, 2006; Shaw et al, 2006).

Regarding substance use, almost two thirds of probationers reported past substance use, whereas roughly half were under the influence of alcohol or other drugs at the time of their offense (Mumola, 1998). Findings have also indicated that criminal activity was more likely to be committed during episodes while individuals are actively addicted to drugs rather than during periods of reduced use or abstinence (Gossop, Marsden, Stewart, & Rolfe, 2000). Furthermore, the percentage of crime victims who reported that their offender was under the influence of alcohol or other drugs at the time of the offense has been found to be higher in rural areas (35%) compared with urban areas (29%; Duhart, 2000). The exact connection between substance use and violence is not yet fully understood; however, there is an increasing prevalence of violence associated with substance use (De Li, Priú, & MacKenzie, 2000).

In addition to the high rates of substance use among probationers, research has demonstrated that violent offenders seem to commit more crimes than do nonviolent offenders (Piquero, 2000). Early research documented chronic offenders (Wolfgang, Figlio, & Sellin, 1972) who were fewer in number but responsible for a majority of the crime, including the more violent and serious offenses. More recent studies have further indicated the connection between violence and offending, providing evidence that violent offenders commit crimes more frequently and begin offending at earlier ages than do nonviolent offenders (Piquero, 2000).

Bearing in mind the high rates of substance use and criminal activity among probationers, it is also important to note that up to one half million of those on probation have mental health problems (Ditton, 1999). When compared with nonviolent offenders, violent offenders have more psychological problems, including a higher level of hostility (Mills, Kroner, & Hemmati, 2003). Furthermore, the strongest association between mental health and crime is found for violent crime (Taylor, 2004) such that probationers with mental disorders are more likely than other probationers to have committed a violent offense (28.4% vs. 10.4%; Ditton, 1999).

Almost 80% of individuals with a mental disorder have also had substance abuse problems (Hartwell, 2004). According to the Bureau of Justice Statistics (Ditton, 1999), state inmates with mental health problems were more likely than other state inmates to be incarcerated for a violent crime and be under the influence of alcohol or other drugs at the time of their offense. Despite the large number of probationers with mental health problems, little treatment is available for these individuals (Lurigio et al, 2003).

Overall, existing literature has provided an incomplete picture of the probation population in that the majority of research on violent offenders and probationers has been conducted in inner-city, urban areas. It is not yet clear if findings for violent offenders in urban areas can be generalized to violent offenders from rural, less populated areas. There is evidence that criminal histories may differ between urban and rural offenders (Mateyoke-Scriver, Webster, Staton, & Leukefeld, 2004), but little research has examined rural probationers.

In summary, both the rural and violent probationer populations are growing. Despite this growth, a dearth of research has examined whether violent and nonviolent probationers have different characteristics that may influence how they are supervised and counseled while in the community. We were unable to identify any studies that specifically focused on the similarities and differences between violent and nonviolent offenders within the growing rural probation population. In the present study, we examined the substance use, criminal activity, and mental health status of violent and nonviolent probationers from a rural area. We expected to find higher rates of substance use, criminal activity, and mental health

problems in probationers with violent criminal histories than in those with nonviolent criminal histories.

Method

Participants

As part of a trial funded by the National Institute on Drug Abuse to examine HIV risk reductions in rural probationers, 800 participants were recruited from probation offices in 30 counties in rural Kentucky, a state with one of the fastest growing probation populations in the country (Glaze & Bonczar, 2006). Probationers were targeted because they represent the largest segment of the criminal justice population, are at a high risk to abuse substances, are often involved in drug-related crimes, and have greater opportunities than their incarcerated counterparts to engage in high-risk behaviors (Leukefeld, Tims, & Farabee, 2002). Study eligibility required that the participant (a) be on felony probation in 1 of 30 counties, (b) be 18 years or older, and (c) be willing to participate in the study. All participants completing an interview were paid for their participation.

Study participants were mostly male (66.3%) and White (95.1%), with an average age of 33.8 years (range = 19–72). Participants had an average of 10.5 years of education, and 64.1% had received either a high school diploma or a general equivalency diploma. In addition, the majority of participants were not married (67.4%) and had an average of 1.8 children.

When asked about criminal histories and backgrounds, 34% reported having been arrested at least once before age 18, one third of whom were detained in a jail, juvenile detention, or some other lockup facility. The mean age of first incarceration as an adult was 23 years, and the sample reported being incarcerated an average of 6 times as an adult. The average total number of months served for convictions was 10.3 months. Including participants who were placed on probation for multiple charges (16.4%), approximately 40% of participants were on probation for property offenses, 41% for alcohol/drug offenses, 12% for violent offenses, and 15% for other offenses.

With the exception of being disproportionately White, the demographic characteristics and arrest statistics of this sample are consistent with data on current probationers. From 1995 through 2006, the majority of adult probationers were male, dropping a slight 3% over that time period (Glaze & Bonczar, 2007). In addition, adult probationers were approximately 50% White (increasing 2% between 1995 and 2006) and were more likely to be on probation for a nonviolent felony conviction (dropping from 54% in 1995 to 49% in 2006).

Procedure

Participants were recruited for the study between March 2001 and November 2004 from probation offices within two Kentucky probation districts. At the time of interview, participants were given a description of the study and assurance of confidentiality following informed consent procedures approved by the university's institutional review board. Each question was individually asked by the interviewer and recorded by hand in the interview packet. The face-to-face interview lasted approximately 2 hours.

Measures

Participants were assessed using both the Addiction Severity Index (ASI; McLellan, Luborsky, Woody, & O'Brien, 1980; McLellan et al., 1992) and the Brief Symptom Inventory (BSI; Derogatis, 1979; Derogatis & Melisaratos, 1983). The ASI is an established measure of alcohol and other drug abuse severity, health, and treatment change through

demographic information and personal histories of health, mental status, legal status, family and social relationships, and employment (McLellan et al., 1980; McLellan et al., 1992). For this study, the ASI (slightly modified to include more drug types) was used to examine alcohol and other drug use. Substance use histories were obtained by asking participants if they had ever used alcohol, alcohol to intoxication, marijuana, powder cocaine, crack cocaine, amphetamines, other stimulants, PCP, hallucinogens, Inhalants, sedatives, OxyContin, heroin, other opiates, and other injected drugs.

The BSI was developed to measure current mental health symptoms (Derogatis, 1979; Derogatis & Melisaratos, 1983). An abbreviated version of the BSI was used in this study to measure six of the nine symptom constructs: paranoid Ideation, anxiety, hostility, interpersonal sensitivity, depression, and obsessive-compulsive. Participants were asked to indicate the extent to which each symptom had bothered them during the past week. Items for each subscale were rated on a 4-point Likert-type scale (0–3), with higher scores indicating higher levels of the symptom dimension. The subscales had adequate reliability (Cronbach's alphas ranging from .77 to .86) and were combined to produce a composite mental health symptom severity score, which had a high reliability (Cronbach's alpha = .91).

Criminal history was obtained by asking each participant if he or she had ever committed the following crimes, regardless of whether the crime resulted in arrest: shoplifting, burglary, motor vehicle theft, other theft/larceny, dealing in stolen goods (selling, trading, or receiving), vandalism, arson, fraud, selling drugs, drug possession, driving under the influence, weapons offense, and prostitution. In addition, participants were asked if they had ever committed the following violent crimes, regardless of arrest: robbery, rape, sexual assault, other assault, or homicide/manslaughter.

Analytic Plan

Participants were divided into two groups, violent or nonviolent probationers, for analysis on the basis of their self-reported violent criminal behavior. Specifically, violent probationers ($n = 347$) were defined as having ever committed a violent offense (regardless of arrest), including robbery, rape, sexual assault, other assault, or homicide/manslaughter, whereas nonviolent probationers ($n = 453$) had no such past offenses on the basis of self-report. Before comparing these groups on substance use, criminal activity, and mental health symptoms, we examined the demographic characteristics (gender, age, marital status, and race/ethnicity) of these two groups to identify any preexisting differences. Two differences emerged. First, there were significantly more men in the violent probationer group (77.5%) than in the nonviolent probationer group (58.1%). Second, a statistically significant difference in age was found between the violent probationers ($M = 34.6$) and nonviolent probationers ($M = 32.8$).

To control statistically for these demographic differences between the groups, we used hierarchical regression models to compare violent and nonviolent probationers. Gender and age were entered in the first step of the model, and the two-level group independent variable (violent vs. nonviolent) was entered in the second step. Because lifetime substance use and criminal activity were dichotomous measures (yes vs. no), logistic regression was used to compare the two groups on these sets of dependent variables, and odds ratios (ORs) adjusted for gender and age were computed. Each BSI subscale, however, was a continuous measure, and, therefore, linear regression was used to compare the mental health symptoms of violent and nonviolent probationers. Data were analyzed using SPSS (Version 14) statistical software.

Results

After controlling for gender and age, we found that probationers with a history of violent offenses were significantly more likely than nonviolent probationers to report shoplifting (59.1% vs. 44.9%, $OR_{adj} = 1.9$), burglary (40.4% vs. 16.9%, $OR_{adj} = 2.8$), motor vehicle theft (19.3% vs. 5.5%, $OR_{adj} = 3.8$), dealing in stolen goods (48.4% vs. 22.1%, $OR_{adj} = 2.9$), vandalism (34.9% vs. 12.6%, $OR_{adj} = 3.4$), arson (9.5% vs. 2.4%, $OR_{adj} = 3.3$), selling drugs (64.5% vs. 47.8%, $OR_{adj} = 1.8$), drug possession (95.4% vs. 84.9%, $OR_{adj} = 3.3$), driving under the influence (74.4% vs. 58.4%, $OR_{adj} = 1.9$), weapons offense (34.6% vs. 13.2%, $OR_{adj} = 2.9$), and prostitution (9.0% vs. 3.1%, $OR_{adj} = 3.7$; see Table 1).

In addition, violent probationers reported a higher lifetime prevalence of drug use than did nonviolent probationers, including alcohol to intoxication (98.0% vs. 92.1%, $OR_{adj} = 3.4$), marijuana (94.8% vs. 85.2%, $OR_{adj} = 3.1$), powder cocaine (74.9% vs. 53.4%, $OR_{adj} = 2.6$), crack cocaine (65.1% vs. 35.0%, $OR_{adj} = 3.4$), amphetamines (14.1% vs. 5.1%, $OR_{adj} = 3.4$), other stimulants (64.6% vs. 40.3%, $OR_{adj} = 2.7$), PCP (17.6% vs. 7.1%, $OR_{adj} = 2.9$), hallucinogens (69.7% vs. 47.9%, $OR_{adj} = 2.3$), inhalants (35.7% vs. 14.8%, $OR_{adj} = 2.9$), sedatives (72.0% vs. 53.0%, $OR_{adj} = 2.2$), OxyContin (54.6% vs. 36.5%, $OR_{adj} = 2.0$), and other opiates (72.5% vs. 50.3%, $OR_{adj} = 2.5$). No significant differences were found for either alcohol or heroin use (see Table 2).

Finally, as shown in Table 3, violent probationers scored higher on BSI measures of paranoid ideation (1.5 vs. 1.2, $\beta = .18$), anxiety (0.8 vs. 0.7, $\beta = .14$), hostility (0.7 vs. 0.4, $\beta = .22$), interpersonal sensitivity (1.0 vs. 0.8, $\beta = .17$), depression (1.4 vs. 1.2, $\beta = .16$), obsessive-compulsive (1.1 vs. 1.0, $\beta = .09$), and overall mental health symptom severity (1.1 vs. 0.9, $\beta = .19$) than did nonviolent probationers.

Discussion

Rural probationers with past violent offenses were significantly more likely than their nonviolent counterparts to report substance use after controlling for differences in age and gender. In fact, violent rural probationers reported higher rates of lifetime substance use for every substance but alcohol and heroin. Whereas overall substance use may be related to violent crime (Boles & Miotto, 2003), other researchers have argued that it is an individual's substance use severity that may be related to the seriousness of criminal history (Chaiken & Chaiken, 1982). Because the data collected for this study examined lifetime alcohol and other drug prevalence, substance use severity prior to violent criminal activity cannot be addressed. Future studies should examine this temporal relationship in rural areas among criminal populations that use substances.

Findings from this study also indicate that rural probationers with a history of engaging in violent activities are similar to violent urban offenders. Rural probationers with a history of engaging in violent activities were more likely than nonviolent rural probationers to have committed each of the 13 nonviolent crimes examined. This implies that violent rural offenders commit crimes at higher frequencies than do nonviolent rural offenders, similar to research findings on urban offending populations (Piquero, 2000). It is important to note that the self-reported criminal activities represent crimes committed, regardless of whether the crime resulted in arrest. These measures, therefore, generally capture a more accurate picture of the breadth of criminal offending by probationers than do traditional criminal measures based on arrest (Thornberry & Krohn, 2000).

Mental health problems were more associated with rural probationers with violent criminal pasts compared with those without violent criminal pasts. Violent rural probationers reported statistically significant higher rates of paranoid ideation, anxiety, hostility,

interpersonal sensitivity, depression, and obsessive-compulsive symptoms as measured by the BSI. These findings are consistent with other research that has examined the relationship between mental health and violent crime among other offending populations (Ditton, 1999; Mills et al., 2003; Taylor, 2004). Regardless of the cause of these symptoms, violent probationers may be more likely to require higher levels of care, such as more frequent outpatient visits, pharmacotherapy, or more structured treatment plans.

The fact that violent probationers were found to have significantly higher rates on almost every measure of substance use, criminal activity, and mental health problems raises the possibility that some other underlying characteristic or trait maybe responsible for the differences found between violent and nonviolent probationers. For example, victims of child abuse (Brems, Johnson, Neal, & Freemon, 2004; Hosser, Raddatz, & Windzio, 2007) and those with high levels of impulsivity (Field, Caetano, & Nelson, 2004; Nussbaum et al., 2002) have each been linked to increased rates of violent behavior and substance use. Another possible underlying characteristic in violent probationers is antisocial personality disorder (Lurigio et al., 2003). Future research should continue to identify and examine the root causes of violent and associated behaviors.

Implications

The findings from this study have implications for practitioners who work in the criminal justice system or who treat violent offenders involved in the criminal justice system. The finding for higher lifetime prevalence of substance use among violent probationers may highlight a group of offenders who are in greater need of substance abuse services. Completion of substance abuse treatment has been shown to lead to a continued drug-free lifestyle (Lang & Belenko, 2000), decreased criminal activity, increased psychological functioning, and increased rates of employment success among individuals who have formerly used drugs (Ashley, Marsden, & Brady, 2003; Huebner & Cobbina, 2007). Given the evidence that suggests a relationship between substance use and violence, communities and local governments should strive to make substance abuse treatment more available to probationers with the intent of reducing both substance use and violent criminal activity. Research has shown, however, that rural communities remain significantly less likely than urban communities to have access to substance abuse treatment services (Booth, Kirchner, Fortney, Ross, & Rost, 2000). With ever-increasing violent probationer populations in rural areas, it becomes especially important for these communities to develop and implement effective treatment regimens. Nevertheless, simply making substance abuse treatment more available may not be sufficient to address this problem. In a study examining prisoners from rural and urban areas who chronically abuse drugs, Warner and Leukefeld (2001) found that nearly two thirds of rural prisoners said the reason they had not received substance abuse services was not because of inaccessibility but rather because they did not view their substance use as a problem. In contrast, only 50% of urban prisoners reported this as their reason for not receiving substance abuse treatment. In light of this finding, additional efforts to increase rural offenders' substance use problem recognition, such as public education programs (Watkins, Burnam, Kung, & Paddock, 2001), may also need to accompany the expansion of substance abuse treatment services.

Appropriate interventions and referrals will likely reduce violence related to substance use and could result in a reduction in the demand that fuels violent illegal markets. Promising approaches include preventive education, pretrial monitoring of arrestees through urinalysis as well as for convicted violent offenders, and in-prison therapeutic communities integrated with postrelease treatment follow-up (Roth, 1994). In addition, if violent probationers are engaged in a therapeutic milieu focused on a combination of relapse prevention and coping mechanisms, there is potential to reduce drug and alcohol use as well as to reduce their risk of violating the terms of their probation. When treating violent probationers, clinicians

should generate a treatment plan that takes into account the increased probability of a history of multiple substance use and also consider a higher level of care to increase their chances of success.

The mental health results emphasize the need for mental health treatment for many offenders under community supervision, particularly those with violent pasts. It is generally accepted that probationers with a recent history of substance abuse should undergo substance abuse treatment. Given the comorbidity between mental health and substance abuse, violent probationers may need additional treatment or counseling with a dual-diagnosis emphasis. Providing anger and conflict management skills training could be a focus of community services. Such services, however, are largely unavailable in rural areas. Furthermore, other research has suggested that rural probationers are resistant to and are suspicious of mental health treatment (Sullivan, Hasler, & Otis, 1993), so engaging rural populations in mental health treatment may produce additional challenges. Thus, it becomes even more important to target and provide treatment for these rural offenders while they are part of the criminal justice system (Warner & Leukefeld, 2001).

This study also provides several implications for researchers. First, findings add to a growing literature reporting that rural areas are becoming less protective against the drugs, violence, and crime traditionally associated with urban areas (Gundy, 2006; Mink, Moore, Johnson, Probst, & Martin, 2005). In Kentucky, the site of the present research, this change in vulnerability has been attributed to out-migration and the subsequent erosion of social networks that provided insulation from urban problems (Warner & Leukefeld, 2001). Results suggest that nearly half of the 800 rural probationers reported violent criminal histories, and the majority of participants reported use of at least one illegal drug.

As previously discussed, this study does not allow for the examination of the temporal ordering of substance use, violent criminal activity, nonviolent criminal activity, and mental health. A better understanding of how these constructs relate to one another is crucial for the assessment and prediction of future criminal behavior in rural areas, including violent offenses, as well as for the development of intervention strategies to effectively reduce subsequent criminal behavior.

Limitations

There are limitations to this study. First, all data were self-reported and could be subject to recall bias. Second, although participants volunteered and consented to take part in this study, it is not known how truthful they were about their self-reported behaviors. More specifically, participants may not have admitted to their participation in violent offenses for which they were not arrested. Despite these self-report limitations, other studies analyzing behaviors of individuals who use drugs and criminals have indicated that self-reported data can be valid and reliable (Johnson et al., 2000; Solbergdottir, Bjornsson, Gudmundsson, Tyrfingsson, & Kristinsson, 2004; Thornberry & Krohn, 2000).

Although several known variables related to violent criminal activity were included in this analysis, future research should also examine other factors that could affect the likelihood of violent behavior, such as coping skills, income, and employment stability. In addition, more than 95% of the entire sample was White, and whereas this figure is consistent with racial/ethnic demographics for the geographic region (Grieco & Cassidy, 2001), results may not generalize to other racial/ethnic and cultural groups. Finally, violent rural probationers in this study mostly consisted of individuals who admitted to committing assault (38.5% of the entire sample), with a small percentage who committed robbery (6.5%), rape (2.6%), and homicide/manslaughter (1.8%). Therefore, this sample may not be representative of all types of violent criminals.

Conclusion

With more than 2 million adults entering probation supervision each year and many of them in rural communities (Glaze & Bonczar, 2007), services and programs should be provided that are appropriately geared toward different types of offenders, especially violent offenders, as demonstrated by the present study. This becomes increasingly important in rural areas because they have been shown to be lacking appropriate forms of mental health and substance abuse treatment. Future research should continue to identify subgroups of the growing probationer population, which could benefit from tailored supervision approaches. Risk models could also be designed to determine which probationers pose the greatest risk and to target treatments that would most benefit the rural probationer.

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TABLE 1
Self-Reported Lifetime Criminal Activity of Violent and Nonviolent Probationers

Criminal Activity	Probationers			
	Violent (<i>n</i> = 347)	Nonviolent (<i>n</i> = 453)	<i>B</i>	Wald <i>OR</i> _{adj}
Property crimes (% ever committed)				
Shoplifting	59.1	44.9	0.65	18.3 1.9***
Burglary	40.4	16.9	1.03	34.4 2.8***
Motor vehicle theft	19.3	5.5	1.33	27.1 3.8***
Other theft/larceny	21.9	12.2	0.65	10.6 1.9***
Dealing in stolen goods	48.4	22.1	1.08	44.1 2.9***
Vandalism	34.9	12.6	1.22	41.1 3.4***
Arson	9.5	2.4	1.19	10.9 3.3***
Fraud	38.4	35.0	0.35	5.0 1.4*
Substance use crimes (% ever committed)				
Selling drugs	64.5	47.8	0.30	15.7 1.8***
Drug possession	95.4	84.9	1.20	16.5 3.3***
Driving under the influence	74.4	58.4	0.62	14.3 1.9***
Other crimes (% ever committed)				
Weapons offense	34.6	13.2	1.08	34.7 2.9***
Prostitution	9.0	3.1	1.31	14.1 3.7***

Note. Odds ratios (ORs) were adjusted for gender and age.

* *p* < .05.

*** *p* < .001.

TABLE 2

Self-Reported Lifetime Substance Use of Violent and Nonviolent Probationers

Substance (% Ever Used)	Probationers		B	Wald	OR _{adj}
	Violent (n = 347)	Nonviolent (n = 453)			
Alcohol	100.0	96.0	17.55	0.0	0.0
Alcohol to intoxication	98.0	92.1	1.21	8.0	3.4**
Marijuana	94.8	85.2	1.14	15.2	3.1***
Powder cocaine	74.9	53.4	0.95	34.7	2.6***
Crack cocaine	65.1	35.0	1.23	62.7	3.4***
Amphetamines	14.1	5.1	1.22	19.7	3.4***
Other stimulants	64.6	40.3	0.99	42.2	2.7***
PCP	17.6	7.1	1.08	19.5	2.9***
Hallucinogens	69.7	47.9	0.83	28.5	2.3***
Inhalants	35.7	14.8	1.08	36.5	2.9***
Sedatives	72.0	53.0	0.78	23.7	2.2***
OxyContin	54.6	36.5	0.70	21.0	2.0***
Heroin	10.5	6.7	0.46	2.9	1.6
Other opiates	72.5	50.3	0.93	33.0	2.5***
Other injected drugs	17.0	6.4	1.21	23.4	3.3***

Note. Odds ratios (ORs) were adjusted for gender and age.

**
p< .01.***
p< .001.

TABLE 3

Self-Reported Mental Health Symptoms of Violent and Nonviolent Probationers

Symptom	Probationers			
	Violent (<i>n</i> = 347)	Nonviolent (<i>n</i> = 453)	β	ΔR^2 F for ΔR^2
Paranoid ideation	1.5	1.2	.18	.03 25.31***
Anxiety	0.8	0.7	.14	.02 14.79**
Hostility	0.7	0.4	.22	.05 39.11***
Interpersonal sensitivity	1.0	0.8	.17	.03 22.41***
Depression	1.4	1.2	.16	.02 19.52**
Obsessive-compulsive	1.1	1.0	.09	.01 6.46*
Overall mental health symptom severity	1.1	0.9	.19	.06 28.23***

Note. Gender and age were controlled for using linear regression analysis. ΔR^2 = change in R^2 when adding violent/nonviolent status to an initial model containing only gender and age; F for ΔR^2 = the F statistic associated with the change in R^2 .

* $p < .05$.

** $p < .01$.

*** $p < .001$.